

FIRST AMENDMENT TO GUARANTEED ENERGY PERFORMANCE CONTRACT

Phase II Installation and Implementation

THIS FIRST AMENDMENT TO GUARANTEED ENERGY PERFORMANCE CONTRACT this "FIRST AMENDMENT" or "PHASE II AGREEMENT") is made and entered into as of the 24th day of July, 2012 between the County of Cook, Illinois, an Illinois Home Rule County and unit of local government under Section 6 of Article VII of the Illinois Constitution of 1970 (the "County") and NORESKO, LLC (the "ESCO").

IN CONSIDERATION OF the recitals and the covenants and agreements set forth herein, the Parties agree as follows:

SECTION I. RECITALS.

- A. The County is the owner of the corrections and juvenile temporary detention facilities commonly referred to as Department of Corrections Campus and the Juvenile Temporary Detention Center (collectively the "Facilities") as further described in detail in Exhibit B.
- B. The County issued a Request for Proposals ("RFP") to solicit proposals from qualified providers to provide for a guaranteed energy performance project and the ESCO was selected as a qualified provider.
- C. As part of its response to the RFP, the ESCO prepared a preliminary energy analysis of the Facilities ("Preliminary Analysis") that included (i) a survey and review of available utility data and Facilities mechanical equipment, operating parameters and systems; (ii) an estimate of potential energy savings over the specified term, with detailed description of assumptions governing energy savings estimates; (iii) recommended energy conservation opportunities for the Facilities; (iv) estimated maximum cost of the energy performance contracting Services for the Facilities; (v) estimated annual measurement and verification costs; and (vi) the proposed cost of the Investment Grade Audit to the County if no amendment to the Guaranteed Energy Performance Contract providing for Phase 2 energy performing contracting services was entered into.
- D. Based on the response to the RFP and the Preliminary Analysis, the ESCO was selected pursuant to the RFP process to enter into a Guaranteed Energy Performance Contract (the "GEPC") with the County for services at fourteen (14) buildings at the Facilities.
- E. Pursuant to authorization of the Board of Commissioners (the "Board"), the ESCO and the County entered into the GEPC dated July 27, 2011.
- F. Phase I of the GEPC consisted of a comprehensive energy use and savings analysis of the Facilities (the "Phase I Investment Grade Audit" or "IGA") which must be performed in order to determine the feasibility of proceeding with Phase II of the Energy Performance Contracting Project.

G. Phase II of the GEPC ("Phase II Services") will consist of the installation and implementation of the energy conservation measures ("ECMs" and each an "ECM") at the Facilities, to be defined in an amendment to the GEPC.

H. Section 5 of the IGA provided that if the ECMs were demonstrated to be feasible pursuant to the IGA, and if the amount of energy savings could be reasonably ascertained and guaranteed in an amount sufficient to cover all costs, including anticipated financing costs, associated with an energy performance contracting project at the Facilities, as detailed in the GEPC, the County and the ESCO intended to negotiate an amendment containing additional terms and conditions governing the GEPC, Phase II, under which the ESCO would design, procure, implement, provide training, maintain and monitor such ECMs at the Facilities and perform such other services and improvements as are agreed to by the Parties (the "Project").

I. The ESCO has prepared a report setting forth, among other things, (a) an assessment of the energy consumption characteristics of various buildings at the Facilities, (b) specific energy analysis related to the Facilities and their operations, and (c) recommendations for projects or programs to achieve cost and/or energy savings in the operation of the Facilities, together with preliminary conceptual designs for such projects or programs which meet the feasibility requirements under the GEPC, which recommendations included as an option providing certain ECMs to an additional eight (8) buildings for a total of twenty-two (22) buildings at the Facilities over a financing term of twenty (20) years (the "Phase I Report"). The GEPC permits the addition of "Additional Items" if such Additional Items do not cause the cost of the Project to exceed project cost savings under the performance guarantee and such additional buildings have been identified in the Phase I Report as meeting such criteria.

J. The County and the ESCO now wishes to enter into this First Amendment containing terms and conditions upon which the ESCO will perform for the County the design, engineering, installation, repairs, retrofit, performance monitoring, guarantee reconciliation, and training services set forth in the Phase I Report as the Phase II Services and more fully described in the "Scope of Services" attached hereto as Exhibit C and the other terms and provisions of this Contract (the "Project"). The Scope of Services specifically describes the energy conservation measures and related services which the ESCO proposes to install at or in the vicinity of the Facilities.

K. The ESCO has agreed to provide a guarantee of the energy savings and operational cost reductions in the form attached hereto as Exhibit G (the "Savings Guarantee"), based on the measurement and verification protocols and plan set forth in Exhibits H (the "Measurement and Verification Plan" or "M&V Plan"). The guarantee of energy savings and operational cost reductions is to be on an annual basis to the County as a result of the Project and the acquisition and installation of the ECMs. The ESCO will reimburse the County for any shortfall of the Savings Guarantee as calculated per the M&V Plan.

L. The ESCO desires to undertake the Project and provide the Savings Guarantee all in accordance with the terms and provisions of this First Amendment and the other Contract Documents.

M. The County and the ESCO wish to enter into this First Amendment, pursuant to which the ESCO will perform the Phase II Services described in this First Amendment.

N. Pursuant to Board authorization on July 24, 2012, the County Board of Commissioners has authorized the execution of this Contract by the County.

O. Section 1.3.7 of the IGA is amended through Section 2 of this First Amendment so that the "Financing Term" shall be no longer than 20 years.

P. NOW, THEREFORE, for and in consideration of the recitals and mutual covenants and agreements set forth in this First Amendment, the Parties Agree as follows:

## SECTION 2. DEFINITIONS: RULES OF CONSTRUCTION.

A. Definitions. All capitalized terms used in this First Amendment shall have the meaning set forth below, or in Exhibit C.

1. "ACM" means asbestos containing material and associated debris.
2. "Allowance Services" means other professional services and/or items of work germane to the Contract and not otherwise included in this Contract, as further described in Section 4.B.
3. "Anti-Terrorism Laws" is defined in Section 9.I.1.
4. "Building" or "Buildings" means the individual buildings and facilities where the Project is being implemented and the Work is being done. "Buildings" for purposes of Warranty Period means the Central Power Plant, the Criminal Court Administration Building, the Criminal Court Building, Divisions 5.9 and 11, South Administration Buildings No. 1, 2, 3, 4 and 5, JTDC East, JTDC West, the JTDC Parking Garage, Divisions 1, 2, 3, 4, 6, 7 and 10 and the "Boot Camp" for a total of twenty-two (22) Buildings, each of which are further described in Exhibits B and C.
5. "Budget" means the cost of the Project as approved by the County.
6. "Change Order" or "CO" means a document authorizing an increase/decrease in Contract Sum or an adjustment of Contract Time. Change Orders include only previously approved Proposal Requests ("PR") and/or Construction Change Directives ("CCDs"). A single Change Order may include multiple PR's and/or CCDs.
7. "Chief Procurement Officer" means the County's Chief Procurement Officer, whose duties and responsibilities are more particularly described in the Cook County Code, Chapter 34, Article IV.
8. "Confidential Information" is defined in Section 9.M.
9. "Contract" means this First Amendment to the GEPC.

10. "Contract Documents" means this Contract with the Exhibits, the Design & Engineering Documents (once approved by the County as provided in Section 7.B), any Change Orders, the GEPC (as amended by the Contract) and any other documents listed in the Contract and any modifications to the foregoing documents issued after execution of this Contract.

11. "Construction Change Directive" or "CCD" means a document used to obtain cost information from the ESCO for an immediate change and/or modification to the Contract Documents. Generally, a field directed change.

12. "Construction and Installation Period" means the period during which the ESCO is conducting Construction and Installation Services at the Facilities to construct, install, equip, test and complete the Project from the Notice to Proceed until Final Acceptance of the entire Project.

13. "Construction and Installation Services" means the completion of design, construction, equipping and installation of the Project on all Work Sites as required pursuant to the Contract Documents.

14. "Construction Manager" means the County's independent owner's representative selected by the County to provide oversight over all or portions of the Work as determined by the Project Director and to act in the County's stead in providing direction to the ESCO in accordance with the Contract Documents, as more fully described in Section 6.J.

15. "Construction Operations Phasing Plan" means a construction operation phasing plan detailing the ESCO's phasing and staging of the Work at the Facilities and including the anticipated order of construction, installation and Substantial Completion of ECMs and ECM Groupings at various Work Site.

16. "Contract Sum" is the sum of the amounts described in Sections 4.A, 4.B and 4.C, inclusive.

17. "Contract Time" is the time from the Effective Date until the end of the Guarantee Period.

18. "Cost Loaded Schedule" is described in Section 5.D.

19. "COUNTY," "County" or "Owner" means the County of Cook, a body politic and corporate of the State of Illinois. When approval or other actions are required of the County, the County shall mean the "Project Director" unless otherwise indicated in this Contract.

20. "County Consultant" includes, as applicable, a contractor engaged by the County with recognized expertise in a particular field, to provide specialized support in regard to (i) environmental assessments and, if required, the performance of Environmental Work or (ii) energy savings analysis.

21. "County Representative" is generally defined as the Project Director, but can be a Construction Manager, as determined by the Project Director.

22. "Completion Dates" means the Completion Dates within the Project Schedule which need to be met in order for all ECMs and ECM Groupings to achieve Substantial Completion by one

thousand eighteen (1,018) days from the Notice to Proceed Date and for the entire Project to be ready for Final Acceptance by one thousand ninety-three (1,093) days from the Notice to Proceed Date.

23. "Day(s)" shall mean calendar day(s) unless otherwise specified herein. If the date for giving of any notice required to be given, or the performance of any obligation, under this First Amendment falls on a Saturday, Sunday, or federal holiday, then the notice or obligation may be given or performed on the next business day after that Saturday, Sunday, or federal holiday.

24. "Deliverables" means all submissions and deliverables prepared by or on behalf of the ESCO, described in this Contract, including but not limited to Design Materials, Submittal Materials and Project Documents and required to be provided by ESCO. Deliverables include Electronic Deliverables and Printed Deliverables. Third party software and materials that are proprietary to ESCO and any of its subcontractors under this Contract are excluded from the definition of "Deliverables" and are addressed in Section 15.D.

25. "Design & Engineering Documents" are the working designs, schematics, drawings, specifications, and other documentation setting forth in detail the requirements of the construction and installation of each ECM at each Work Site or Facility in accordance with the Contract Documents.

26. "Design Submittal Materials" are the copies of and other tangible embodiments of the drawings, specifications, designs, plans, "architectural work" (as such term is defined in the Architectural Works Copyright Protection Act of 1990) and other documents, prepared by or on behalf of the County, the ESCO, and/or Subcontractors in connection with the Project or the Services

27. "Design Services" are the design and engineering services the ESCO will provide for the Project as further described in Section 7.

28. "Dispute" is described in Section 16.

29. "ECMs" and each, an "ECM", is defined in Recital G and listed in Exhibit B.

30. "ECM Grouping" means a grouping of ECMs by Work Site or Facility which are sufficiently integrated as a system so that they will be tested and commissioned together in order to achieve Substantial Completion, as described in Exhibit U by ECM, Work Site and Facility. Testing of ECMs and ECM Groupings shall take into account seasonal load conditions as described in Section 8.M.

31. "Effective Date" means the date established pursuant to Section 3.B as the date when the Services under this Contract shall commence.

32. "Electronic Deliverables" shall mean Project Documents to be delivered in electronic format as further described in Section 3.G.

33. "Environmental Incentives" means all rights, credits (including tax credits), rebates, grants, benefits, reductions, offsets, and allowances and entitlements of any kind, howsoever entitled or named (including carbon credits and allowances), whether arising under federal, state or local law, international treaty, trade association membership or the like, arising from the Project or the development or installation of the ECMs and the reduction of energy usage by the Facilities. Without limiting the forgoing, Environmental Incentives include utility rebates or incentive programs,

green tags, renewable energy credits, tradable renewable certificates, portfolio energy credits, the right to apply for (and entitlement to receive) incentives under any state tax credit program, grants from nongovernmental organizations, and the right to claim federal income tax credits under Sections 45 and/or 48 of the Internal Revenue Code.

34. "Environmental Work" means any services or work involving removal, cleanup, or other remedial action in connection with a Hazardous Material or Mold.

35. "ESCO Representative" is the individual appointed as principal representative of the ESCO to receive and initiate all communications to and from the County and be authorized to render binding decisions related to the Services. Additional duties of the ESCO Representative are set forth in Section 9.D.

36. "Excusable Event" is defined in Section 13.F.

37. "Facilities" means the Buildings, grounds and other improvements and real estate owned by the County where the Work will be done under this Contract.

38. "Final Acceptance" means the issuance by the County of a Certificate after receipt of an application from the ESCO that the Project has been completed and all requirements for such completion have been met, including Punch List items.

39. "Final Acceptance Date" is the date of Final Acceptance.

40. "Financing Term" as the term is used in the GEPC shall mean twenty (20) years.

41. "GEPC" or "Guaranteed Energy Performance Contract" means the "Guaranteed Energy Performance Contract between the County and the ESCO," dated July 27, 2011 which provided for Investment Grade Energy Audit Services in Phase I for the Facilities and which contemplated an amendment to be negotiated for the Phase II Services, if approved by the County.

42. "Guarantee" means the Savings Guarantee attached hereto as Exhibit G whose terms are hereby incorporated into this Contract as if fully set forth herein and as if separately executed.

43. "Guarantee Period" shall commence on the first day (1<sup>st</sup>) day of the month following the Final Acceptance Date and shall terminate at the end of twenty (20) years from the Final Acceptance Date unless terminated earlier as provided for herein.

44. "Guarantee Period Services" means the performance guarantee, monitoring, Project modification, guarantee reconciliation, Performance Tracking Services, and other services to be performed during the Guarantee Period as described in Exhibits G, H and I of this Contract.

45. "Guaranteed Annual Savings Amount" is defined in Exhibit G.

46. "Hazardous Material" means (A) any substance which is listed, defined, designated or classified under any state, federal, or local law relating to the protection of the environment or human health as a (i) hazardous material, constituent, or waste, (ii) toxic material, substance, constituent, or waste, (iii) radioactive material, substance, constituent, or waste, (iv) dangerous material, substance, constituent, or waste, (v) pollutant, (vi) contaminant, or (vii) special waste; or (B)

petroleum, petroleum products, radioactive matters, polychlorinated biphenyl, pesticides, asbestos, or asbestos-containing materials.

47. "Intellectual Property Rights" means any patents, copyrights, trademarks, service marks, trade secrets and similar and related intellectual property rights protected by law.

48. "LEED-EB" means the Leadership in Energy and Environmental Design (LEED) for Existing Buildings: Operations & Maintenance Green Building Rating System developed by the U.S. Green Building Council.

49. "Manufacturers' Warranties" are those manufacturer's warranties and guarantees applicable to each ECM or ECM Grouping, as identified in Exhibit R.

50. "Measurement and Verification Plan" or "M&V Plan" is the plan for the verification and measurement of the performance of the ECMs and the Project set forth in Exhibit H and further described in Exhibit G.

51. "Measurement & Verification Services Payments" are the annual payments to the ESCO for Measurement & Verification Services in the amounts set forth in Exhibit I.

52. "Measurement & Verification Services" means those services to be provided by the ESCO to measure and verify the performance of the ECMs described in Exhibit H.

53. "Mold" means any type or form of fungus or similar biological material or agent, including mold, mildew, moisture, yeast and mushrooms, and any mycotoxins, spores, scents, or by-products produced or released by any of the foregoing.

54. "Notice to Proceed" means the notice to be issued by the Office of Capital Planning and Policy authorizing the ESCO to commence Services under this Contract

55. "Notice to Proceed Date" or "NTP Date" means the date noted in the NTP issued by the Office of Capital Planning and Policy to the ESCO to begin Services under this Contract.

56. "Parties" means the ESCO and the County, collectively. "Party" means either the ESCO or the County, individually.

57. "Shortfall Payment" is described in Section 4.C and is defined in Exhibits G and H.

58. "Phase I Report" means the report prepared by the ESCO dated June 7, 2012 that sets forth, among other things, (a) an assessment of the energy consumption characteristics of the Facilities, (b) specific energy analysis related to the Facilities and their respective operations, and (c) recommendations for projects or programs to achieve cost and/or energy savings in the operation of the Facilities, together with preliminary design materials.

59. "Printed Deliverables" shall mean text-based Project Documents such as reports, interim reports, progress reports, meeting minutes and similar materials required or requested to be provided in hard copy pursuant to Section 3.G or elsewhere in this Contract.

60. "Project" is defined in Recital H and Exhibit C.

61. "Project Closeout" refers to the phase in the Project lifecycle when a certificate of Final Acceptance for the entire Project has been issued by the County and all documentation required of the ESCO has been provided to the County as required by the Contract Documents.

62. "Project Closeout Items" includes, but is not limited to, all the following items, which are to be provided by the ESCO to the County, all training materials, all construction photographs (including negatives or digital format, as applicable); a copy of the final approved Project Schedule; the as-built mark-ups required under Section 8.B.9; any and all keys and tools used by the ESCO or its Subcontractors which were paid for with County funds; and any and all keys to County facilities which are in Contractor's possession or in possession of its Subcontractors, and any of their employees.

63. "Project Director" means a representative of the County designated by the Director of Capital Planning and Policy.

64. "Project Documents" means all data, the Design & Engineering Documents, Design Materials, test results, studies, meeting minutes, all schedules, notices, logs, supplemental information and reports, and any revisions or additions to any of the foregoing prepared, developed, gathered or received by the ESCO, its Subcontractors, agents and employees pursuant to this Contract.

65. "Project Schedule" means the schedule or schedules attached as Exhibit F, as it may be updated from time to time, which is a critical path method of scheduling of all Project activities and milestones related to the design, construction, installation and implementation of the entire Project and all aspects of the Work and for each ECM, prepared by the ESCO and approved by the County in accordance with Section 5.C. The Project Schedule include may include a responsibility matrix and a construction operations phasing plan, as agreed to by the Parties during approval and updating of the Project Schedule.

66. "Proposal Request" or "PR" means a document used to obtain cost information from the ESCO or the ESCO's Subcontractors for work items proposed to be added to or deducted from the project that were not included in the original Contract Documents but are required to complete the Work, add or delete items from the Work or change parts of the Work.

67. "Punch List" means a list of minor items, adjustments and/or corrections of Work to be completed after Substantial Completion of each ECM or ECM Grouping and prior to Final Acceptance of the Project, which minor items, adjustments and/or corrections of Work do not prevent an ECM, ECM Grouping or the Project from being used for the respective purposes for which such ECM, ECM Grouping or the Project is intended and which will not prevent the issuance of applicable permits or certificates for such use.

68. "Records" means time sheets, payroll records, labor costs, materials and equipment costs, expense journals and billings from ESCO's contractors, subcontractors, agents and data as well as information necessary to support the Savings Guarantee calculations.

69. "Responsibility Matrix" means a schedule which addresses and identifies all active roles for key individuals involved in the Project, including in particular the ESCO's Key Personnel.

70. "Savings Guarantee" means, as to any year in Guarantee Period, the annual guarantee of energy savings set forth in Exhibit G for such year.

71. "Savings Guarantee Payments" are the payments to be made to the County by the ESCO in the event of Savings Shortfalls as described in Exhibit G.

72. "Savings Shortfalls" means shortfalls between "Guaranteed Savings" and "Verified Savings" as each are defined and described in Exhibit G which results in a Savings Guarantee Payment.

73. "Scheduled Completion Dates" means each of the Completion Dates and the Final Acceptance Date as determined in the Project Schedule.

74. "Senior Officer" means the Director of Capital Planning, the Bureau Chief of the County's Department of Economic Development, the County's Chief Procurement Officer or the President of the County or the president or any executive vice president of the ESCO.

75. "Services" or "Phase II Services" shall mean collectively the Design Services, the Construction and Installation Services, Measurement & Verification Services, any Allowance Services, Maintenance Services and any other services to be provided by the ESCO under this Contract as further described in the Contract Documents. The Services include, but are not limited to the provision of architectural, engineering and other professional and licensed services required to provide the complete design of the Project, including all licenses and stamps required; and the provision of all surveys and permitting services, including obtaining permits and/or approvals as required from all authorities having jurisdiction over the Project, including all trades, specialized and general, materials, labor, machinery, utilities and everything else required and incidental to provide the Project so that it may be used by the County upon Final Acceptance.

76. "Standard of Care" means the degree of skill, care and diligence normally shown by (and generally accepted as being appropriate for) nationally recognized design, engineering, and construction professionals performing services and work of a scope, purpose and magnitude comparable with the Contract Services and in compliance with all applicable laws, codes, ordinances and industry standards related to the Project, including but not limited to zoning, building, environmental and health codes and regulations, site and easement restrictions, permit, licensing, certification and accreditation guidelines.

77. "Standards of Service" shall mean the standards of service for the ECMs set forth in Exhibit T.

78. "Subcontractor" means any partnership, firm, corporation or entity other than an employee of ESCO, who contracts with the ESCO to furnish services, labor, materials, or labor and materials at the Building or otherwise in connection with the Project. This term also includes subcontractors of any tier, suppliers, fabricators or manufacturers, whether or not in privity with the ESCO. The intended Subcontractors are listed in Exhibit D, as it may be amended from time to time as permitted in this Contract. The ESCO is to receive written approval from the County, which shall not be unreasonably withheld, prior to entering into a subcontract with any firm not listed in Exhibit D.

79. "Substantial Completion" means on a per Work Site or Facility basis as to any ECM or ECM Grouping, that the following has been achieved: (i) the County has determined, in consultation with the ESCO, that the Work for such ECM or ECM Grouping has been sufficiently implemented in accordance with the Contract Documents, including successful testing and commissioning of all components and systems required by the Contract Documents for such ECM or ECM Grouping to so tested and commissioned prior to Substantial Completion so that, after completion of testing and

commissioning, such ECM and ECM Grouping meets all the required performance standards under Exhibit T and such ECM or ECM Grouping is fully completed except for minor items, adjustments and/or corrections which do not interfere with the use of such ECM or ECM Grouping as intended by the Project Documents; (ii) any certificates of occupancy needed in connection with the Work have been issued; (iii) the ESCO has turned over to the County all Warranty Materials related to such ECM or ECM Grouping as required in Section 8.N, including the provision of all training manuals, drawings and documents required by the Project Documents, (iv) all necessary governmental authorities have issued approval that the applicable Work to be occupied or used and (v) the County has issued a Certificate of Substantial Completion setting forth the date thereof and such Certificate has been signed by the County, the ESCO and any Construction Manager, if required by the County. For purposes of commencement of the Warranty Period described in Section 10.C, "Substantial Completion" is achieved on a Building by Building basis.

80. "Substantial Completion Dates" means the respective dates on which Substantial Completion of an ECM or ECM Grouping is achieved as to a Work Site or Facility, or as to the commencement of the ESCO Warranty Period as to a particular Building, the date at which Substantial Completion of all ECMs in such Building is achieved as further described in Section 10.C.

81. "USA Patriot Act" is defined in Section 9.I.1.

82. "ESCO Warranty Period" means for all ECMs and ECM Groupings and Work in a Building, the 365 days running from and after the date of Substantial Completion of all ECMs and ECM Groupings within such Building, as described in Section 10.C.

83. "Work" means the work and Services required by the Contract Documents during the Construction and Installation Period and the Warranty Period, including correction or replacement of work, equipment and services required pursuant to this Contract and includes all labor, materials, equipment and services provided or to be provided by ESCO to fulfill ESCO's obligations under this Contract.

84. "Work Sites" means the Buildings and Facilities or portions of Buildings and Facilities where ESCO will perform the Work and will provide the Measure & Verification Services during the Guarantee Period.

B. Priority of Contract Documents. In the event of a conflict or inconsistency among the Contract Documents, the following order of precedence shall govern the interpretation of such documents:

- a. Approved Change Orders, Amendments to this First Amendment to the GEPC and Modifications;
- b. This Contract (excluding the Exhibits to the Contract);
- c. Exhibit G;
- d. The Exhibits to the Contract, other than Exhibits C and G;
- e. Exhibit C;

- f. The Design & Engineering Documents; and
- g. The Phase I Report, dated June 7, 2012.
- h. The GEPC (including Attachment B Phase 2 General Conditions, as modified, to the extent not superseded by this Contract).

C. Rules of Interpretation. The following rules of interpretation shall apply to this Contract.

1. The term "include" (in all its forms) means "include, without limitation" unless the Contract clearly states otherwise.

2. All references in this Contract to Sections or Exhibits, unless otherwise expressed or indicated are to the Sections or Exhibits of this Contract. Words importing persons include firms, associations, partnerships, trusts, corporations and other legal entities, including public bodies, as well as natural persons.

3. Any headings preceding the text of the Sections of this Contract, and any table of contents or marginal notes appended to it, are solely for convenience or reference and do not constitute a part of this Contract, nor do they affect the meaning, construction or effect of this Contract.

4. Words importing the singular include the plural and vice versa. Words of the masculine gender include the correlative words of the feminine and neuter genders.

### SECTION 3. EFFECTIVE DATE; CONTRACT TIME, AND SCOPE OF SERVICES.

A. Contract Time. The "Contract Time" is the period of time from the Effective Date, until the end of the Guarantee Period. The Contract Time combines the Construction and Installation Period and the Guarantee Period pursuant to the Project Schedule. The "Construction and Installation Period" is the period of time from the Notice to Proceed Date until Final Acceptance of the entire Project, which shall not be later than one thousand ninety-three (1,093) days from the Notice to Proceed. The "Guarantee Period" is the period of time from date of Final Acceptance of this Project by the County and shall terminate at the end of twenty (20) years from the date of Final Acceptance, unless sooner terminated as provided for herein.

B. Effective Date; Notice to Proceed. The "Effective Date" is the date on which the County issues the written Notice to Proceed.

C. Scope of Services. Exhibit C sets forth a Scope of the Services to be provided under this Contract, detailing the specific tasks to be performed by the ESCO. Exhibit C is intended to describe the Services in detail and not to limit the Services in any way. Therefore, if a service or task is described in this Contract but not included in Exhibit C, ESCO shall be obligated to provide the service or task. If a service or task is described in Exhibit C and not in this Contract, ESCO shall be obligated to perform the service or task. In the event of a conflict between the terms set forth in this Contract and specific items described in Exhibit C, ESCO shall perform the service or task in the manner most beneficial to the County, as determined by the Project Director.

D. Timing of Substantial Completion. The ESCO will achieve Substantial Completion of the ECMs and the ECM Groupings in accordance with the Project Schedule set forth in Exhibit F.

Except as permitted in this Contract, Substantial Completion of the last of the ECMs and ECM Groupings shall take place no later than one thousand eighteen (1,018) days following the Notice to Proceed Date, subject only to adjustments of the Project Schedule as permitted by Section 13.E of this Contract (the "Substantial Completion Date"):

E. Final Acceptance. Subject only to time extensions of the Contract Time as permitted by Section 13.E of this Contract, the ESCO will successfully achieve Final Acceptance of the Project by no later than one thousand ninety-three (1,093) days following the Notice to Proceed Date.

F. Extraordinary Measures. If the County determines through reasonable evidence that the performance of the Work is behind schedule such that the ESCO will be unable to achieve Substantial Completion in accordance with the Project Schedule, the County shall have the right, but no obligation, to order the ESCO in writing to take corrective measures necessary to expedite the progress of construction, including, without limitation, (i) working additional shifts or overtime, (ii) supplying additional manpower, equipment, and facilities and (iii) other similar measures (collectively "Extraordinary Measures"). The determination of whether the progress of the Work is behind schedule shall take into account any extensions in time to which the ESCO is entitled under 13.E. herein. The County is hereby permitted to continue use of Extraordinary Measures until the progress of the Work complies with the stage of completion required by the Contract Documents. The County's right to require Extraordinary Measures is solely for the purpose of ensuring the ESCO's achievement of Substantial Completion in accordance with the Project Schedule. The County may exercise its rights under or pursuant to this Section frequently as the County deems reasonably necessary to ensure that the ESCO's performance of the Work will comply with the Project Schedule and the Contract Documents. This Section 3.F shall not be deemed to apply to the extent that such delays are due to Excusable Events within the meaning of Section 13.F. All disputes as to degree to which Excusable Events have delayed the Project shall be handled pursuant to the Disputes provisions of Section 16.

G. Deliverables. All Electronic Deliverables shall be delivered or emailed to the Project Director and any Construction Manager. When required by file size, "delivery" shall mean the physical delivery of a CD, "flash drive" or other agreed to electronic medium readable by the County in such quantities as the County may request. In addition, one reproducible copy of all Electronic Deliverables shall be provided. The ESCO shall, as a part of its Services submit Printed Deliverables as follows: When required by file size, "delivery" shall mean the physical delivery of a CD, "flash drive" or other agreed to electronic medium readable by the County in such quantities as the County may request. In addition, one reproducible copy of all Electronic Deliverables shall be provided. The ESCO shall, as a part of its Services submit copies of printed Deliverables in such numbers as are requested by the Project Director or any Construction Manager to be submitted in hard copy. The ESCO acknowledges that Printed Deliverables may include drawings, plans and similar material that are otherwise considered Electronic Deliverables. Copying and printing of Printed Deliverables and other similar deliverables shall be printed on both sides of the paper. Paper utilized for submissions and deliverables shall be recycled paper containing at least 30 percent post-consumer content, unless use of such recycled paper is not practicable. The County reserves the right to revise these procedures, as it deems necessary. Any such revisions shall be effective upon receipt of written notice thereof from the County to the ESCO.

#### SECTION 4. BASIS OF COMPENSATION TO THE ESCO.

A. Compensation for Construction and Installation Services. The County will pay the ESCO for the due, proper, and complete performance of the Construction and Installation Services as

required hereunder an amount not to exceed \$34,228,060 (the "Construction and Installation Amount"), such amount to be based on the Payment Schedule set forth Exhibit J. Payments of the Construction and Installation Amount shall be submitted monthly and shall be based on the percentage of Construction and Installation Services completed as determined in the Cost Loaded Schedule set forth as part of Exhibit J. The Construction and Installation Amount shall include all expenses and reimbursement.

B. Compensation for Allowance Services. When requested by the County or as recommended by the ESCO, the ESCO will provide Allowance Services. The Allowance Services shall be furnished in accordance with generally accepted practices and be fully governed by this Contract. Compensation for Allowance Services, above and beyond that required by the Contract Documents, will be either on the basis of a lump sum fee or an hourly rate of Key Personnel as negotiated between the ESCO and the County. The scope of work of the Allowance Services, and the method of compensation, will be negotiated in advance of any such service or work being performed. Invoicing and payments for Allowance Services will be made per services/work completed. The Budget for Allowance Services under this Contract shall not exceed \$1,711,400. The inclusion of this line item does not obligate the County to approve its use. Funds from this category will not be expended or authorized for use by the ESCO without the advance written authorization of the County. Regardless of whether Allowance Services are rendered, the County will have no obligation to pay for Allowance Services unless the same have been specifically set forth in writing prepared by the ESCO and approved in writing by the County; provided that the County shall not unreasonably withhold approval if such Allowance Services are agreed by the Parties to be reasonably necessary for the implementation of the Project. The ESCO will include an allowance summary sheet provided by the County for any request for the use of Allowance Services.

C. Compensation for Measurement & Verification Services. Commencing upon the Savings Guarantee Commencement Date and continuing until the expiration or earlier termination of this Contract, the ESCO will perform the Measurement & Verification Services. During the Guarantee Period, the County will make annual payments to the ESCO for the Measurement & Verification services in the amounts set forth in Exhibit I (each, a "Measurement & Verification Payment") in advance due forty-five (45) days following the submission of an invoice meeting the requirements of this Contract.

D. Contract Sum. The sum of the amounts described in Sections 4.A, 4.B and 4.C above shall be known as the Contract Sum.

E. Environmental Incentives. Except as set forth in this Subsection, the County will own, and may assign or sell in its sole discretion, all right, title, and interest associated with Environmental Incentives. Environmental Incentives will not be included within any calculation of savings or otherwise reduce the ESCO's responsibility for achieving the "Guaranteed Annual Savings Amount" or "Guaranteed Project Savings Amount," as such terms are defined in Exhibit G. Notwithstanding the foregoing, the ESCO will be designated the sole beneficiary of tax deductions arising under Section 179D of the Internal Revenue Code. Upon Final Acceptance of the Project, the County agrees to execute the required written allocation and declaration under Section 179D of the Internal Revenue Code to designate the ESCO as the beneficiary of such deductions. The ESCO will prepare the written allocation, declaration, and all accompanying documentation necessary to effectuate such designation. The County shall not have any responsibility for ensuring that the Project and/or the Facilities qualify for deductions under Section 179D of the Internal Revenue Code, nor shall the

County be liable to the ESCO in any manner for the failure of the Project and/or the Facilities to qualify for such deductions.

## SECTION 5. PROJECT SCHEDULE

A. Time of the Essence. TIME IS OF THE ESSENCE FOR THIS CONTRACT. The ESCO agrees to commence the Work in conformity with the provisions set forth herein and to prosecute the Work with all due diligence, so as to achieve Substantial Completion of all ECMs and ECM Groupings in the Project by no later than 1,018 days following the Notice to Proceed Date using double shift, weekend and holiday work when necessary. This Section 5.A shall not be deemed to apply to the extent that such delays are due to Excusable Events within the meaning of Section 13.F. All disputes as to degree to which Excusable Events have delayed the Project shall be handled pursuant to the Disputes provisions of Section 16.

B. Project Schedule. The Project Schedule for the entire Project has been included as Exhibit F. The Project Schedule will be updated by the ESCO and submitted to the County at least monthly and, if requested by County, in electronic format. The ESCO will submit a revised Project Schedule when ESCO's planned sequence is changed or when Project changes are made that affect the Project Schedule. Any changes to the Project Schedule will not be effective until such changes have been reviewed and approved by the County. When performing the Work, the ESCO will comply with the Project Schedule. The ESCO recognizes that the Work will take place in County owned Facilities which are occupied by the County and may involve sensitive on-going operations. The ESCO will be sensitive at all times to the operational needs of the County during performance of the Services and will coordinate with the County to protect the health and safety of County, its employees, residents, invitees and other persons who may be present in the Facilities during the performance of the Services, and the ESCO will avoid unreasonable inconvenience to and interference with the County's conduct of business. Any monthly updates shall not operate to extend the Project Schedule except in accordance with Section 13.E. Any revisions to the Project Schedule shall not delay, obstruct, hinder or interfere with the commencement, progress or completion of any other Work on the Project except in accordance with Section 13.E.

C. The ESCO shall submit an updated Project Schedule, including the Construction Operations Phasing Plan for approval by the County or its Program Manager within ten (10) days of execution of the Contract. The itemization and format shall be subject to the approval of the County or its Program Manager. Work shown on the schedule shall be organized by Facility and by Work Site using "hammocks" and tasks shall be indexed to a trade subcontractor with such detail as the Project Director may reasonably require consistent with a Project of this nature and the way in which the ESCO plans to phase the work. The Project Schedule shall include, as a minimum, the activities noted below and be supplemented by the ESCO to provide a complete schedule overview.

- I. *Preconstruction:*
  - Notice to Proceed
  - Coordination Meeting
  - Design/Submittal Permit Documents
  - Obtain Permit from appropriate governing authorities
  - Key Submittals
  - Procurement of Long Lead Items

Site Preparation; Demolition

2. *Construction and Installation*

Equipment Installation

Restoration of Sites to Good Condition

Systems Test, Balance, Adjustment and Commissioning

Application for Substantial Completion with Punch List

Substantial Completion Walkthrough and Punch List Review

*Close Out*

Punch List Work

Staff Training

*Final Acceptance and Closeout Documentation*

D. **Cost Loaded Schedules.** The ESCO has prepared and the County has approved a Project Schedule and Corresponding Schedule of Values for activities related to the Construction and Installation Services (attached hereto as portions of Exhibit J and referred to with the County form of schedule as the "Cost Loaded Schedule"). The Cost Loaded Schedule (1) identifies the Project activities to be performed by the ESCO by ECM or ECM "Grouping, Work Site, electrical or mechanical activity and by trade together with such other detail as has been agreed to by the parties and (2) assigns a dollar value to each such activity which aggregates to the compensation amount for Construction and Installation Services as set forth in Section 4.A. The ESCO shall update the Cost Loaded Schedule quarterly or when requested by the County; provided, however, that any changes in the Cost Loaded Schedule shown in such update shall not become effective unless and until such changes are first approved by the County. The County reserves the right to require reasonable revisions to the Cost Loaded Schedule in the interests of clarity or to better reflect the nature of the Project.

E. **Submittals.** Within twenty-one (21) days after the Notice to Proceed Date, the ESCO shall submit to the County a schedule of delivery for all submittals of products and equipment required by the Contract Documents to the County. The ESCO shall include a separate transmittal letter with each submittal, identifying the item by manufacturer and by model number. Each submittal shall have a chronological submittal number. As and when requested by the Project Director, the ESCO shall submit appropriate documentation for review by the County (e.g. shop drawings, product submittals, product sheets) for all materials and for all mechanical, telecommunications, plumbing, electrical, fire and security systems, equipment, fixtures, personal property, and other items, in all detail required by the submittal matrix included in Exhibit B, but, at a minimum, describing the following, as defined in the submittal schedule, as applicable: Physical dimensions and space required for operations, weight; structural requirements of the Facility; power requirements; exhaust requirements; water requirements; chemical requirements; air-conditioning requirements; maintenance requirements; conveying system requirements; supplies required. The ESCO shall submit copies of brochures/technical materials for each item in such Printed Deliverables or Electronic Deliverable form as the County shall reasonably request. The County reserves the right to request additional information regarding any product to be used in the Project.

F. **Failure to Meet Project Schedule.** If the ESCO fails to accomplish portions of the Work within the period set forth in the Project Schedule, or fails to achieve Scheduled Completion Dates set forth in the Project Schedule, and if no extension of the Contract Time is agreed to by the County, the ESCO shall provide to the County upon request a written recovery plan indicating the manner in which the ESCO intends to recover the lost time in order that the Project can be completed within the Contract

Time, including resort to any Extraordinary Measures as set forth in Section 3.F. If the ESCO fails to provide a realistic recovery plan, and if the County reasonably deems the delay to be material, then the County may declare the delay to be a default under the Contract and may proceed in accordance with Section 17.C. If the milestone dates are not achieved, then the County shall have the right to require an acceleration plan that restores the schedule and ensures meeting all subsequent milestone dates. The default provisions of this Section 5.F shall not be deemed to apply to the extent that such delays are due to Excusable Events within the meaning of Section 13.F. All disputes as to degree to which Excusable Events have delayed the Project shall be handled pursuant to the Disputes provisions of Section 16.

#### SECTION 6. COUNTY ROLE AND PARTICIPATION.

A. Project Director and Escorts. The County shall endeavor to render approvals, acceptances and decisions required by the ESCO in a reasonably expeditious manner for the orderly progress of the ESCO's services and the Project and in accordance with the Project Schedule; provided that there shall be no damages for delay by the County. The Project Director shall, on behalf of the County, act as the primary point of contact for the ESCO with the County and endeavor to render decisions in a timely manner where such decisions do not result in any change or modification of the Contract Documents or of the Project. The ESCO's communications with the County, including but not limited to all reports, should be directed through the Project Director to the greatest extent possible, except for written notices, which shall be made in accordance with Section 20.J. The County may substitute a new Project Director through written notice to ESCO. The County will also provide a suitable number of escorts to accompany ESCO personnel during the Project at the Facilities in order for the ESCO to meet the Construction Schedule, such number to be determined at meetings between the Project Manager and senior personnel of the ESCO, but estimated to number six (6) full time escorts. Following Final Acceptance of the Project, the County shall provide such escorts as may be needed for the ESCO to perform the Measurement & Verification services as determined by the parties.

B. Information to ESCO. Subject to the County's security requirements at the Facilities ("County Security Requirements"), the County agrees to provide to ESCO reasonable access to the Facilities and surrounding sites and furnish information necessary for ESCO to perform its responsibilities under this Contract. Such access and information will include, but is not limited to, the following items:

- All mechanical equipment rooms in the Facilities;
- All temperature control and energy management systems which control part or all of any of any of the Facilities;
- Personnel with responsibility for operating and/or managing the Facilities;
- Monthly utility invoices and billing history for all of the meters listed in Exhibit B;
- Construction documents, equipment inventories, and other documents that may be helpful in evaluating a cause for adjustment as listed in Exhibit G; and
- Any data from utility meters or sub-meters relevant to the Measurement & Verification Services. The County understands that the utility meter and submeter data provided will be the primary source of data used in baseline energy development and may be used in the Measurement and Verification process.

Any information or documentation provided by the County to the ESCO relating to the Project or the Facilities is provided only for the convenience of the ESCO. The County makes no representation or warranty as to the sufficiency, completeness, or accuracy of such information. However, County understands that such data may have been used in baseline energy development and may be used in energy savings verification process. The Parties further agree that the ESCO may not be able to independently verify utility data provided by third party utilities to the County as to energy use and that in the absence of the means of such independent verification, the ESCO may reasonably rely on such information (provided that the ESCO has made all reasonable efforts to verify such information with the County's assistance).

C. Operations. The County will operate the ECMs after Final Acceptance in accordance with the manufacturers' recommendations and the procedures and operating manuals provided by the ESCO.

D. Required Maintenance. Except for the ECMs described in Exhibit B as relating to Steam Traps ("Steam Traps ECMs") the County agrees to maintain the Project and all associated equipment impacting the performance of the ECMs and the Facilities in accordance with the maintenance requirements attached as Exhibit K, with allowance for normal wear and tear. The ESCO shall maintain the Steam Trap ECMs in accordance with Exhibit K. Subject to County security requirements at the Facilities, the County will provide access to the Steam Trap ECMs at the times agreed upon and make all reasonable provisions for the ESCO to access the Steam Trap ECMs so that required maintenance may be performed in an efficient manner.

E. Malfunctions. The County will notify the ESCO as soon as practicable but, in the absence of emergency conditions affecting the Facilities, the County will endeavor to notify the ESCO within forty-eight (48) hours from the time of discovery in the event of any malfunction in the operation of the ECMs or any equipment installed by the ESCO under the Contract Documents.

F. Protection of ECMs. Except in case of emergency, the County will not remove, move, alter, turn off or otherwise significantly affect the operation of the equipment installed pursuant to the Project or the operation of the ECMs without notice to and approval of the ESCO, which shall not be unreasonably withheld. The County shall act reasonably to protect the ECMs from damage or injury in the same fashion which it protects its own property at the corresponding Facility and shall follow the ESCO's instructions regarding actions which significantly affect the ECMs except in case of emergency. The County will not move, alter or change the ECMs in any way that reduces their level of efficiency or the savings generated by the ECM or the equipment installed pursuant to the Contract Documents without following the operational procedures provided by the ESCO or obtaining the approval of the ESCO, which shall not be unreasonably withheld.

G. Measurement and Verification System. The County shall not move, modify or otherwise alter the measurement and verification system or any component thereof without consent of the ESCO unless: (i) such action is in accordance with the operating manuals and procedures provided by the ESCO at Substantial Completion; (ii) in case of an emergency in which case the County will seek to act reasonably and contact the ESCO prior to such actions if such prior contact is possible in the reasonable opinion of the County.

H. Changes to Facilities. The County will notify the ESCO as to significant changes in any of the Facilities that would be expected to change the energy usage at such Facility so as to increase

or decrease energy consumption at such Facility would increase or decrease by at least five percent (5%) over the prior equivalent month, taking into account seasonal adjustments.

I. Energy Usage Data. The County will make available to the ESCO, on a monthly basis for the term of this Contract, copies of all energy bills, energy usage data and such other information reasonably needed by and as requested by the ESCO to determine and satisfy its obligations under the Contract Documents.

J. Construction Manager. The County may elect to appoint an independent Construction Manager for the Project to assist the Project Director and act as an owner's representative at the Work Sites. The Project Director would inform by letter the ESCO of any appointment of a Construction Manager promptly after such appointment. Any such Construction Manager would have the authority to act on behalf of the County as its representative set forth in such appointment letter, subject to the provisions of this Section 6.J., unless otherwise modified by written instrument to the ESCO by the Project Director. The Chief Procurement Officer and the Project Director may issue instructions to the ESCO through the Construction Manager. Nothing contained in the Contract Documents shall create any contractual relationship between the Construction Manager and the ESCO. The Construction Manager shall not have the authority to stop the Work. The Construction Manager will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work and will not be responsible for the ESCO's failure to carry out the Work in accordance with the Contract Documents. The Construction Manager will not be responsible for or have control or charge over the acts or omissions of the ESCO, Subcontractors, or any of their agents or employees, or any other persons performing Work.

## SECTION 7. DESIGN SERVICES

A. Work Site Visits. In performing under the Phase I Audit Agreement and in producing the Phase I Report, the ESCO has already conducted many Work Site visits and has become thoroughly familiar with the existing conditions at the each of the Work Sites. The ESCO has also already been furnished with such as built drawings and other materials of the County related to the Work Sites. Following the Notice to Proceed, the ESCO shall complete all necessary Site Visits in order to proceed with the Design Services and Construction and Installation Services in accordance with the Project Schedule, subject to County security requirements. All Work Site visit requests by the ESCO or any Subcontractors will be handled through the Project Director or a Construction Manager and shall require at least five (5) business days advance notice to the County (unless the Project Director authorizes a shorter notice period on a case by case basis). The ESCO shall report to the County (to the extent not already in the Phase I Report) any pre-existing conditions which would adversely affect the Project and note and photograph pre-existing damage and irregularities (as requested and permitted by the County after consultation with the Project Director) at any of the Work Sites which could adversely affect the Project. Notwithstanding anything to the contrary contained in this Contract and without limitation on any other rights and remedies of the County, the ESCO shall be obligated at its cost and expense to revise any document prepared by the ESCO, its subcontractors, agents or employees for the Project if the matters covered by such revisions should reasonably have been discovered by the ESCO in the performance and observance of its Services under this Contract.

B. Design & Engineering Documents

1. The ESCO will prepare, for written approval by the County (to the extent not already approved as part of the Phase I Audit Agreement), working designs, schematics, drawings, specifications and other documentation setting forth in detail the requirements of the construction and installation of each ECM at each Work Site or Facility in accordance with the Contract Documents ("Design & Engineering Documents"). The County shall reasonably cooperate in providing existing as built drawings and other materials relevant to the Project regarding various Work Sites or Facilities which may be needed for the ESCO to complete Design & Engineering Documents or to apply for permits for Constructions and Installation Services. The Design & Engineering Documents may be submitted in successive packages separate by ECM and by Work Site or Facility in an order agreed to by the parties for each stage of design, each of which shall address separate construction trades. The Design & Engineering Documents shall contain such content and detail as is necessary to properly complete the construction and installation of such ECM and provide information customarily necessary for the use of such documents by those in the building trades. The Design & Engineering Documents must specify lead times for product and equipment orders and, if known, the applicable cancellation fees for those equipment orders. Notwithstanding the foregoing, the ESCO may request approval in writing from the Project Manager to make a product order for long lead items which require at least three months to be received following an order to be received prior to completion of the Design & Engineering Documents if necessary to meet the Project Schedule ("Special Orders"). The Project Manager's approval as to a Special Order, however, is deemed only to denote acceptance of manufacturer of the product ordered, but such acceptance does not mean approval by the Project Manager or the County for design, performance or suitability of such product for the intended Facility or Work Site. Where required by law and as delineated in Exhibit B, the Design & Engineering Documents must bear the stamp or seal of architects or engineers licensed by the State of Illinois.

2. Except as set forth in Section 7.B.1 as to Special Orders, the ESCO covenants and agrees that it will not commence the procurement or construction for any ECM at a specific Work Site until the County has approved the related Design & Engineering Documents for such ECM at such Work Site and all related permits are issued. The ESCO shall also represent with each such approval package that the Design & Engineering Documents are accurate and free from any errors or omissions and are in compliance with and accurately reflect all applicable laws in effect at the time of such submission. At any time, the ESCO will, at no expense to County, promptly modify any Design & Engineering Documents which are not in accordance with applicable laws or are inaccurate or contain errors or omissions. The ESCO acknowledges and agrees that the County will have no liability for cancellation fees applicable to equipment orders until after the County has approved the Design & Engineering Documents for such equipment on a Work Site or Facility basis; provided that in the case of Special Orders, the County shall be responsible for cancellation fees if the County cancels the ECM which uses such product.

3. The ESCO acknowledges and agrees that any review, approval, comment or evaluation by the County of any Design and Engineering Documents prepared by or on behalf of the ESCO is solely for the County's purposes in determining for its own satisfaction the suitability of the Project or portions thereof for the purposes intended therefor by the County, and may not be relied upon by the ESCO, its Subcontractors, or any other third party as a substantive review thereof. The County, in reviewing, approving, commenting on or evaluating any Design & Engineering Documents, will have no responsibility or liability for the accuracy or completeness of such documents, for any defects, deficiencies or inadequacies therein or for any failure of such documents to comply with the requirements set forth in the Contract Documents; the responsibility for all of the foregoing matters being the sole obligation of the ESCO. In no event will any review, approval, comment or evaluation by the County relieve the ESCO of any liability or responsibility under this

Contract, it being understood that the County is at all times ultimately relying upon the ESCO's skill, knowledge and professional training and experience in preparing any plans, drawings, specifications or other documents.

4. No Work shall be done without proper Design and Engineering Documents as summarized in Exhibit B. The Design and Engineering Documents shall include, at a minimum, all relevant dimensions, placements, clearances, methods and materials of construction. The ESCO shall determine methods and means and divisions of work among its Subcontractors.

5. Design and Engineering Documents to be Available. The ESCO shall keep one complete set of all current Design and Engineering Documents, including shop drawings, other submittals, addenda and change orders at the respective Work Sites, in order, and available to the County and any Construction Manager. The Design and Engineering Documents kept on-site shall be kept up to date by replacing obsolete sheets with revised sheets as they are issued. Office or reference copies shall retain obsolete Drawings for historical documentation purposes, which shall be clearly marked as "superseded".

#### SECTION 8. CONSTRUCTION AND INSTALLATION SERVICES.

##### A. Pre-Construction: Permits and Approvals.

1. In General. The ESCO shall secure and pay for all necessary permits (including hauling permits), approvals, assessments and charges, including, without limitation, construction building permits, required for the proper execution and completion of the Work in accordance with the Project Schedule.

2. Status Reports; Failure to Obtain Permits. The ESCO shall provide the County and any Construction Manager with a written status report on the permit review process as to all permit applications, beginning two (2) weeks after the filing of the first such application and every two (2) weeks thereafter until all necessary permits have been issued. If the ESCO requires assistance in the permitting process from the County, the ESCO shall request such assistance in writing, directed to the Project Director specifying the nature of the assistance request.

3. Copies to be Provided. A copy of each permit application shall be submitted to the County within five (5) calendar days after filing for such application. A copy of the actual permit shall be submitted to the Project Director and to any Construction Manager within five (5) calendar days after its receipt by the ESCO. The ESCO shall also provide copies to the Project Director and any Construction Manager of all correspondence, applications, and transmittals related to the permitting of the Project when submitting the related permit.

##### B. Construction and Installation Services

1. Procurement. Following receipt and review of all necessary permits and approvals to commence the Construction and Installation Services for an ECM at a Work Site or Facility, as determined by the ESCO and the Project Director, the ESCO shall proceed to procure all materials and equipment needed for such ECM in accordance with the Project Schedule. Special attention shall be given to long lead items and the Project Director will be informed of any supplier delays in providing such items.

2. Quality of Work, Labor and Workmanship, Materials and Equipment. All Work to be performed under this Contract shall be of the industry quality workmanship and shall be executed by mechanics and artisans skilled in their respective trades. Unless otherwise specified in the Contract Documents, the ESCO shall provide and pay for all materials, labor, tools and equipment, necessary for the execution of the Work. Unless otherwise specified, all material shall be new and reasonably acceptable to the Project Director. Discontinued products, model numbers, or other out of production items will not be accepted by the County unless such consent is agreed to in writing signed by the Project Director. Materials and equipment provided by ESCO shall not be subject to any conditional bill of sale, security agreement, financing statements, chattel mortgage or other claim. The ESCO shall, if required, furnish satisfactory evidence as to the kind and quality of materials. The ESCO will only employ and permit the use of such labor as shall not result in jurisdictional disputes or strikes or cause disharmony with the tenants, other contractors, agents, and employees at the Facilities or other sites affiliated with the County. Any worker or other person involved in the performance of the Work who, in the opinion of County, is incompetent or careless in the execution of the Work or otherwise unsatisfactory shall be immediately removed upon request of the County. The ESCO will enforce strict discipline and good order among ESCO's employees and other persons carrying out the Work. Local preferences shall be complied with in accordance with Section 9.I.11.

3. Work to Be in Accordance with Contract Documents, regulatory codes and the Project Schedule. The ESCO is responsible for the construction of the Project in accordance with the Contract Documents, including the Project Schedule. The ESCO shall consult with the County and any Construction Manager regarding Work Site use and improvement; and the selection of materials, building code issues which could delay the Project, building systems and equipment. The ESCO shall evaluate and make recommendations to County and any Construction Manager concerning construction feasibility, labor utilization and avoidance of labor disputes, material procurement, equipment rental or purchase, life cycle costing, phasing and early start of portions of the Work. All equipment and materials shall be installed in strict accordance with the last edition of the Code of the National Fire Protection Association; provided that any changes in such Code occurring following the Notice to Proceed which require additional cost or Work may be subject to an equitable adjustment or a Change Order pursuant to the Section 13. The ESCO shall comply with all code requirements for Underwriters' Laboratories, Inc. labels. The ESCO shall pay, or cause the responsible Subcontractor to pay, all fees and cost that may become necessary in complying with this Section. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Construction and Installation Services including, without limitation, all items and services which are consistent with, reasonably contemplated by, or reasonably inferable from the Contract Documents as being within the scope of the Project and the Work, whether or not such items and services are specifically mentioned therein.

4. Inspection and Responsibility Upon reasonable notice (except in cases of emergency or where such notice is prohibited by law or court order), the County shall have a right to inspect any Work, equipment, products and materials to be used in carrying out this Contract. The County does not assume any responsibility for the availability, quality or standards of any materials, products and equipment required under this Contract, which shall be the responsibility of the ESCO. The ESCO shall also be responsible for the quality and standards of all completed Work furnished under this Contract.

5. Delivery and Installation. The ESCO is responsible for any and all delivery and warehousing costs, charges and fees, and bears full responsibility for loss of or damage to materials, systems and equipment until acceptance at site of installation. The ESCO shall be responsible for the assembly, installation, interconnection, calibration, and start-ups including any final electrical power and/or other utility connections and mounting. All Work by the ESCO in conjunction with installation

shall be in accordance with the applicable editions of all federal, state, and local codes and standards including but not limited to the Chicago Electrical Code, National Electrical Manufacturers Association and NFPA 70 - National Electrical Code. Provided that any changes in such codes occurring following the Notice to Proceed which require additional cost or Work may be subject to an equitable adjustment or a Change Order pursuant to the Section 13.

6. Control Over Means, Methods, and Techniques. The ESCO is solely responsible for and will have control over means, methods, techniques, sequences and procedures and for coordinating all portions of the Work, unless the Contract Documents give other specific instructions concerning these matters.

7. Cutting and Patching. The ESCO will do all cutting, fitting, and patching necessary for the completion of the Work and the Project and will not alter or endanger any existing portion of the Facilities or any material or equipment installed therein without the consent of the County.

8. No Reliance Upon County Representations. The ESCO has satisfied itself, by its own independent investigation of the Work Sites and through preparation of the Phase I Report regarding all the visible and reasonable ascertainable (to professionals trained in such investigation) conditions of the specific areas in the Work Sites affected by the Work to be done and materials to be furnished and has executed this Contract based solely on such investigation, study and determination made by it, and not in reliance upon any representation by County or by anyone acting for or on behalf of County.

9. As Built Mark Ups. The ESCO shall keep legible notes of all the deviations and discrepancies in the underground, concealed conditions and all items of construction and Work on field drawings (the "As-Built Mark-ups) and shall submit them to the County and to any Program Director or a Construction Manager as Work progresses for review and incorporation into final record "as built" documents. The submission of accurate As-Built Mark-ups and manufacturers' guarantees and warranties and maintenance and operating manuals by the ESCO are conditions precedent to Final Acceptance and the ESCO receiving final payment.

10. Construction Photographs. At the request of the Project Director (and subject to County security requirements), "Photographs" shall be submitted for each complete ECM system or component (or as reasonably determined by the Project Director for representative samples of such ECMS where photographs of all of one ECM system or component is not practical or useful), together with applications for Substantial Completion of such ECM. "Photographs" for purposes of this paragraph shall mean digital, professional quality color photographs. Electronic copies of "Photographs" shall be compressed to jpegs not exceeding one Mb. Each digital and hardcopy Photograph shall be clearly and legibly identified with the following information: : Project Name, Date of Photograph, County Contract/document Number, relevant Facility or Facilities and/or Work Site and ECM, component/system name and direction the view is looking towards. Such information may be provided in an index or the information may be included on the digital Photograph along the bottom in such a manner so as not to obscure the subject of the Photograph. The County retains the right to request additional Photographs from the ESCO if required to verify conditions or as a condition of a Change Order. The ESCO shall provide all such Photographs at no additional cost to the County. Failure of the ESCO to perform under this paragraph 10 will not be deemed a default to the extent that taking such photographs is not permitted by County security requirements.

C. Safety.

1. In General. The ESCO is solely and completely responsible for all necessary safety precautions and programs in connection with the Work and the Work Sites, including but not limited to providing whatever protection may be necessary to prevent injury to any persons, regardless of status, whether tenants, patrons, and/or employees or business invitees of County or ESCO (including any Subcontractor) or inmates who may be present at any of the Facilities or for any loss or damage to property of the County or other persons, including all materials and equipment to be incorporated into the Work and all existing improvements which are not to be removed as part of the Work. The above requirements will apply continuously and not be limited to normal working hours. Except to the extent dictated by security considerations imposed by the County, the County and any Construction Manager or their agents shall in no event have control or charge of the construction and shall not be responsible for construction and safety means, methods, techniques, sequence or procedures, or for safety precautions or the acts or omissions of the ESCO or any other persons performing Work or their failure to perform.

2. Accident Reports. The ESCO shall give the County and any Construction Manager written notification of any accident and/or occurrence relative to the ESCO's implementation and construction of the Project, at a Facility or Work Site or otherwise, which involves the ESCO's own personnel, or those of any of its Subcontractors or material suppliers, whether said occurrence be in the nature of bodily injury to employees or third parties or property damage, including physical damage on the site and off-site as soon as practicable and in no event longer than forty-eight (48) hours following the accident or occurrence, except to the extent that such accident or occurrence is subject an Excusable Event which would prevent the providing of such written notice. The report shall include the name of person(s) injured, name of such person(s) employer, date, time and location of occurrence, extent of injury and/or damage, name(s) of eyewitnesses, and name of anyone who treated the person(s) for injuries sustained, and such other information as may be necessary. The local police should be notified of any occurrence requiring an official police record. The accident report should indicate whether the police were notified and, if so, the number of the police report. In addition, if injuries or damage occur, the accident shall be reported immediately by telephone or messenger to the County and any Construction Manager.

3. Protection of the Work and the Project Sites. Subject to County security requirements, the ESCO shall continuously maintain adequate protection of all the Work from damage and shall protect the County's property, including utilities located therein, from damage, injury or loss arising in connection with the Work. ESCO shall be responsible for any such damage, injury or loss, except as may be caused by agents or employees of the County and if such property is damaged, injured or destroyed by the ESCO, its Subcontractors and any of their employees, or agents, it shall be restored to a condition as good as that existing immediately prior to commencement of the Work and the ESCO shall make good all such damage or loss without additional cost to the County. Subject to applicable County security requirements related to specific Facilities or Work Sites, the ESCO shall provide and erect all necessary barricades and other protection required by the County or applicable Laws and shall also protect all walks, curbs, lamp posts, underground conduits, overhead wires, water sewer, gas mains, and other facilities until such time as they are accepted by the respective public service corporations or by the County. If not prevented by County security regulations, the ESCO shall also provide and maintain all necessary warning lights from twilight to sunrise unless otherwise directed by the Project Director or a Construction Manager. The ESCO shall also protect from damage all parts of the Work and all materials, tools and equipment relating to the Work from freezing or inclement weather and the ESCO shall be solely responsible for the condition of such Work and materials.

4. Adjacent Property and Utilities. The County will endeavor provide ESCO with a list containing the name and addresses of all adjacent private and public property owners known to the

County, including utility owners, whose property may reasonably be affected by the ESCO's work prior to execution of this Contract. Where the ESCO's Work affects adjacent private or public property, including utilities located thereon, the ESCO shall take such steps as are provided by law or as necessary to prevent damage, injury or loss. The ESCO shall be responsible for and make good any damage, injury, or loss to adjacent property resulting from ESCO's operations. The ESCO shall notify all public and private owners of adjacent property and utilities which might be affected by the Work by registered or certified mail, return receipt requested, well in advance of commencing any Work affecting their property or utilities of the Work and its possible effect on their property. If the Work might affect any utilities, utility service, or utility equipment, the ESCO will notify the utility companies or users of such utilities which might be affected by the Work, and if such utility equipment is not needed or interferes with the execution of the Work, the ESCO, under the direction of the utility, will remove or protect such utility equipment as required by such utility companies or users of such utility equipment. ESCO shall also comply with all safety and utility shutdown requirements applicable to any Work Site. If necessary, the ESCO shall request a utility shutdown after approval by the Project Director.

5. Safety of Employees. The ESCO shall take all necessary precautions for the safety of employees on the Work and shall comply with all applicable Laws to prevent accidents or injury to persons on, about, or adjacent to the premises where the Work is being performed. The ESCO shall erect and properly maintain at all times, as required by the conditions and progress of the Work, all necessary safeguards. The ESCO shall require its Subcontractors and its employees on a Work Site or in a Facility to wear a safety helmet (hard hat) at such times as the ESCO deems reasonably necessary to avoid injuries to such personnel and as may be needed to comply with applicable Laws. ESCO shall take all necessary precautions to ensure the safety of the public and of workmen on the Site, and to prevent accidents or injury to any persons on or adjacent to the Site. The ESCO shall comply with the "Williams-Steiger Occupational Safety and Health Act of 1970" ("OSHA") and all subsequent revisions thereto, and all Laws relating to safety and the prevention of accidents, and shall also utilize the "Manual of Accidental Prevention in Construction" of the Associated General Construction/Builders of America and with applicable provisions of the American Standard Safety Code for Building Construction ANSI A 10 Series. The ESCO shall appoint appropriate personnel who are responsible for safety of employees and other persons affected by the Work at the Work Sites and the ESCO shall require each Subcontractor to likewise designate, a responsible representative at each Work Site or Facility who shall be responsible for the promotion of safety and prevention of accidents, and shall enforce all applicable Laws. The ESCO will ensure that all of its Subcontractors hold weekly meetings with the representatives of the various trades employed at the Work Sites in order to ensure that all employees understand and comply with Laws, including the requirement of OSHA and "Right to Know" regulations.

6. Maintenance of Public Way. All debris of construction deposited on public ways shall be removed immediately. All vehicles engaged in the Work shall be so policed and cleaned that no debris carried from the site is deposited on the public way. The ESCO and its Subcontractors are jointly and severally liable for enforcement of these requirements.

7. **Emergency Action.** In an emergency affecting the safety of life, the Work, or adjoining property: the ESCO, without special instruction or authorization from the County, is hereby permitted to act, at its discretion, to prevent such threatened loss or injury; and shall so act, without appeal, if so instructed or authorized. Any compensation claimed by the ESCO on account of emergency work, unless such emergency work resulted from the actions or failure to act of ESCO or any Subcontractor shall be determined pursuant to the terms of the Contract Documents applicable to changes in the Work.

8. **First Aid On-Site.** ESCO shall provide and make available to all agents and employees of the ESCO and to all Subcontractors engaged in work reasonable medical supplies and equipment necessary to provide immediate first aid service to all persons who may be injured in connection with the Work. All medical supplies and equipment shall be supplied in accordance with standards imposed by OSHA and by any governmental agency having jurisdiction over the Site.

9. **Project Safety Program.** The ESCO shall, within ten (10) days of the Effective Date, submit to the Project Manager a Project Safety Program which shall include but not be limited to, the following:

- a. Establish a program of project pre-planning for safety and hazard avoidance.
- b. Utilization of insurance company loss prevention services.
- c. Lines of the ESCO's responsibilities and authority for personnel for the administration of the Safety Program.
- d. Scheduling and conducting of safety meetings.
- e. Issuing of safety bulletins.
- f. Conducting of Weekly Tool Box Meetings.
- g. Regular inspections of the Project for safety compliance and correction of violations.
- h. Safety training of employees.
- i. A written Hazard Communication Program which is to include collection and distribution of Material Safety Data Sheets for all hazardous materials, labeling of these materials and training of employees using these materials.
- j. A fire protection plan.
- k. The use of personal protection equipment.
- l. Hard hat usage.
- m. Accident reporting and investigation.
- n. Safety guidelines and regulations.
- o. Site accessibility and cleanliness.
- p. Safety reporting and distribution including the County and Construction Manager.
- q. A site layout plan showing the location of safety facilities and safety items.

This Project Safety Program shall be enacted upon by the ESCO for the duration of the Work and shall be updated as required for changing conditions.

10. **Applicable Safety Laws.** The ESCO shall observe and cause all tiers of Subcontractors to observe the safety provisions of applicable Laws. The ESCO shall be responsible for all safety provisions even if the applicable Law makes another party responsible for the safety provisions. Machinery, equipment, and all hazards shall be guarded (or hazards eliminated) in accordance with the safety provisions of the latest edition and any supplements thereto of the Manual of Accident Prevention

in Construction, heretofore published by the Associated General Contractors of America, to the extent that such provisions are not in contravention to applicable law; provided that any changes in such Laws occurring following the Notice to Proceed Date which require additional cost or Work may be subject to an equitable adjustment or a Change Order pursuant to the Section 13.

D. Cleaning and Removal of Materials and Equipment. The ESCO at its cost will at all times keep the Work Sites free from any accumulation of rubbish, debris, and waste. ESCO shall also at all times during performance of the Work, cause all debris, including but not limited to sedimentary and airborne contaminants, to be contained so that such debris does not adversely affect the environment and community in which the Work is performed. ESCO shall control dust by using water hoses to wet driveways and other areas of any Work Sites which generate dust. When directed by the County, the ESCO shall increase its effort of dust control at no additional cost to the County. The ESCO shall also, at its cost, remove and dispose of via salvage, recycling and other methods in accordance with applicable laws and ordinance all pre-existing lamps, ballasts, chillers, heaters and other County owned equipment being replaced as a result of the Work and the installation of the ECMs. Upon completion of the Work and prior to Substantial Completion of an ECM or ECM Grouping, the ESCO will thoroughly clean all Work, remedy any defects, and leave those portions of such Facility or Work Site in which ESCO has been working regarding such Substantial Completion in broom clean or equivalent and orderly condition and shall remove all Project signs and temporary work, of every nature, from and about such Work Site or Facility. The ESCO shall also remove all tools, scaffolding and surplus materials. Without limiting the generality of the foregoing, any ceiling and wall surface, floor, window or door frames, hardware, metalwork, and glass (both sides) which are part of the Work or which have become dirty or marred as a result of ESCO's performance of the Work must be thoroughly cleaned and polished to reasonable County standards. If ESCO fails to clean up as directed by the County during or at the completion of the Work at a Facility or Work Site, the County may perform such clean up and the cost thereof shall be charged to ESCO at no cost to the County. The ESCO shall comply with any additional requirements imposed by the Contract Documents or by Laws applicable to Work at the particular Work Sites or Facilities. Cleaning shall be more often as the County reasonably requires as to occupied Facilities where debris or dirt may cause health hazards.

E. Recycling. The ESCO must give preference to the use of recycled products in the performance of any Work, and must cooperate with any recycling program established for the Facilities or available through the County. Further, the ESCO will furnish documentation of disposal of recycled materials in a format and manner that (i) complies with applicable prerequisites and credits of the latest version of LEED-EB as of the date of such disposal, and (ii) is otherwise acceptable to the County.

F. Access to the Work. The ESCO shall not limit the County as to any access to the Work in preparation and progress wherever located in the Facilities, subject only to reasonable safety precautions agreed to in advance by the County through the Authorized County Representatives at the respective Facilities. Any Construction Manager, the Project Director and the Chief Procurement Officer and their authorized representatives shall at all times have access to the Work wherever it is in preparation or progress and the ESCO shall provide proper facilities for such access and for inspection. If the Contract Documents, or any Laws require any Work to be specially tested or approved, the ESCO shall give any Construction Manager and the Project Director and appropriate public authorities, timely notice of the date fixed for each inspection.

G. Use of Facilities. The ESCO shall confer with the County to ascertain full knowledge of all rules and regulations of the County facilities relative to this Contract and shall comply therewith.

The ESCO will confine its equipment, apparatus, materials and operations to the portions of the Facilities identified in the Contract Documents as being Work Sites or otherwise approved by the County, and will not unreasonably encumber the portions of the Facilities within Work Sites with materials, equipment, or similar items or debris. The ESCO and all Subcontractors will use only such entrances to the Facilities as are designated by the County. All Subcontractors of the ESCO shall be accountable to the Project Director while on the County's property and shall abide by all security regulations imposed by the County and the limitations of permits, ordinances and permits affecting the Facilities as well as the limits indicated by laws, ordinances, permits and/or direction of the Project Director. At all times, the ESCO will limit construction operations to methods and procedures that do not adversely and unduly affect the environment of occupied spaces within the Facilities, including but not limited to creating noise, odors, air pollution, ambient discomfort, or poor lighting. The ESCO shall not load or permit any part of any structure in the Facilities to be loaded with a weight that will endanger its safety. The ESCO and its Subcontractors, equipment or material suppliers shall not erect signs or advertising media of any nature on the premises without explicit written approval from the County. The County reserves the right to prohibit any person from entering a County facility for any reason.

H. Project Meetings. The ESCO will provide for weekly, or as mutually agreed upon, scheduled Project meetings during the Construction and Installation Period, and will give timely advance written notice and agenda of such meetings to the County and its agents working on the Project. The ESCO will record minutes and distribute copies of minutes of meetings to the County within five (5) business days after each meeting. The ESCO will schedule additional Project meetings if requested by the County. Times, dates and locations of meetings shall be subject to approval by the County. At the meetings, the ESCO will present a list of items completed in the week prior to such meeting, as well as a two-week look ahead schedule as a reminder of upcoming activities.

I. Progress Reports. The ESCO and its Subcontractors will furnish the County with such information as the County reasonably requests regarding the progress and execution of the Construction and Installation Services. During the Construction and Installation Period, the ESCO will provide monthly reports to the County on the status of the Work that include, without limitation: (i) a detailed description of the progress of the work for each ECM and the Project as a whole, including a Critical Path chart illustrating the progress made; (ii) a statement of significant Project issues that remain unresolved and the ESCO's recommendations for resolving the same; (iii) an updated report on whether the Project remains on schedule and budget, and actions being taken to correct schedule delays and budget overruns; and (iv) a summary of any significant Project events that are scheduled to occur during the upcoming thirty (30) day period.

J. Returns of Employment and Subcontracting. The ESCO shall provide monthly returns of employment and subcontracting to the County and any Construction Manager within 5 business days of the end of each month, starting with the month in which the Notice to Proceed is issued. The detailed form and content requirements for these reports shall be set out by the Construction Manager or County within twenty-one (21) days of the Notice of Award. The information provided by the ESCO regarding employment shall include all employees of the ESCO and of Subcontractors working on the sites of the Work, and shall exclude employees engaged in off-site activity, deliverymen, and other employees occasionally visiting the site. The employee information shall include but not be limited to: weekly certified payroll reports (U.S. Department of Labor Form WH-347 or equivalent); information on each employee with regard to hours worked on the Work during the reporting period; Cook County residency, categorization by race and gender; and status as a veteran or otherwise. The information provided by the ESCO regarding subcontracting shall provide a complete itemization of the Contract Price into the ESCO's fee, bond and general conditions, and the balance into trades by first tier

Subcontractors only, value of self-performed Work, and value of Work not yet subcontracted. For each first tier Subcontractor, the information to be provided shall include but not be limited to the address of the principal place of business, and status with regard to corporate ownership by females. In addition to the monthly returns, the ESCO shall make reasonable efforts to provide the County and any Construction Manager with such further information as shall be requested with regarding the employment and subcontracting policies and practices of the ESCO and of Subcontractors.

K. Inspection and Correction of the Work. Materials, equipment, components or completed Work which is deficient or otherwise not conforming with the Contract Documents may be rejected by the Project Director or a Construction Manager and shall be replaced by the ESCO at no cost to the County. Any materials, equipment or components rejected as not conforming to the Contract Documents shall be removed within a reasonable time from the site of the Work at the expense of the ESCO, after written notice by the County to the ESCO that such Work, equipment, materials or components have been rejected. The ESCO will promptly correct Work rejected by the County for failing to conform to the requirements of the Contract Documents, whether or not fabricated, installed or completed. If ESCO, after receipt of written notice from the County of its rejection of Work, materials, equipment or components pursuant to this Section, either: (i) has not cured such failure within seven (7) days, or (ii) if the nature of the failure is such that it is not capable of cure within seven (7) days, has not within seven (7) days reached agreement with the County for a plan to cure such failure and has not commenced and diligently and continuously pursued the cure of such failure, then the County may order the ESCO to stop the Work, or any portion thereof, until the cause for such order has been eliminated or the ESCO has provided the County with a plan for corrective action acceptable to the County in its reasonable judgment. The right of the County to stop the Work shall not, however, give rise to a duty on the part of the County to exercise this right for the benefit of the ESCO or any other person or entity. This right to stop the Work is in addition to and not in limitation of any of the rights of the County pursuant to Section 17.C or other provisions of the Contract Documents dealing with default on the part of the ESCO. If the ESCO does not remove such rejected Work, materials, equipment or components within a reasonable time, fixed by a written notice, the County may remove them and may store the materials at the expense of the ESCO. If the ESCO does not pay the expense of such removal within five (5) days thereafter (unless County security provisions make such removal within the five (day period) impracticable, in which case the requirement shall be fifteen (15) days, the County may, upon ten (10) day's written notice, sell such materials at auction or at private sale and shall account for the net proceeds thereof, after deducting all the costs and expenses that should have been borne by the ESCO.

L. Performance and Payment Bonds. The ESCO will, prior to performing any Construction and Installation Services, obtain and furnish to County and maintain in effect until Final Acceptance a payment and performance bond covering the faithful performance and completion of the Work required during the Construction and Installation Period and the payment of all obligations arising under this Contract during the Construction and Installation Period. Such bond must be issued by a surety company authorized to do business in Illinois in a form acceptable to the County, which complies with the Illinois Public Construction Bond Act, 30 ILCS 550, in an amount equal to the compensation to be paid for Construction and Installation Services and shall name the County as an obligee. No notice of change order need be given to the surety company. ESCO must supply evidence satisfactory to the County that the party issuing the bonds has the authority to bind the issuing surety company. If the ESCO fails to furnish and maintain such bonds, the County may purchase such bonds on behalf of the ESCO and the ESCO must pay the cost thereof to the County upon demand.

M. Startup/Commissioning and Testing. Prior to each Substantial Completion application, the ESCO will conduct a thorough and systematic performance test of each component of the ECMs and ECM Groupings for which such Substantial Completion is being applied for accordance with Exhibit C to demonstrate that such ECM or ECM Grouping complies in all respects with the performance requirements, (including the Standards of Service in Exhibit T) of the Contract Documents and applicable manufacturer's specifications for such ECM or ECM Grouping. All tests shall be scheduled at times convenient to the County at no additional cost. Testing shall not be deemed completed as to particular ECMs or ECM Groupings until such testing is successfully conducted involving such seasonal load conditions. At least twenty (20) business days prior to a scheduled commissioning test, the ESCO will deliver to County a draft commissioning plan for each ECM or ECM Grouping being so tested also specifying the applicable the Work Site or Facility. The County may require changes in a commissioning plan, provided the ESCO is provided with a written description of the changes at least ten (10) days prior to the scheduled test. The County will have the right to designate representatives to be present at any or all such tests including representatives of the manufacturers of the applicable ECMs. The ESCO, or its Subcontractor(s), must correct or adjust all deficiencies in operation of an ECM or ECM Grouping identified during the course of commissioning tests described in this Section. The ESCO shall provide certifications of completed and testing procedures for each item component and systems in an ECM or ECM Grouping to operate to manufacturer's specifications. The County further reserves the option, at the County's expense and upon prior written notice, to require testing and commission of specific ECMs or ECM Groupings by a third party commissioning entity selected from a pre-qualified list of commissioning entities provided by the County and reasonably acceptable to the ESCO.

N. Substantial Completion and Punch List.

1. Certificates of Substantial Completion. Following successful startup/commissioning and testing of an ECM or ECM Grouping pursuant to Section 8.M., the ESCO will submit to the County an application for Substantial Completion and a proposed Punch List of items to be completed or corrected prior to Final Acceptance as to such ECM or ECM Grouping on a form agreed to by the Parties of items for review. If the County concurs that the ECM or ECM Grouping has achieved Substantial Completion, the County will sign the certificate of Substantial Completion and returning it to the ESCO. If the County does not concur that the ECM or ECM Grouping has achieved Substantial Completion or that that the proposed Punch List is not complete or correct, then the County shall notify the ESCO of any objections, concerns or discrepancies as to either Substantial Completion or the proposed Punch List. To the extent the ESCO does not dispute the objections, concerns or discrepancies raised by the County, the ESCO shall (i) promptly and diligently correct the Work as to such ECM or ECM Grouping to meet Substantial Completion and to eliminate the County's concerns and then resubmit the application for a certificate of Substantial Completion to the County as to such ECM or ECM Grouping. If the ESCO disagrees with the discrepancies raised by the County, the ESCO shall notify the County of a dispute and such dispute shall be resolved in accordance with Section 16.C. herein. The County shall endeavor to provide any objections to or comments concerning or its concurrence regarding such an application for Substantial Completion within thirty (30) days of receipt by the County of such application. Failure of the County to respond within the thirty (30) day time frame shall not be deemed to be acceptance of any such application; provided that in such event, the ESCO shall be entitled escalate the matter by bringing the matter to the attention of a Senior Officer (excluding the President) and asking for a rapid response and asking for an

extension of time under Section 13E. The failure to include any items on a Punch List does not alter the responsibility of the ESCO to complete all Work in accordance with the Contract Documents.

2. Delivery Documents and Sets. At each Substantial Completion, the ESCO shall bind and turn over to the County: two (2) sets (or such greater number as may be required in the Contract Documents) of (a) the manufacturers' warranties and guarantees ("Manufacturer's Warranties") described in Exhibit R completed in favor of the County as to the ECM or ECM Grouping covered by such Substantial Completion; and (b) parts lists, and literature applicable to equipment, systems, fittings, and furnishings included in the Project for all ECMs, operating manuals, service manuals, training manuals electric, pneumatic and hydraulic schematics (whichever applicable), and troubleshooting documentation for each such ECM or ECM Grouping and each component or item of equipment installed unless otherwise noted, instructions and schedules necessary for the County's proper operation of all ECMs; (c) any Design Materials which have not been previously submitted to the County (collectively the Manufacturer's Warranties, Design Materials and such other materials is referred to as "Delivery Documents"). The binders will clearly categorize and index each piece of equipment included in an ECM or ECM Grouping included in such Substantial Completion, and shall be clearly marked noting "Project specific" equipment, model numbers, and equipment cut sheets, value tag charts, electrical panel charts and other applicable information. Such Delivery Documents will be collected and organized by the ESCO and submitted to the County prior and as a condition to the issuance of the certificate of Substantial Completion for such ECM or ECM Grouping. The County will acknowledge receipt of the sets of Delivery Documents on the set itself, and ESCO will cause six (6) copies of an acknowledged set to be made and furnish them to the County. Notwithstanding the foregoing, the ESCO will not be required to turn over additional copies of Delivery Documents at each Substantial Completion which (i) are in form and substance identical to Delivery Documents previously furnished the County for a prior Substantial Completion for the same ECM at a different Work Site and (ii) do not provide specific protection or information for ECMs or ECMs Groupings not already covered by prior delivered Delivery Documents for different ECMS or ECM Groupings.

3. Punch List Items. In determining Substantial Completion for an ECM or an ECM Grouping, the County will conduct such inspections and reviews of the installed ECM or ECM Grouping as it determines are reasonably necessary and shall produce within thirty (30) days following receipt of the application for Substantial Completion for such ECM or ECM Grouping either comments to the Punch List offered by the ESCO or the County's own Punch List regarding such ECM or ECM Grouping listing items and deficiencies to be completed prior to Final Acceptance. The County in preparing its Punch List is not limited by any "punch list items provided by the ESCO at the time of Substantial Completion for such ECM or ECM Grouping. Upon receipt of the County's comments or Punch List, the ESCO shall correct or complete the commented on items on the County's Punch List prior to a request for Final Acceptance.

O. Final Acceptance. Upon correction or completion of all Punch List items for all ECMs and ECM Groupings, the ESCO will submit a request for Final Acceptance to the County. The County shall endeavor to review the correction or completion of all Punch List items within thirty (30) days of the submission of such request and shall, in the absence or a breach or default by the ESCO and the fulfillment of all preconditions for Final Acceptance under the Contract, issue the Certificate of Final Completion within thirty (30) days of such submission unless there remain in the County's opinion uncorrected or uncompleted items on the Punch List. In the event of any dispute as to completion or correction of the Punch List, the dispute will be resolved pursuant to Section 16.A. Final Payment of retained amounts and other amounts owed for Services provided shall be made in accordance with Section 14.F.

P. Additional Performance of Work Requirements. The ESCO will comply with the County's Supplemental Conditions for Work described in Exhibit P. Certain General Conditions described in Attachment B (Design Build General Conditions) to the Phase I Audit Agreement are incorporated into this First Amendment as described in Exhibit P.

#### SECTION 9. OTHER PROVISIONS RELATED TO THE SERVICES

A. Standard of Care. The ESCO will perform, or cause to be performed, all of the Contract Services with that degree of skill, care and diligence normally shown by (and generally accepted as being appropriate for) nationally recognized design, engineering, and construction professionals performing services and work of a scope, purpose and magnitude comparable with the Contract Services, in conformity with any and all professional standards applicable to such Services and in compliance with all applicable laws, codes, ordinances and industry standards related to the Project, including but not limited to zoning, building, environmental and health codes and regulations, site and easement restrictions, permit, licensing, certification and accreditation guidelines ("the Standard of Care"). Where the Construction and Installation Services require the exercise of professional skill or judgment, ESCO will cause it to be performed by professionals competent to do so and licensed by the State of Illinois in the applicable discipline, if such licensure is required by law. The ESCO represents, covenants and agrees that all of its services shall conform to the standard of care and quality which prevails among professionals of knowledge and skill providing services of the nature of the Services provided under this Contract. The ESCO will furnish efficient administration, supervision, and superintendence of all Contract Services and will use every effort to complete the Contract Services in an expeditious and economical manner consistent with the interests of the County. The ESCO shall be responsible for all services performed by subcontractors, agents and employees hired, retained or engaged by the ESCO. ESCO represents, covenants and agrees that ESCO shall cause all of its subcontractors to conform to the Standard of Care. In the event of a conflict between any applicable government or other standards or requirements, the ESCO will utilize its best judgment in accordance with the Standard of Care to apply the appropriate standard. The provisions of this Section 9.A do not limit the Standard of Care but are intended to specifically identify a requirement considered to be included within and required by the Standard of Care

B. Contract Documents Inclusive. The Contract Documents are complementary, and what is required by one shall be binding as if required by all.

C. Subcontractors. The ESCO proposes to enter into subcontracts with the subcontractors it has identified in Exhibit D for Services to be provided pursuant to this Contract. No other Subcontractors may be retained by the ESCO without prior notice to and prior acceptance by the County and no change in any of the Key Personnel identified in attached Exhibit E affiliated with the subcontractors therein identified or other subcontractors hereafter accepted shall be made without prior written notice to and prior acceptance by the County. The County will endeavor to provide notice of approval or disapproval within fourteen (14) days of submission in writing stating whether or not the County, after due investigation, has reasonable objection to any such proposed person or entity. The ESCO shall not contract with any such proposed person or entity to which the County has made objection. The ESCO shall provide any and all changes to the list of Key Personnel to the Chief Procurement Officer promptly after such change, and shall provide an updated Exhibit D to the Project Director within thirty (30) days after the Effective Date and from time to time thereafter, as subcontracts are executed, setting forth the agreed upon compensation to be paid to each subcontractor. The terms of all such subcontracts and changes thereto must require each Subcontractor, to the extent of the Construction and Installation Services to be performed by the Subcontractor, to be bound to the ESCO by the terms of the Contract Documents, and to assume toward the County all the

obligations and responsibilities which ESCO, by the Contract Documents, assumes toward the County. Notwithstanding any of the foregoing, the provisions of this Section 9.C shall not apply to employment agreements between the ESCO and its employees. The ESCO will be responsible to the County for acts and omissions of the Subcontractors, their agents and employees, and any other persons performing portions of the Contract Services, and for any damages, losses, costs, and expenses resulting from such acts or omissions, to the same extent as the ESCO is responsible to the County for its acts and omissions under this Contract. Nothing contained in the Contract Documents shall create contractual relations between any Subcontractor or suppliers and the County.

D. Key Personnel. The ESCO has provided to the County a list of individuals whom it shall use on the Project to provide the Construction and Installation Services, a copy of which is attached as Exhibit E ("**Key Personnel**"). The ESCO shall set forth on Exhibit E a description, in reasonable detail, of the assignment, current hourly rate to the extent required by applicable Law and the County Code, qualifications, areas of expertise and, as applicable, State of Illinois license or registration numbers of each of the Key Personnel. Exhibit E shall also identify those Key Personnel who are employees or principals of subcontractors identified pursuant to Exhibit E setting forth the same information as required of its own employees and identifying the subcontractor with which such individual is affiliated. Included within Exhibit E is a list of the ESCO's key personnel who will be responsible for supervising the performance of the Contract Services, including the job title, duties and experience of each such individual. Among such individuals there shall be appointed a principal representative of the ESCO (the "ESCO Representative") who shall be the ESCO's authorized representative, and who shall receive and initiate all communications to and from the County and be authorized to render binding decisions related to the Services. The ESCO Representative shall be on site when necessary, shall attend all design, construction and other meetings, and shall handle other responsibilities as the parties may determine. The ESCO shall not make any change or reassignment of Key Personnel and shall not make any change to the hourly rates for such personnel, without prior notice to and prior acceptance by the County. In case that any of the Key Personnel shall not at any time be able to perform his or her assigned function as described in this Contract or is no longer employed by the ESCO, the ESCO shall promptly give written notice thereof to the County and furnish an alternate individual in replacement of any such Key Personnel which alternate individual shall be acceptable to the County and shall thereafter be subject, as one of the Key Personnel, to the provisions of this Section 9.D. The County may, at any time, give written notice to the ESCO requesting the removal of any of the Key Personnel or any of the ESCO's other assigned personnel from the Project. Upon receipt of such notice, the ESCO shall forthwith remove such Key Personnel or other assigned personnel and furnish to the County other acceptable personnel, which personnel shall thereafter be subject to the provisions of this Section. Such replacement must be acceptable to the County and shall upon acceptance become subject to the provisions of this Section 9.D.

E. ESCO Project Manager. The ESCO shall assign a competent Project Manager (the "ESCO Manager") and any necessary assistants who will be on site at all times when Work is being performed to act on the ESCO's behalf. The ESCO Manager and assistant project managers, and any other individuals identified in Exhibit E, shall be included in the list of "Key ESCO Personnel." The ESCO Manager shall represent the ESCO at the Work Sites, and all communications with the superintendent shall be as binding as if made to the ESCO. The Construction Manager, if any, and other ESCOs shall not be responsible for the acts or omissions of the ESCO Manager or assistant superintendents. The ESCO Manager or his or her designated assistant shall be at the construction site during all normal working hours for a minimum of forty (40) hours per week and shall also be at the

Work Site during all weekend work, overtime work and special operations regardless of when performed.

F. Cooperation with Other Contractors. The ESCO shall as far as possible arrange the Work and place and dispose of the materials being used so as not to interfere with or hinder the operations of other contractors working near or in a Work Site or other portions of the Facilities. The ESCO shall defend, protect and save harmless the County from any and all damages or claims that may arise because of inconvenience, delay or loss experienced by other contractors because of the presence and operations of the ESCO or its Subcontractors working within or adjacent to a Work Site or other portions of the Facilities unless the ESCO was acting on the specific instructions of the Project Director or a Construction Manager. The County shall notify the ESCO of any contractors working within or adjacent to any Work Site or other portions of the Facilities which could reasonable be affected by scheduled Work.

G. Taxes. Unless otherwise provided in the Contract Documents, the ESCO will pay all federal, state or local sales, consumer, use, and other similar taxes which are legally enacted as of the date of execution of this Contract, whether or not effective or merely scheduled to go into effect. The Contract Sum is based upon laws, codes and regulations in existence as of the date this Contract is executed. Any changes in or to applicable laws, codes, and regulations affecting the cost of the Work may entitle the ESCO to an equitable adjustment in the Contract Sum and Contract Time through a Change Order. The County has provided its sales tax exemption certification related to County sales taxes for purchases of equipment, tools, materials, and supplies relating to the Project.

H. Compliance with Laws; In General. The ESCO will comply with and give all notices required by applicable federal, state, county, and municipal laws, ordinances, rules, regulations, and orders (collectively, "Laws"). Assurance of compliance with this requirement by the ESCO's employees, agents and Subcontractors shall be the responsibility of the ESCO. The ESCO will promptly remedy any violation of any Laws specifically related to the Work, that comes to its attention. The ESCO shall promptly, and in no event later than the close of the next business day following receipt, give notice to County by telephone, with confirmation in writing, of receipt by ESCO of any information relating to violations of Laws. If the ESCO observes that the Design & Engineering Documents are at variance with any Laws, the ESCO shall promptly notify the Project Director and any Construction Manager in writing of any changes required in the Work. If the ESCO performs any Work knowing it to be contrary to such Laws, and without such notice to the County and any Construction Manager, the ESCO shall bear all costs arising therefrom; provided that any changes in such Laws occurring following the Notice to Proceed Date which require additional cost or Work may be subject to an equitable adjustment or a Change Order pursuant to the Section 13.

I. Compliance with Law Specific Provisions. The inclusion of certain specific legal requirements below or elsewhere in the Contract Documents does not limit the general requirements for compliance with law set forth in this Contract. The following provisions provide some guidance as to certain specific provisions of law which govern this Contract but are not intended to be all-inclusive.

1. Federal Anti-Terrorism Laws. The ESCO represents and warrants to, and covenants with, County that (i) neither ESCO nor any of its owners or affiliates currently are, or will be at any time during the term hereof, in violation of any laws relating to terrorism or money laundering within the meaning of federal and local terrorism laws, such as the USA Patriot Act ("Anti-Terrorism Laws") (ii) neither ESCO nor any of its owners, affiliates, investors, officers, directors, employees, vendors, subcontractors or agents is or shall be during the term hereof a "Prohibited Person" within the

meaning of the Anti-Terrorism Laws; and (iii) ESCO has taken appropriate steps to understand its legal obligations under the Anti-Terrorism Laws and has implemented appropriate procedures to assure its continued compliance with such laws. At any time and from time-to-time during the term, the ESCO will deliver to County within ten (10) days after receipt of a written request therefor, a written certification or such other evidence reasonably acceptable to County evidencing and confirming the ESCO'S compliance with this Section.

2. Non-Discrimination. The ESCO in performing under this Contract, shall not discriminate against any worker, employee or applicant, or any member of the public because of race, creed, color, religion, age, sex, marital status, handicap, national origin, or status of discharge from military nor shall the ESCO otherwise commit an unfair employment practice. The ESCO further agrees that this Section will be incorporated in all contracts entered into with suppliers of labor, materials, equipment or services, contractors and subcontractors and all labor organizations furnishing skilled, unskilled and craft union skilled labor, or who may perform any such labor or services in connection with this Contract. The ESCO will further comply with all applicable federal and State of Illinois statutes and regulations regarding unlawful employment practices, civil rights and human rights.

3. Cook County Human Rights Ordinance (Adopted March 16, 1993); Cook County Code, Chapter 42, Section 42-30, *et seq.* No person who is a party to a contract with the County will engage in unlawful discrimination or sexual harassment against any individual in the terms or conditions of employment, credit, public accommodations, housing, or provision of County facilities, services or programs. The ESCO is to certify its compliance with these policies and its agreement to abide by such policies as a part of its contractual obligations. The ESCO further agrees that this paragraph will be incorporated in all contracts entered into with suppliers of materials or services, contractors and Subcontractors and all labor organizations furnishing skilled, unskilled and craft union skilled labor, or who may perform any such labor or services in connection with this Contract.

4. Minority And Women Business Enterprises Cook County Code, Chapter 34, Section 34-260 *et. seq.*

a. Policy and Goals. It is the policy of the County to prevent discrimination in the award of, or participation in, County contracts and to eliminate arbitrary barriers for participation as both prime and subcontractors in such contracts by local businesses certified as Minority Business Enterprises (MBE) and Women-Owned Business Enterprises (WBE). In furtherance of this policy, the County Board of Commissioners has adopted by ordinance (the "MBE/WBE Ordinance") Minority- and Women-Owned Business Enterprise provisions as part of the Cook County Procurement Code which establish a "best efforts" goal of awarding not less than twenty four percent (24%) of the annual total dollar amount of professional and consulting service contracts and sole source agreements to certified MBE firms and not less than ten percent (10%) of such service contracts and sole source agreements to certified WBE firms. The MBE/WBE Ordinance is found in the Cook County Code, Chapter 34, Sections 34-260 through 284.

b. Options for Meeting Goals. The ESCO may achieve the contract MBE/WBE participation goals by its status as a MBE or WBE; by entering into a joint venture with one or more MBE or WBE firms; by subcontracting a portion of the work to one or more MBE or WBE firms; by entering into a Mentor-Protégé Agreement with a MBE or WBE; by the indirect participation of MBE or WBE firms in other aspects of the ESCO's business; or by a combination of the foregoing.

c. Failure to Carry Out Goals a Breach. A ESCO's failure to carry out its MBE/WBE commitments, as established in its Proposal, in the course of a ESCO's performance shall constitute a

material breach of the Contract, and if such breach is not appropriately cured, may result in the termination of the Contract or such other remedy authorized by the MBE/WBE Ordinance as the County deems appropriate.

d. Required Submittals. To be considered responsive to the requirements of the MBE/WBE Ordinance, the ESCO has submitted the documentation required to be submitted with proposals as described in paragraphs e, f and g below.

e. Affirmative Action Plan. The ESCO will submit with its proposal a copy of its current internal affirmative action plan. If the ESCO has no internal affirmative action plan, the ESCO will submit a statement stating why the ESCO has no such plan. In lieu of an internal affirmative action plan, the ESCO may submit a copy of its current Letter of Compliance for the United States Department of Labor, Office of Federal Contract Compliance Projects.

f. The ESCO's MBE/WBE Efforts Documentation. The ESCO will submit with its proposal, supporting documentation which evidences efforts the ESCO has taken in attempting to achieve the County's "best efforts" MBE/WBE participation goals.

g. The ESCO's Statement; Use of MBE/WBE Efforts Professionals. The ESCO will submit with its proposal, a statement which discloses how the ESCO intends to maximize the use of its MBE/WBE professionals in the course of performing the Contract.

h. Non-Compliance. The ESCO will remain in compliance with the submittals provided pursuant to the above requirements throughout the term of the Contract. If the County determines that the ESCO has failed to comply with its contractual commitments or any portion of the Ordinance, it will notify the ESCO of such non-compliance and may take any and all appropriate actions as set forth within the Ordinance.

i. Reporting/Record-Keeping Requirements. The ESCO shall comply with the reporting and record-keeping requirements as may be established by the Contract Compliance Administrator. Upon award of a contract, ESCO is responsible for acquiring all necessary County reporting and record-keeping forms which will be made available in the Office of Contract Compliance.

j. Equal Employment Opportunity. Compliance with MBE and WBE requirements will not diminish or supplant Equal Employment Opportunity and Civil Rights provisions as otherwise required by law as they relate to ESCO's and its Subcontractors' obligations.

5. Prevailing Wage Rate. Except as directed by the County to apply the requirements of the federal Davis Bacon Act (40 U.S.C. 276a-a7, as amended), as supplemented by applicable U.S. Department of Labor regulations (29 C.F.R. Part 5, Standard Provisions Applicable to Contracts Governing Federally Funded and Assisted Construction) (collectively such Act and such Regulations are referred to herein as the "Davis Bacon Requirements"), the ESCO shall comply with "AN ACT regulation wages of laborers, mechanics and other workman, employed under Contract for public works", approved June 26, 1941, as amended. Attention is called to Illinois Compiled Statutes, 820 ILCS 130, regarding "General Prevailing Hourly Rates." The most current scale of prevailing wages under Illinois law to be paid shall be posted by the ESCO in a prominent and easily accessible place at the site of Work. If Federal wage rates and certain additional reporting requirements apply to the Contract through the federal Davis Bacon Requirements because of federal requirements related to the use of the proceeds of certain tax exempt bonds authorized specifically made subject to the Davis Bacon Requirements under federal law, the Supplemental Conditions will so specify. The Parties shall

coordinate any reporting obligations required, and shall make available all documents required for such reporting. The ESCO further certifies that it is familiar with, and will comply with, all applicable provisions of 30 ILCS 570/1 through 570/7 (Employment of Illinois Workers on Public Works Act) and 30ILCS 560/0.01 through 560/7 (Public Works Preference Act). Prior to issuance of the Notice to Proceed, the County will advise the ESCO which, if any, portions of the Work is subject to the requirements of the federal Davis Bacon Act and such requirements are incorporated into the Contract as a Supplemental Condition for such portions in Exhibit P. The ESCO agrees that it will comply and its Subcontractors shall comply with the requirements of Exhibit P as and to the extent its provisions are applicable to this Contract or, if possible under the Davis Bacon Requirements, applicable portions thereof. In general, the Davis Bacon Requirements required contractors to pay wages to laborers and mechanics at a rate not less than the minimum wages specified in a wage determination by the United States Secretary of Labor. In addition, to the extent required under the Davis Bacon Requirements, Subcontractors shall be required to pay wages not less than once a week. Other Davis-Bacon Requirements are described in Exhibit P.

6. Anti-Corruption Acts. The ESCO will also comply with all applicable "Anti-Kickback" laws and regulations, including the "Anti-Kickback" Act of 1986, 41 U.S.C. §§ 51-58 (1992); 18 U.S.C. § 874 (1992); 40 U.S.C. § 276c (1986) and the Illinois Criminal Code of 1961 720ILCS 5/33E-1 *et seq.* If, in the performance of this Contract, any direct or indirect "kick-back" is made, as defined in any of the above mentioned laws and regulations, the County may withhold from the ESCO, out of payments due to the ESCO, an amount sufficient to pay any underpaid employees the difference between the salaries required to be paid under the law and this Contract and the salaries actually paid such employees for the total number of hours worked. The amounts withheld may be disbursed by the County for and on account of the ESCO to the respective employees to whom they are due, as determined by the County in its sole discretion.

7. Cook County Ethics Ordinance The ESCO will comply with the Cook County Ethics Ordinance (Code, Chapter 2, Article VII, Sec. 2-560 *et seq.*).

8. Cook County Lobbyist Ordinance. The ESCO shall take notice of the Cook County Lobbyist Registration Ordinance (Code, Chapter 2, Article VII, Sec. 2-621 *et seq.*), and shall comply with all the provisions therein. The ESCO shall not, under circumstances which might reasonably be interpreted as an attempt to influence the recipient in the conduct of its duties, accept any gratuity or special favors from individuals or organizations with whom the ESCO is doing business or proposing to do business, in accomplishing the Services.

9. Steel Products Procurement. The ESCO shall comply with "An Act to promote the economy of the State of Illinois and the United States by specifying steel products produced in the United States in all contracts for construction, reconstruction, repair, improvement or maintenance of public works." Attention is called to Illinois Compiled Statutes 1992, 30 ILCS 565/1-7.

10. Employment of Veterans. The ESCO shall comply with "An Act to give preference to the veterans of the United States military and naval service in appointment and employment upon public works, by or for the use of, the State or its political subdivision", approved June 12, 1935, as amended. Attention is called to Illinois Compiled Statutes, 330 ILCS 55.

11. Cook County Residency Ordinance

a. Residency Required. As provided by Cook County Code, Chapter 34, Article IV, Division 2, Section 34-157, in the case of any construction project having an estimated contract value of

\$100,000 or more, funded solely with Cook County funds, and where not otherwise prohibited by federal or state law, at least 50 percent of the total hours worked on the site of the construction project by employees of the ESCO and Sub contractors shall be performed by actual residents of the County of Cook. "Actual Residents of the County of Cook" shall mean persons domiciled with the County of Cook. The domicile is an individual's one and only true, fixed and permanent home and principal establishment.

b. Payroll Records Required. Weekly certified payroll reports (U.S. Department of Labor Form WH-347 or equivalent) submitted to the Director of the Using Department (in triplicate) shall identify clearly the actual residence of every employee on each submitted certified payroll. Full access to the ESCO's and Subcontractor's employment records shall be granted to the Chief Procurement Officer, or any duly authorized representative thereof. The ESCO and its Subcontractors shall maintain all relevant personnel data and records for a period of at least three years after final acceptance of the Work. The ESCO shall provide verification of an employee's address by means of affidavits or other supporting documentation if requested by the County.

12. Tax and Fee Delinquency. Pursuant to Cook County Code, Chapter 34-176, the County of Cook is entitled to set off a portion of a contract price equal to the amount of the fines and penalties for each tax or fee delinquency and any debt owed by a contracting party to the County of Cook.

13. Cook County Green Construction Ordinance. The ESCO shall comply with all requirements of the Code, Chapter 30 Environment, Article IX Green Construction, Sections 30-950 through 30-955, applicable to diesel vehicle emissions.

14. Cooperation with Inspector General. The ESCO, and its Subcontractors, licensees, grantees, or persons or businesses which have a County contract, grant, license, or certification or eligibility for County contracts shall abide by all of the applicable provisions of the Office of the Independent Inspector General Ordinance (Cook County Code, Article II, Division 5, Section 2-281 *et seq.*). Failure to cooperate as required may result in monetary and/or other penalties.

15. Conflict Of Interest. The ESCO covenants that it presently has no interest and shall not acquire any interest, direct or indirect, in the Project which would conflict in any manner or degree with the performance of its services hereunder. The ESCO further covenants that in the performance of this Contract no person having any such interest shall be employed by the ESCO or work on the Project. The ESCO agrees to inform the County on a timely basis of all of the ESCO's interests, if any, which are or which the ESCO reasonably believes may be incompatible with any interest of the County. No officer, agent or employee of the County is employed by ESCO or has a financial interest directly or indirectly in this Contract or the compensation to be paid under this Contract except as may be permitted in writing by the County's Ethics Ordinance (Cook County Code, Chapter 2, Article VII). No payment, gratuity or offer of employment has been made or will be accepted in connection with this Contract by or on behalf of any Subcontractors to the ESCO or anyone associated with them, as an inducement for the award of a subcontract or order. No member of the governing body of the County or other unit of government and no other officer, employee or agent of the County or other unit of government who exercises any functions or responsibilities in connection with the Services to which this Contract pertains is permitted to have any personal interest, direct or indirect, in this Contract.

16. Cook County Living Wage Ordinance. To the extent applicable, ESCO shall comply with, and shall require its Subcontractors to comply with Section 34-160 of the Cook County Code which requires contractors using full-time non County employees providing services or labor to pay not less than the "Living Wage" to such employees, unless such wages are governed by federal or State law,

the contractor is a not for profit organization, or the contract is funded with federal grants or loans. The current "Living Wage" is posted and available as described in Section 34-160.

17. County Green Building Ordinance. Such term will be deemed to include the Cook County Green Buildings Ordinance (Cook County Code, Chapter 30, Section 30-950 through 30-955). The ESCO will be familiar with such ordinance and with the U.S. Green Building Council's "LEED" Green Building Rating System, and will consult with the Project Director to determine to what extent LEED principles will be applied. In the case of retrofit and renovation projects, the ESCO will comply with the Green Buildings Ordinance and will incorporate LEED principles into the design of the Project to the extent required by such ordinance or determined by the Project Director.

18. Disqualification For Non-Performance Cook County Ordinance Chapter 10, Section 7.3. No person or business entity will be awarded a contract or subcontract if that person or business entity has had an awarded contract terminated for cause by the County's Board of Commissioners. The period of ineligibility will continue for 24 months from the date the County's Board of Commissioners terminates the contract. The ESCO hereby represents and warrants to the County that the ESCO has not had an awarded contract terminated for cause by the County's Board of Commissioners within 24 months prior to the Effective Date.

J. Discharge of Mechanics Liens. If any mechanic's, materialman's, or other similar lien is at any time filed against the Building or any part thereof on account of any Work performed on or furnished to or claimed to be performed on or furnished to the Work at the direction of the ESCO or any Subcontractor, ESCO will, upon written request from County and without cost or expense to County, promptly cause the sum to be discharged of record by payment, bond, order of a court of competent jurisdiction, or otherwise. If ESCO, having been requested by County to discharge such lien, fails to do so within ten (10) days after such written request by County, County will have the right to discharge the same, after consultation with the ESCO, by payment, bond, order of a court of competent jurisdiction, or otherwise and without regard to whether ESCO is disputing the validity or amount of the same, and the costs and expenses incurred by County in so discharging such lien shall be payable by ESCO to County upon demand. The ESCO will protect County against lien filings to the extent that payment is received for completed service or delivered equipment.

K. Publicity. Upon the reasonable request of the County, the ESCO will cooperate with and assist the County in connection with any public relations or publicity relating to the Project, including, without limitation, tours of the Facilities arranged by the County. Without the prior written consent of the County, the ESCO will not disclose details or information relating to the Project or Construction and Installation Services to the press, the public, any news-disseminating agency or any other party, except to those parties performing portions of the Contract Services, and then only to the extent required for the performance of the particular portion of the Construction and Installation Services being performed. ESCO shall have the right, with the express prior written consent of the County, to include representations of the design or construction of the Project among the ESCO's promotional and professional materials, subject to the reasonable review of the County of the applicable portions of such materials. The ESCO's materials shall not include the County's confidential or proprietary information, or any information which might adversely affect security at the Facilities.

L. Cooperation. ESCO will cooperate with and assist the County and its advisors, ESCOs, contractors, attorneys, employees, agents and representatives, at all times during the

Contract Time so as to complete the Services in an efficient, timely, and economical manner. Such cooperation and assistance will include, without limitation, any cooperation or assistance required in connection with the County's efforts to obtain financing for the Project.

M. Confidential Information.

1. The term "**Confidential Information**" means any documentation or information (i) which is marked as "proprietary" or "confidential"; (ii) which is supplied orally with a contemporaneous confidential designation; or (iii) which is known by the ESCO to be confidential or proprietary information or documentation of the County. Confidential Information includes, but is not limited to, unpublished information relating to technological and scientific development, personnel or security records of individuals, anticipated material requirements or pricing actions, and knowledge of selection of contractors and subcontractors in advance of official announcement. Confidential Information does not include information that can be demonstrated: (i) to have been rightfully in the possession of the ESCO from a source other than the County prior to the time of disclosure of said information to the ESCO under this Contract; (ii) to have been in the public domain prior to disclosure to ESCO; (iii) to have become part of the public domain after disclosure to ESCO by a publication or by any other means except an unauthorized act or omission or breach of this Contract on the part of the ESCO or the County; or (iv) to have been supplied to the ESCO without restriction by a third party who is under no obligation to the County to maintain such information in confidence.

2. The ESCO acknowledges that it may, in performing the Services, have access to or be directly or indirectly exposed to Confidential Information. The ESCO will not use any Confidential Information for personal gain or make improper use of Confidential Information, will hold confidential all Confidential Information and will not disclose or use such Confidential Information for any purpose other than the performance of the Services or under compulsion of law without express prior written consent of the County. The ESCO will use measures at least as strict as those the ESCO uses to protect its own confidential information, which measures may be subject to further requirements upon review by the County in connection with highly sensitive locations or facilities of the County as shall be determined in Project meetings. Such measures must include, without limitation, requiring employees and subcontractors of the ESCO to execute a non-disclosure agreement before obtaining access to Confidential Information. The ESCO shall not use for personal gain or make other improper use of Confidential Information which is acquired in connection with its services under the Contract. The ESCO shall comply with the applicable privacy laws and regulations affecting the County and will not disclose any of the County's records, materials, or other data to any third party, other than its attorneys or other individuals within the ESCO's related business entities who have a need to know and who agree in advance not to make further disclosure. The ESCO shall not have the right to distribute statistical analyses and reports utilizing data derived from information or data obtained from the County without the prior written approval of County, other than to its attorneys or other individuals within the ESCO's related business entities who have a need to know and who agree in advance not to make further disclosure. In the event such approval is given, any such reports published and distributed by the ESCO shall be furnished to the County without charge. In the event the ESCO or any subcontractor is presented with a *subpoena duces tecum* issued by a court or other body of applicable jurisdiction related to Confidential Information, the ESCO or such subcontractor shall provide the County with notice of such order or request for Confidential Information and shall cooperate with the County in opposing such order or request to the extent not in violation of law. The ESCO is advised that the County is subject to the provisions of the Illinois Freedom of

Information Act, 5 ILCS 140/1 et seq., and that no disclosure made in good faith by the County pursuant to such Act shall be deemed to violate any confidentiality commitments made by the County to the ESCO.

N. ECM Malfunction. The ESCO agrees to compensate the County for expenses, damages to real or personal property resulting from ECM malfunction to the extent caused by nonperformance or error by the ESCO or its Subcontractors. Notwithstanding anything in this Contract to the contrary, the ESCO's liability for any ECM Malfunction shall be governed by the Limitation of Liability provisions of Section 11.F.

O. Reference Standards. Reference made in the Contract Documents to standard specifications, codes, or test methods of technical societies, trade association and similar organization is to the latest revision of such standards in effect 30 calendar days prior to the date of the Contract Documents, unless specifically indicated to the contrary. If the document numbers referenced have since been changed, the current appropriate number shall apply.

P. Security Requirements. The ESCO will be required to fulfill, and to cause its Subcontractors to fulfill, all applicable security requirements of the County. Security requirements may include providing identification cards for all employees working on the Project, providing the County with photocopies of all such identification cards, employee social security numbers for purposes of background checks, and similar requirements. ESCO will indemnify, defend and hold the County harmless from any action arising out of the release of such information related to security requirements and background checks unless such release is directly the result of County action. Specific Security requirements pertaining to the Work may be included in Exhibit P - Special Conditions.

Q. County Rules. The ESCO agrees to familiarize itself with Cook County rules and regulations and inform its employees of all County policies respecting contraband and other matter. Before commencing Work, ESCO shall confer with the official in charge of the Work Sites and the Project Manager and ascertain full knowledge of all rules and regulations affecting working conditions. To the extent readily available, the Project Manager will endeavor to furnish the ESCO prior to the commencement of Work with regulations and procedures specific to working in the Facilities to the extent they are different from regular County procedures for working on County property.

R. Training. The ESCO will provide to the County a description of the ongoing training requirements for the County's operations and maintenance personnel necessary to maintain proper ECM performance after Final Acceptance. The ESCO shall conduct in-service training for County personnel in the operation and use and maintenance of each ECM for which training is reasonably required for proper operation and maintenance as set forth in Exhibit V, including all equipment installed as part of the Project. Training sessions shall be scheduled in coordination with and at the convenience of the County. In-service training shall be provided by the ESCO for all work shifts and shall include but not be limited to, operators, technologists, building facilities managers, and security personnel. If available, videotapes for training operators and service personnel will be provided. Additional training requirements are to be listed in individual technical specifications. Prior to Substantial Completion of the Project, the ESCO shall provide for approval of the County a summary of the training to be provided under this Contract by type of ECM and by type of County employee and setting forth the hours of such training. If the County believes such training to be inadequate, the ESCO shall revise the training summary to reasonably account for the County's concerns.

S. Presentations. Upon reasonable notice, the ESCO shall be responsible for attending and making presentations at various meetings on an as needed basis as determined by the Project Director,

including County Board, County committee and community group meetings, in order to inform and advise County officials and the public on the status of the Project. Formal presentations (which shall mean presentations to a decision-making body such as the Cook County Board of Commissioners, the Cook County Health and Hospitals System, other decision-making bodies, and committees of such bodies) will also be required and are included in the Services. In addition to formal presentations, the ESCO will meet, as requested by the Project Director, with community groups, elected and appointed officials such as the Cook County Board President, the Sheriff of Cook County, executive staff of the County and of the Cook County Health and Hospitals System and similar elected and appointed officials.

#### SECTION 10. WARRANTIES AND ECM REPAIR AND REPLACEMENT.

A. **Warranty.** For the Warranty Period as to the ECMs in each Building following Substantial Completion of such Building, the ESCO warrants to the County ("ESCO's Warranty") that materials and equipment furnished under Contract will be of good quality and new, that the Work will be performed in accordance with the Standard of Care and free from faults and defects, that the ECMs materials, equipment and Work will conform with the requirements and performance standards of the Contract Documents, and that the Work will be free from any encumbrances, liens, security interests, or other defects in title upon conveyance of title to the County. The warranty service under this paragraph shall include all repairs, preventive and corrective maintenance to the extent set forth in Exhibit R, labor, repair parts, and travel costs. All preventive maintenance services during the Warranty Period described in Exhibit R will be performed by the ESCO, at no additional charge, at the same frequency as recommended by the manufacturer's service literature or more frequently if dictated by use or the environment.

B. **Exclusion from Warranty.** The ESCO's warranty excludes remedy for damage or defect to the extent caused by (i) material modifications to ECMs not approved or executed by ESCO or its Subcontractors or (ii) improper or insufficient maintenance or operation of the ECMs by the County or its representatives that is not in accordance with Exhibit M and not supervised or directed by ESCO or its Subcontractors.

C. **Warranty Period.** The ESCO's initial Warranty Period for all ECMs and ECM Groupings and Work in a Building ("ESCO's Warranty Period") shall be 365 days running from and after the date of Substantial Completion of all ECMs and ECM Groupings in such Building. Substantial Completion of one or more ECMs in a Building, but not all of the ECMs in such Building, does not commence ESCO's Warranty Period for such Building.

D. **Extended Warranty Coverage.** The County may elect to purchase extended warranty coverage from ESCO at a price to be negotiated by the ESCO and the County for so long as the annual cost of the Project inclusive of such extended warranty does not exceed the annual guaranteed savings value under Exhibit G.

E. **Breach of Warranty.** If, at any time prior to the expiration of the Warranty Period, the County discovers any failure or breach of the ESCO's Warranty, ESCO will, upon written notice from County and at the ESCO's sole cost and expense, immediately correct such failure or breach (which corrective action must include, without limitation, any necessary removal, disassembly, reinstallation, repair, replacement, reassembly, retesting, and/or inspection of any part or portion of the Work and any other property damaged or affected by such failure, breach, or corrective action). The ESCO will remedy any such failure or breach so as to minimize revenue loss to the County and, to the extent possible, to avoid disruptions to the operations of the County and other

occupants of the Building. During the ESCO Warranty Period, the ESCO will provide such Maintenance Services within the next business day of notice from the County of the need for such repair or replacement; provided that such Warranty Maintenance Services shall be provided within eight hours in case of an emergency potentially or actually risking harm to persons or property at one or more of the Facilities as reasonably determined by the County. In the event the ESCO fails to initiate and diligently pursue corrective action within five (5) days of the ESCO's receipt of the County's notice, the County may undertake such corrective action at the ESCO's expense.

F. Manufactures' Warranties. At each Substantial Completion of an ECM or ECM Grouping, the ESCO will provide the County with the manufacturer's warranties and guarantees applicable to such ECM or ECM Grouping as described in Exhibit R ("Manufacturers' Warranties) in accordance with Section 8.N. These Manufacturers' Warranties are in addition to and not in lieu of ESCO's Warranty set forth in Section 10.A and the County is entitled to look to ESCO for remedy in all cases where ESCO's Warranty applies regardless of whether a Manufacturer's Warranty also applies. The ESCO represents that all Manufacturers' Warranties will be for periods and contain terms not less favorable to the County than those terms which are standard for the applicable industries for projects similar to the Project, and will either be issued in the first instance in the name of and for benefit of the County, or be in a freely assignable form and be assigned to the County without limitations. To the extent the ESCO receives any updates or revisions from the manufacturer, the ESCO will provide to the County, at no additional cost, all updates and revisions of the Manufacturer's Warranties, as they become available. All of the above documentation and manuals become the sole property of the County. All manufacturers' alerts/recalls received by the ESCO shall be forwarded to the County within 7 days of receipt by the ESCO. The ESCO will also provide for the County, information on available extended Manufacturer's Warranties on major equipment constituting the ECMs, together with costs and information and provide non-binding recommendations so that the County may best determine whether or not to purchase such extended Manufacturer's Warranties.

G. Repair and Replacement of ECMs Beyond the ESCO's Warranty Period. Beyond the ESCO's Warranty Period, if the ESCO is obligated to provide Maintenance Services under Exhibit K, the ESCO will provide such Maintenance Services within the next business day of notice from the County of the need for such repair or replacement; provided that such Maintenance Services shall be provided within eight hours in case of an emergency potentially or actually risking harm to persons or property at one or more of the Buildings or Facilities as reasonably determined by the County. If ESCO is not providing Maintenance Services and Manufacturers' Warranties apply to the ECM requiring repair or replacement, the County will cause the repair or replacement of the ECM in accordance with the Manufacturers' Warranties. If the ESCO is not required to repair or replace the ECM as Maintenance Services and the Manufacturers' Warranties do not apply, the ESCO and the County will agree to a schedule for the repair or replacement of the ECM, at the County's expense, that establishes reasonable timeframes for the engineering, procurement, and construction and installation associated with such work. The Parties will use good faith efforts to agree to any necessary adjustments to the energy performance calculations that account for the energy savings attributable to the period of time needed to repair or replace the ECM. However, any such adjustments to the energy performance calculations are subject to the terms and provisions of Exhibits G and H, which require the ESCO to notify the County within thirty (30) days of the ESCO becoming aware of a possible Cause for Adjustment, and to specify all Causes for Adjustment in the annual guaranteed savings reconciliation process.

SECTION 11. INSURANCE; DAMAGE AND DESTRUCTION; INDEMNIFICATION.

A. Insurance to be Maintained by the ESCO.

1. In General. The ESCO will maintain, at its sole cost and expense, the insurance set forth in Exhibit L from insurance companies and in a form reasonably satisfactory to County and shall provide certificates demonstrating compliance with the insurance requirements contained in this Section 11.A.1 and in Exhibit L; however, the ESCO shall only be compelled to furnish the County with copies of the insurance policies under court order or upon failure of the applicable insurer or insurers to honors claims under such policies for which the certificates indicate coverage. During the Guarantee Period, the insurance coverage set forth on Exhibit L may be reduced to a level deemed necessary by the County, in its sole discretion, to protect the County from liability for acts of the ESCO and risks and indemnities assumed by the ESCO during the performance of the Guarantee Period Services. The forms of coverage, limits of liability, deductibles or self-insured portions, insurance provider and premium for such insurance coverage is subject to the County's prior review and approval. All policies required shall be on a primary and non-contributory basis with respect to any insurance or self-insurance programs carried or administered by the County. The ESCO shall require all policies of insurance that are in any way related to the Work and the Project and are secured and maintained by ESCO and all tiers of Subcontractors to include clauses providing that each insurer shall waive all of its rights of recovery, by subrogation or otherwise, against the County and its contractors, officials, agents and employees. The ESCO shall advise all insurance companies to familiarize themselves with the conditions and provisions of this Contract dealing with waivers of subrogation, insurance and indemnification. Failure of the ESCO to so notify these aforesaid insurance companies shall in no way relieve them from their obligations under this Contract.

2. No Work Without Insurance. The County will not allow the ESCO to commence, and the ESCO shall not commence any work under this Contract, until all insurance required under this Contract is purchased and evidence of such is received and approved by the Chief Procurement Officer and the Cook County Director of Risk Management. Thereafter, the ESCO shall, not less than sixty (60) days prior to the expiration of each and any policy of insurance required hereunder or in the case ESCO replaces its insurance with another policy or another carrier, deliver to the Chief Procurement Officer evidence satisfactory to the Chief Procurement Officer of the renewal or replacement of such expiring policy. The renewal or replacement policy shall comply with the provisions of this Article 5.

3. Maintenance Of Insurance Requirements. The ESCO shall not violate or knowingly permit to be violated any condition of the policies of insurance provided by the terms of this Contract and shall at all times satisfy the requirements of the insurance companies issuing them.

4. County Wrap-Up Insurance. At the County's option, to be exercised in writing on or before the issuance of the Notice to Proceed (Construction and Installation Services), the County can direct that the ESCO and its Subcontractors performing the Construction and Installation Services be insured in whole or in part through a County "wrap-up" insurance program which would replace some or all of the insurance requirements set forth in Exhibit L.

B. Damage and Destruction. The County is not liable for damage or destruction to the Work and/or to (a) any tools owned by mechanics, (b) any tools, equipment, scaffolding, staging, towers, and forms rented by ESCO, the capital value of which is not included in the

Contract Sum, and (c) any structures erected for housing or convenience of workmen caused by, but not limited to, the following: fire, lightning, windstorm, hail, explosion, riot, riot attending a strike, civil commotion, aircraft, vehicles, smoke, vandalism, or malicious mischief. In no event will County be liable for consequential, incidental, or special damages, including without limitation any delay damages, lost opportunity damages, or lost profits incurred by the ESCO and/or its affiliates, Subcontractors, agents, or employees in connection with this Contract.

C. Risk of Loss. Regardless of the passage of title, risk of loss and damage to the Work and the ECMs as to each Building shall remain with the ESCO until the date of Substantial Completion of all ECMs and ECM Groupings in such Building and the commencement of the Warranty Period for all ECMs within such Building.

D. Indemnification in General. The ESCO agrees to pay and reimburse and defend, indemnify, keep and hold harmless the County, its commissioners, officials, employees, agents and representatives and their respective heirs, executors, administrators, successors and assigns from and against any and all liabilities of all kinds, including but not limited to, losses, demands, obligations, costs, damages, liabilities, suits, actions, judgments, claims (including, but not limited to, claims for injury, death or damage to any person or property, the ESCO's failure to perform or cause to be performed its promises and obligations under this Contract, including its obligations to any Subcontractor, the infringement of any patents, copyrights, licenses or other intellectual property rights) and expenses, including, but not limited to, attorneys' and experts' fees and expenses at trial and on appeal and litigation expenses (collectively all such liabilities are referred to as "Losses"), arising out of or connected with: (a) the ESCO's negligent performance or nonperformance of this Contract; (b) any negligent or intentional misstatement contained in any representation made by the ESCO in or pursuant to this Contract; (c) any breach of any warranty made by the ESCO in this Contract or in any documents or certifications required by this Contract; or (d) any negligent or otherwise wrongful errors, omissions or acts of the ESCO, its Subcontractors, agents or employees; or injuries or death of any employee of ESCO or any Subcontractors under any worker's compensation statute. The ESCO expressly understands and agrees that any insurance protection required by this Contract will in no way limit its responsibilities or liabilities or serve as a limit in recovery under this Section 11.D. The provisions of this Section 11.D are applicable to the full extent allowed by the laws of the State of Illinois and not beyond any extent which would render them void or unenforceable. At the option of the County, ESCO will defend all suits related to Losses and which involve the County and will pay the expenses and costs incidental to them, but the County has the right, at its option, to participate at its cost in defense of any suit, without relieving the ESCO of any of its obligations under this Contract. Any settlement will be made only with the prior written consent of the County, if the settlement requires any action on the part of the County. To the extent permissible by law, ESCO waives any limits to its obligations to defend, indemnify, hold harmless or contribute any sums due under any Losses, including any claims by any employee of ESCO that may be subject to the Workers Compensation Act, 820 ILCS 305/1 *et. seq.* or any other related law or judicial decisions (such as, Kotecki v. Cyclops Welding Corporation, 146 Ill.2d 155 (1991)). The County, however, does not waive any limitations it may have on its liability under the Illinois Workers Compensation Act, the Illinois Pension Code, or any other statute or judicial decision. The indemnities in this section survive expiration or termination of this Contract for matters occurring or arising during the term of this Contract or as the result of or during ESCO's performance of Services beyond the term. ESCO waives all rights of recovery against the County which Contractor may have or acquired because of deductible clauses in or inadequacy of limits of any policies of insurance that are in any way related to the Work or the Project and that are secured

and maintained by Contractor. The Contractor shall incorporate this provision into its contracts with all tiers of Subcontractors, requiring such Subcontractors to waive rights of recovery as aforesaid against the County

E. Indemnity Regarding Patents, Copyrights and Licenses. The ESCO agrees to hold harmless and indemnify the County Parties from, and defend, at its own expense (including reasonable attorneys', accountants' and ESCOs' fees), against any suit or proceeding brought against any of them based upon a claim that the ownership or use of equipment, hardware and software or any part thereof utilized in performing the Work constitutes an infringement of any patent, copyright or license or any other intellectual property right. Where applicable, County or any of the County Parties shall notify ESCO in writing of any such suit or proceeding or significant threat thereof. The County hereby agrees to give the ESCO information and reasonable assistance for the defense. In the event the use of any equipment, hardware or software or any part thereof is enjoined, the ESCO with all reasonable speed and due diligence shall provide or otherwise secure, at the ESCO's election, one of the following: the right to continue use of the equipment, hardware or software; an equivalent system having the specifications as provided in this Contract; or to modify the system or its component parts so that it becomes non-infringing while performing in a substantially similar manner to the original system, meeting the specifications of these Contract Documents.

F. ESCO Limitation of Liability. Notwithstanding anything to the contrary contained in this Contract, the aggregate liability of the ESCO to the County in relation to this Contract shall not exceed the Contract Sum. However, the preceding limitation shall not apply to, and no credit shall be issued against such liability limitation for: (i) the ESCO's defense and indemnity obligations set forth in Section 11.E as it relates to patent and copyright infringement; (ii) the ESCO's defense and indemnity obligations set forth in Section 11.D as it relates to claims by third parties for bodily injury, property damage, or otherwise; or (iii) claims which arise or result from fraudulent or unlawful acts, or the gross negligence or willful misconduct of the ESCO or its Subcontractors.

## SECTION 12. ENVIRONMENTAL WORK AND HAZARDOUS MATERIALS.

A. Encountering Hazardous Materials or Mold. If the ESCO encounters material in one or more Facilities reasonably believed to be a Hazardous Material or Mold ESCO must immediately stop Work in the area affected and report the condition to the County Representative in writing and by telephone or in person. The County or its environmental contractors will verify the presence or absence of the Hazardous Material or Mold reported by ESCO and, if the Hazardous Material or Mold is found to be present, develop a plan for identifying and handling the Hazardous Material or Mold. If no plan is in place, the ESCO will await and follow directions of the County. The ESCO will, at the request of the County, submit a proposal to perform the removal or remediation or such other abatement of such Hazardous Materials or Mold in accordance with EPA and IEPA guidelines and regulations. If the County accepts ESCO's proposal, as may be mutually negotiated, modified and agreed upon, then the ESCO shall perform such removal or remediation work or other abatement in accordance with the term of this Contract and such proposal as modified and negotiated, using only fully qualified and licensed abaters and remediators, and the ESCO will sequence and perform such remediation, and removal work or other abatement in accordance with IEPA and EPA guidelines and regulations. Any such removal, remediation or abatement work to be performed by the ESCO shall be deemed Allowance Services. If the County performs the required remediation, removal or other abatement work either directly or

through a qualified third party then the ESCO shall proceed with the Work following completion of such required remediation, removal and abatement work. The Work in the affected area may be resumed in the absence of the Hazardous Material or Mold, or when it has been rendered harmless.

B. Hazardous Materials Introduced to the Building by ESCO. The ESCO shall provide the County with an inventory of all Hazardous Materials or substances or products which are potentially hazardous used on a Work site or brought onto a Work site by the ESCO or Subcontractors of any tier. The ESCO shall also provide Material Safety Data Sheets (M.S.D.S.) for any Hazardous Materials or potentially hazardous products or substances for which such sheets are required by law. The ESCO shall label all containers according to the requirements of the Illinois Department of Public Health and the Illinois Department of Labor. The ESCO shall provide any special training which might be required for Cook County employees or other persons who must work or live in an area affected by Hazardous Materials or potentially hazardous products or substances. The inventory and the Material Safety Data Sheets shall be directed to Safety Manager, Risk Management Department, Cook County, 118 N. Clark Street, Chicago, Illinois 60602. Notwithstanding anything to the contrary set forth in this Section 12, if any Hazardous Materials or potentially hazardous products or substances are introduced to a Work Site after the Effective Date by the ESCO, its Subcontractors, and any party for whom they may be liable or if any Mold occurs within any Facility affected by the Work as the result of the implementation of the Project or the functioning of the ECMs, then any response, removal, cleanup, or other remedial action required by applicable law shall be performed by the ESCO at its sole cost and expense. Except as to the ESCO's initial response to an emergency, any such remedial action(s) shall require the prior review and approval of the County.

#### SECTION 13. CHANGES IN THE WORK.

A. Minor Changes in the Work. The County may issue written field orders which interpret this Contract or order minor changes in the Work not involving a material adjustment in the Contract Sum or a material change in the Scheduled Completion Dates or the Project Schedule. ESCO will carry out such field orders promptly unless the ESCO reasonably disagrees with the County as to material effect of such field order in delaying the Project Schedule or increasing the Contract Sum or otherwise materially adversely impacting the anticipated Guaranteed Annual Savings Amount as further described in Exhibit G.

B. Minor Variations. The ESCO shall make, subject to the approval of the County and without cost to the County, such minor variations from the Design & Engineering Documents as may be necessary to obviate unforeseen interferences and shall adapt the Work to the requirements of all other trades, which together with the Work, will be necessary to complete the Work under the Contract. The County also reserves the right to request that any product, process or other recommended item for the Project be replaced with a substitute should the Project Director, the Construction Manager, if any or any County agent appointed for product review determine that the product or process does not meet applicable governmental regulations, industry standards or the needs of the Project. The County reserves the right to reject substitution requests without cause.

C. Substitutions: Written Approval Required. The ESCO shall make no substitution for materials, equipment, supplies, articles, or processes required under this Contract from the Contract Documents unless prior written approval is given by the Project Director. It shall be the duty of the ESCO to immediately inform the Project Director of any suspected or anticipated substitutions required pursuant to the following conditions: Substitutions may be required for compliance with final interpretations of law or insurance regulations or unavailability of specified

products, through no fault of ESCO or Subcontractor or because subsequent information discloses the inability of specified products to properly meet the specifications, or to fit in a designed space under the Contract Documents. "Unavailability" shall mean that the product specified is no longer available for purchase in the market place. Substitutions which result in an increase in costs or a need for a time extension shall be treated as Change Orders.

D. Change Orders, Modifications and Written Notices.

1. In General. The parties may from time to time during the term of the Contract make modifications and amendments to this Contract but only as provided in this section. Such modifications and amendments shall only be made by mutual agreement in writing with the written approval of the Chief Procurement Officer, and may require the approval of the Board as to increases as to the contract sum of the Contract or the length of any time extension for performance, in accordance with Sections 34-123 and 34-125(f) of the Cook County Procurement Code, as amended from time to time (the "Procurement Code"). The ESCO is hereby notified that, except for the specific authority granted to the Chief Procurement Officer pursuant to the Code and referenced in this Section, no County department or employee thereof has authority to make any modification or amendment to this Contract. The County will provide the format to be utilized for Proposal Request, ESCO Change Request, cost breakdowns, and Change Order Form.

2. County Initiated Change Orders. The County may from time to time during the term of the Contract request changes within the general scope of Work, consisting of additions, deletions or other revisions. All such changes in the Work shall be authorized by a Change Order and shall be governed by the terms and conditions of the Contract Documents, including Exhibit P.3 (except as agreed to by the Parties in writing). Where a change order is deemed necessary for the successful completion of the Work, as determined by the County, the ESCO shall perform the change order Work during any dispute resolution proceeding concerning the value of the change order Work. County requested changes shall be initiated by the County's issuance of a Proposal Request. The ESCO, with reasonable promptness and so as not to delay the Project, shall provide the County with a proposal including a breakdown of costs or credits for the proposed change, in the same detail and manner provided for ESCO Change Requests. In no event shall the ESCO proceed with the proposed change without a written Change Order, signed by the County, authorizing the change in Work and adjustment of Contract Sum or Contract Time. Change Orders so issued shall be signed by the ESCO, indicating agreement with the terms of the Change Order. Change Orders accepted by the ESCO shall be construed as a waiver of all additional claims for contract adjustment related to the Work required by the Change Order. The ESCO shall carry out the Work of the Change Order promptly. Refusal or failure on the part of the ESCO to accept the terms of the Change Order shall not relieve the ESCO of duty to proceed with the prosecution of the Work as changed so long as the County represents that funding is available for any material increase in costs resulting from such change.

3. ESCO Initiated Change Requests. Where appropriate to the successful progress and/or completion of the Work, the ESCO may initiate a request for a Change Order, which request is referred to as an "ESCO Change Request." The ESCO shall include as much as is reasonably possible of the following information in the initial written submission of any request to the County: a detailed description of the proposed change or changes; a statement of the reasons why the proposed changes should be authorized by the County; a statement of the anticipated effect, if any, of the proposed changes on the Contract Sum and/or the Contract Time, subject to Exhibit P.3 (except as agreed to by the Parties in writing), including any credits for deleted Work resulting from the proposed changes ; a statement of the anticipated effect of the proposed changes in the

work of any separate contractors; the ESCO's additional overhead and profit; and documentation supporting any requested changes in the Contract Sum or the Contract Time. Supporting information required to be submitted with each ESCO Change Request shall include: the anticipated total labor hours for each separate unit of Work and the related hourly billing rates (to the extent required by the County Procurement Code or by Illinois law); construction equipment necessary for the Work and the related costs; listing of products required for the Work, including source of purchases, quantities and costs; all of the foregoing information for each significant unit of required subcontract Work; a statement of all applicable taxes, insurance and bond costs, if any, that are directly related to the Work;

4. Deductive Work and Net Increases When both additions and credits covering related Work or substitutions are involved in any one change or related series of changes involving one or more Work Sites, the allowance for overhead and profit shall be figured on the basis of the net increase, if any, with respect to that change or series of changes. If a change or series of changes involves only deductive Work, the credit to the County shall be the ESCO's direct costs only for the labor and materials deleted. A series of changes for this purpose includes a series of interrelated changes which arise from a change and whose costs may reasonably be calculated together.

5. Authorization to Issue Written Notices. The Director of the Office of Capital Planning and Policy, or his authorized representative, is authorized to issue all written notices to the ESCO which the County may find necessary or appropriate in connection with this Contract, except where otherwise provided.

E. Extension of Scheduled Completion Dates. ESCO hereby acknowledges that the Work of this Contract will be performed in or near Facilities occupied or operated by the County and that such occupancy or operation has been factored into the establishment of the Contract Sum and Contract Time. Accordingly, no proposed Change Order from the ESCO arising out of the normal operations and occupancy of the Site shall be considered by the County. If ESCO claims that it is entitled to an extension of one or more Scheduled Completion Date by reason of (i) the issuance of a Change Order changing the Work, or (ii) the occurrence of an Excusable Event as described in Section 13.F, ESCO will give County notice to such effect, within five (5) business days after the commencement of the event, setting forth the extension in the Scheduled Completion Dates requested by ESCO and specifying the reasons why ESCO is requesting such extension. The County, acting through the Chief Procurement Officer and the County's Director of Capital Planning will inform ESCO of the extension, if any, of the Scheduled Completion Dates which County is willing to make, and, if County is willing to extend the Scheduled Completion Dates, a Change Order shall be issued extending the Scheduled Completion Dates to the date acceptable to County. If the ESCO is delayed at any time in progress of the Work by changes ordered in the Work by an Excusable Event, then the Contract Time will be extended by Change Order provided that: (i) ESCO has notified County in writing of such delay within five (5) business days following the date when ESCO becomes aware, or should have become aware through the exercise of reasonable diligence, of such delay; (ii) ESCO has taken all reasonable steps to avoid any such delay (including its continuance); and (iii) such delay is not a theoretical delay but does actually adversely affect the critical path of the Work and the Project. Otherwise, the ESCO will not be entitled to an extension of the Contract Time or of any Scheduled Completion Date for any delays in the progress of the Work. In general, any such extension will be for a period equivalent to the time lost by reason of such acts or delays.

F. Excusable Events. The occurrence of any of the following events shall constitute an Excusable Event:

1. Delays resulting from the acts or omissions of the County, to the extent such delays arise from circumstances beyond the reasonable control and without the fault or negligence of the ESCO, its Subcontractors, or other person for whom they may be liable, including suspensions of Work ordered by the County for reasons unrelated to the performance of the Work or the implementation of the Project by the ESCO or its Subcontractors, such as the failure of the County to procure necessary funding for the Project which materially adversely affects payment to the ESCO under this Contract;

2. The discovery of any Hazardous Materials or Mold in the Building sufficient to cause risk to workmen as reasonably determined by an environmental ESCO (unless the Hazardous Materials are introduced to the Building by the ESCO, its Subcontractors, or any party for whom they may be liable);

3. The occurrence of a change in Law impacting the schedule or cost for the Work, provided that a change in any income tax law or any law by which a tax is levied or assessed on the basis of the Contractor's income, profits, revenues or gross receipts shall not be an Excusable Event; or

4. Any of the following acts, events, conditions or occurrences to the extent that the same are beyond the ESCO's reasonable control, which could not have been either foreseen or avoided by the exercise of due diligence, and which has an adverse effect on the ESCO's ability to perform the Work: labor disputes (except those caused by improper acts or omissions of the ESCO) riots, quarantine, epidemics, fire, earthquake, flood, cyclone, or other cataclysmic phenomenon of nature beyond the power of the ESCO to foresee or to make preparations in defense against, extraordinary delay in deliveries of materials caused by strikes, lockouts, freight embargoes or governmental acts) abnormal adverse weather conditions that affect the Work not reasonably anticipatable, or unavoidable casualties. A rain, windstorm, or other phenomenon of normal intensity, based on the National Weather Bureau Reports, for the particular locality and for the particular season of the year in which the Work is being prosecuted, shall not be construed as an "Act of God" and no extension of time will be granted for the delays resulting therefrom. No extension of time will be granted for delay or suspension of the Work due to the fault of the ESCO. No extension of time on account of a delay due to unforeseen causes will be granted unless written application is submitted to the County within a reasonable time, given the circumstances. After a request for an extension of time due to an unforeseen cause is submitted, the Owner shall review such request and, either give the ESCO written notice of the extension of time, if any, to the Contract Time, or hold the request for later consideration.

G. No Damages for Delay. The County shall not be responsible for any loss, cost, expense, liability or damage sustained by ESCO through delay caused by County, by any other contractor or by the elements or any other cause. ESCO's sole remedy for delay, hindrances in the performance of Work, loss of productivity, impact damages and other consequential damages shall be an extension in the time to complete the Work. The ESCO covenants and agrees to use diligent, reasonable and conscientious efforts to avoid the occurrence of any and all causes for delay and to avoid the extension of performance dates.

H. ESCO's Delay. In addition to any other right or remedy available to the County at law or in equity or under the Contract Documents, if any delay on the part of the ESCO results in any claim against the County by another contractor arising out of such delay, the ESCO shall reimburse the County, or at County's election, the County may offset against amounts due the ESCO hereunder, for

any and all such claims which may be enforced against the County or the Project and ESCO shall indemnify and hold the County harmless from and against any and all such claims.

#### SECTION 14. PAYMENTS, RECORDS AND COMPLETION.

##### A. Payments.

1. Progress Payments; Retention. The ESCO shall submit applications for payment for Design Services and Construction and Installation Services on the first of each month following the month in which the applicable Notice to Proceed is issued by the County based upon Work performed and completed under the Cost Loaded Schedule. Payments will be made by the County equal to ninety percent (90%) of the value of Work satisfactorily completed under the Cost Loaded Schedule as of the date of such payment application. Payments for Allowance Services shall be made monthly upon presentation of the ESCO's statement of services rendered or expenses incurred. The County will retain an amount equal to ten percent (10%) of the value of such completed Work to assure faithful performance of the Contract under the Cost Loaded Schedules until Final Acceptance, less the aggregate of all previous payment. All partial payment estimates shall be subject to correction by the final estimate.

2. Adjustments and Pro-rations. No late payment interest or penalties shall accrue for any such payment due (including any and all payments made on disputed claims) pursuant to the terms of this Contract. Payments for partial months of service will be prorated by dividing the monthly fee by the number of days in the months and multiplying the result by the number of days of service for that month. Payments may never exceed the progress of the Project. The Cost Loaded Schedule will be adjusted to reflect the subtraction or addition of monthly payment amounts, or prorated monthly payment amounts due to changes in the Project Schedule and as agreed upon by the ESCO and the County. The ESCO will submit an updated Cost Loaded Schedule within three (3) business days of such agreed upon adjustment.

3. Invoicing. For each payment application hereunder, the ESCO shall submit the following documentation to the Project Director. All documentation shall be provided in the County's standard format or such format as is requested by the Project Director. The County may at any time modify invoicing requirements or request additional information. Separate invoices shall be submitted for Construction and Installation Services and Allowance Services. The following requirements are related to invoices:

a. Form 29A. Invoices shall be submitted in triplicate for each payment, using County Invoice Form 29A. Invoices will include an itemization of the services provided during the period covered by such payment in accordance with the Cost Loaded Schedule. The ESCO shall follow the County guidelines for such invoice submission set forth in Exhibit J.

b. Certification of Subcontractors to be Paid. ESCO shall submit a list of the subcontractors providing services during the period covered by such payment, and the amounts billed by and to be paid to such Subcontractors. Such list shall be certified by an authorized officer or employee of the ESCO (which officer or employee meets the requirements of the County Code for such certification) as true, correct and complete.

c. Lien Waivers. ESCO shall submit lien waivers executed by each subcontractors indicating that such subcontractor has received payment from the ESCO for the services invoiced in the previous payment and waiving liens for the work performed in such payment period.

d. Cook County Code, Chapter 34, Sec. 34-310. Pursuant to the Cook County Code, ESCO shall be required to submit itemized records as a condition of payment, indicating the dates or time period during which the services being invoiced were provided, a detailed description of the work performed for the time period being invoiced and the amount of time spent performing work for the time period in question.

4. Review of Applications for Payment. The ESCO shall review construction progress with the Project Director and any Construction Manager and submit to each of them all payment applications. The County may reject a payment application where the supporting reports and documentation required by this Contract have not been submitted with such payment application or where the Services related to such payment application have not been performed to the satisfaction of the County until such time as the delinquent reports and documentation have been submitted or Services performed to the satisfaction of the County.

B. Records; Right to Audit. The ESCO shall keep and maintain careful books and records, including the Payroll Records required in Section 9.I.11, of all of its costs and expenses and payments related to the Project, the Services and the Work including, but not limited to, time sheets, payroll records, labor costs, materials and equipment costs, expense journals and billings from ESCO's contractors, subcontractors, agents and data and information necessary to support the Performance Guarantee calculations (collectively, "Records") in accordance with generally accepted accounting principles, for a period of not less than four years following the date of Final Completion of the Project. ESCO shall require its sub-contractors to keep similar records. Upon ten (10) days written notice from the County, the ESCO shall make these records available to the County for audit, inspection and copying. The County will at all times have access to the Records for the purpose of inspecting and auditing the same, and the ESCO shall preserve such books and records for a period of at least three (3) years after the date of Final Acceptance. In addition to the requirements regarding audit of expense and payment records, ESCO agrees that the Cook County Auditor or any of its duly authorized representatives shall, for no less than three (3) years after final payment under this Contract, have access and the right to examine and copy any Records, books, documents, papers, canceled checks, bank statements, invoices, and records, including electronic records, related to this Contract or to ESCO's performance of this Contract. The ESCO shall be responsible for maintaining Records sufficient to document the costs of performance under this Contract. The ESCO shall include in all of its subcontracts under this Contract a provision to the effect that the subcontractor agrees that the subcontractor will be subject to the same requirements as the ESCO pursuant to this Section

C. Limitation on Waiver of Dispute. Payment by the County shall not be a waiver of the County's right to audit, inspect and copy the ESCO's Records, nor shall the County's payment or the ESCO's acceptance of payment waive any disputes between the County and the ESCO, including, without limitation, any disputes as to the correctness of the ESCO's invoices, the amount due to the ESCO, or the services rendered by the ESCO under this Contract. The ESCO's compensation shall be subject to final audit and adjustment by the County. In the event the ESCO receives payment under the Contract, reimbursement for which is later disallowed by the County, the ESCO shall promptly refund the disallowed amount to the County on request, or at the County's option, the County may credit the amount disallowed from the next payment due or to become due to the ESCO under any contract with the County.

D. Withholding Related to Unpaid Wages; Prompt Payment

1. The charges, wages and salaries of the ESCO and the Subcontractors, agents and employees performing work under this Contract hired, retained or engaged by the ESCO will be paid by the ESCO in accordance with its contract or applicable law without deduction or rebate on any account except only such payroll deductions as are mandatory by law or permitted by applicable regulations or contract. If there is any underpayment of such charges, wages or salaries by the ESCO, and if the County determines after consulting with the ESCO that such underpayment was erroneous or without good cause, the County may withhold the amount of any underpayment from funds otherwise due or owing to the ESCO under the terms of this Contract, for direct disbursement by the County to any underpaid Subcontractors, agents or employees for and on account of the ESCO, and such disbursements will be a credit against any sums due or owing to the ESCO under the terms of this Contract. Whenever any such funds are withheld by the County, the ESCO will be entitled to have that decision reviewed pursuant to the provisions of Section 16.A.

2. The ESCO acknowledges the requirements of Section 34-274 of the Procurement Code of Cook County and that failure by the ESCO to comply with such requirements may be deemed a material breach of the Contract under Section 34-274. Additionally, consistent with the purpose of Section 9 of the Illinois Local Government Prompt Pay Act, 50/ILCS 50/9, the ESCO agrees to make payment to its Subcontractors under this Contract in connection with the Project no later than fourteen (14) days following the ESCO's receipt of any payment from the County pursuant to an invoice which includes or incorporates amounts owed and to be paid to such Subcontractor; provided (i) that such Subcontractor has provided to the ESCO all required invoicing, documentation, certifications, and lien waivers as required to be paid such amount under its subcontract; and (ii) there is no reasonable dispute as to amounts owing or as to the completeness and quality of the work performed or the quality or quantity of supplies or products provided pursuant to such invoicing documentation. The County may withhold amounts due to the ESCO under the Contract for overhead and profit or for the ESCO's own work, following notice as provided in this Contract, until breaches under this Section have been rectified.

E. Other Grounds for Withholding of Progress Payments. The Director may withhold, or on account of subsequently discovered evidence, nullify the whole or a part of any certificate for payment to such an extent may be necessary to protect the County from loss on account of any of the following: defective work not remedied; claims filed or reasonable evidence indicating probable filing of claims; a reasonable doubt that the Contract can be completed for the balance then unpaid; or evidence of damage to the work of another contractor. When all of the foregoing grounds are removed, certificates shall be issued for amounts withheld because of them.

F. Final Payment after Final Acceptance. Following Final Acceptance but before final payment is made under the Contract for the Work and as a condition precedent to such final payment, the ESCO shall furnish as Project Closeout Items waivers of all liens and satisfactory guarantees against all remaining claims on account of Work performed, tools and plant employed and material and labor furnished under the Contract, together with two (2) hard copies of "As-Built" drawings of all modified conditions associated with the Project, conforming to typical engineering standards and all keys and tools included in Project Closeout Items. The As-Built drawings shall also be submitted in an electronic format compatible with the AutoCAD or other similar system agreed to by the Parties. The County

will, at the expiration of thirty (30) calendar days after Final Acceptance and receipt of such waivers and drawings, pay the whole account of remaining money due to the ESCO under the Contract for the Work up to Final Acceptance. The acceptance by the ESCO of the final payment above mentioned shall operate as and shall be a release to the County from all claims or liability under this Contract for 16Aanything done or furnished or relating to the Work, or for any act or neglect of the County relating to or connected with this Contract. If it is deemed inexpedient to correct Work injured or done not in accordance with Contract, the difference in value, together with a fair allowance for damage shall be deducted either from any retainage, pay request or Contract sums.

G. Acceptance and Payment Not to Constitute Acceptance of Defective Work. Neither the final certificate of payment nor any provision in the Contract Documents shall constitute an acceptance of Work not done in accordance with the Contract Documents or relieve the ESCO of liability in respect to any warranties or responsibility for faulty materials or workmanship and no error or oversight in delay in discovery or rejection of defective or improper Work or materials, by the County shall relieve the ESCO of any of its obligations under this Contract.

H. Offsets. All back charges to the ESCO, refunds from the ESCO, and other offsets against any amounts due ESCO permitted or required under the Contract Documents may be taken at any time from amounts due to ESCO under the Contract Documents once the County has determined the amount of the back charge, refund, or offset to be made.

I. Funding. Payments for Services under this Contract will not exceed the applicable "not to exceed" dollar amounts shown in Section 4 without a written amendment or change order, as permitted by the County Procurement Code.

#### SECTION 15. DESIGN MATERIALS AND INTELLECTUAL PROPERTY.

A. Copies of Design Materials. The copies and other tangible embodiments of the drawings, specifications, designs, plans, "architectural work" (as such term is defined in the Architectural Works Copyright Protection Act of 1990) and other documents, prepared by or on behalf of the County, the ESCO, and/or Subcontractors in connection with the Project or the Services (collectively, the "Design Materials") are deemed "work for hire" and shall remain the exclusive property of the County. The ESCO shall use its best efforts to ensure all copies of the Design Materials are delivered or returned to the County or suitably accounted for upon the County's request or upon final payment, whichever is earlier. The ESCO may retain one copy of the Design Materials for its records, but shall not use such copies for any purpose other than with respect to the Contract Services without the County's prior written consent.

B. Project Documents and Deliverables. The ESCO and the County agree that, to the extent permitted by law, the Project Documents and Deliverables which are not Design Materials and which are not already subject to Intellectual Property Protections shall, upon the preparation thereof and at all times and in all events thereafter, be conclusively deemed "works for hire" within the meaning and purview of the copyright laws of the United States. To the extent any such and Project Documents and Deliverables do not qualify as a "work made for hire", the ESCO hereby irrevocably grants, assigns and transfers all rights title and interest in such Deliverables and Project Documents to the County. The County will be the sole owner of such Project Documents and Deliverables, including all components and elements in which copyrights can subsist and of all rights to apply for copyright registration or to prosecute any claims for infringement. To the extent necessary to transfer property rights in Project Documents and Deliverables to the County, this Contract constitutes a Bill of Sale from the ESCO and

all of its Subcontractors in favor of the County for the Project Documents and Deliverables. The ESCO, for itself and for and on behalf of its Subcontractors, agents and employees, does hereby sell, assign and transfer to the County absolutely free and clear of all liens, interests, claims and encumbrances, all such Deliverables as and when prepared or received, subject only to a license in favor of the ESCO, its Subcontractors, agents and employees to use the same in the performance of their duties and obligations under this Contract. During the performance of the Contract, the ESCO shall be responsible of any loss or damage to the Project Documents and Deliverables while they are in ESCO's possession, and any such loss or damage shall be restored at the expense of the ESCO. The County and its designees shall be afforded full access to the Project Documents and Deliverables at all times.

C. License for the Use of Proprietary Project Documents and Deliverables As to those Project Documents and Deliverables which are already subject to any Intellectual Property Rights of the ESCO or a Subcontractor ("Proprietary Project Documents and Deliverables"), the ESCO hereby grants and will cause to be granted and delivered to the County from the ESCO and such Subcontractors a paid-up, non-exclusive, world-wide, irrevocable, transferable license, for the term of the Intellectual Property Rights, for the County to use, reproduce and have reproduced, and for the County to allow others to use, reproduce and have reproduced the Proprietary Project Documents and Deliverables and any derivative thereof, subject to the restrictions set forth below:

1. All Intellectual Property Rights in or relating to any of such Proprietary Project Documents and Deliverables shall remain the property of the ESCO or the appropriate Subcontractor, whether or not the Project is completed; and

2. The County shall not, without the prior written consent of the ESCO, use such Proprietary Project Documents and Deliverables, in whole or in part, for the construction of any other project. The County may, however, at no cost to the County, use such Proprietary Project Documents and Deliverables (i) for completion of the Project and the Services by others upon termination of this Contract or termination of the ESCO's right to perform all or any portion of the Services, and (ii) for the construction, operation, maintenance and repair of (and for additions, improvements, changes or alterations to) the Project after its completion.

D. License for Software. To the extent any ECM or any Deliverables involve the use of software which are proprietary to the ESCO (which for purposes of this Section shall include all subcontractors of ESCO under this Contract), ESCO grants the County a license for the County to operate the software as intended after Final Acceptance of the Project. The ESCO shall provide for automatic updating and shall offer upgrades of such software and propriety materials for so long as the software is made available to customers. Unless in violation of a third party software license (which shall not be deemed to include ESCO or any Subcontractors), nothing in this Contract prevents the County from using any such software to create custom versions which are suitable for use in the Facilities or other County property.

E. License Fees, Royalties and Patents. The ESCO will pay all copyright, patent and intellectual property royalties and license fees related to the Services and the Work which are not included in the purchase price of products and equipment. All fees for any patent invention, article, or arrangement or other appurtenances that may be used upon or in any manner connected with the construction, erection, or maintenance of the Work, or any part thereof embraced in the Contract Documents, shall be included in the price stipulated in the Contract for said Work. The approval of any method of construction, invention, appliance, process, article, device, or material of any kind by the County shall only be approval of its adequacy for the Work and shall not be approval of the use thereof by the ESCO in violation of any patent or other rights of any third person. The ESCO shall indemnify

and hold harmless the County for claims violations of intellectual property rights as set forth in Section 11.E.

## SECTION 16. DISPUTES.

A. Presentation of Dispute. Except as regards matters covered under Section 16C regarding Substantial Completion or the potential cost of Change Orders, if the ESCO disputes any decision by the County, then the ESCO shall present such dispute to the Director of the Office of Capital Planning and Policy. If any disputes remain unresolved after twenty (20) days of such presentation, the ESCO may give written notice thereof to the County, requesting that the Chief Procurement Officer decide the dispute. The notice shall include a description of the dispute, specify the provisions of this Contract relating to the dispute, and state whether the dispute was previously presented to the Director of the Office of Capital Planning and Policy. Upon request of the Chief Procurement Officer, the Director of the Office of Capital Planning and Policy shall submit to the Chief Procurement Officer a written response to the notice, and shall send a copy of the response to the ESCO. The Chief Procurement Officer's decision on the dispute shall be rendered in writing, and shall be furnished to both the Director of the Office of Capital Planning and Policy and the ESCO. Dispute resolution as provided herein shall be a condition precedent to any other action by the ESCO at law or in equity and, except as set forth in this Contract, nothing herein shall be deemed to deprive the ESCO of other remedies available to it at law or in equity.

B. Continuation of Services. Notwithstanding any dispute, the ESCO shall continue to discharge all of its obligations, duties and responsibilities under this Contract as interpreted and directed by the Director of the Office of Capital Planning and Policy during the pendency of dispute resolution proceedings pursuant to this Section

C. Disputes Concerning Substantial Completion or the Cost of Change Orders. Any disputes concerning Substantial Completion of the Work or the cost of Change Orders will be submitted for dispute resolution to a third party professional engineering firm ("Engineer Neutral"), which firm shall be reasonably acceptable to both the ESCO and the County. The Engineer Neutral shall be authorized to make determinations and bind the Parties on issues related solely to technical interpretations regarding the adequacy of the Design & Engineering Documents or the execution and/or completion of the Work embodied in the Design & Engineering Documents as it relates to the determination of Substantial Completion or the correct calculations of the cost of potential Change Orders when the parties are in dispute on such issue. The Engineer Neutral shall not have the authority to render determinations regarding delay claims, payment disputes or any other Contract disputes that do not involve or arise out of the content of the Design & Engineering Documents and/or the quality of the execution of the Work. All disputes beyond the authority of the Engineer Neutral shall be resolved pursuant to Section 16.A and the Engineer Neutral shall have no authority to order the County to enter into Change Orders or to make any payments. The determination of the Engineer Neutral with respect to the matters covered in this Section 16.C will be final and not subject to further dispute by the parties. The ESCO and the County shall share equally the costs or fees for such firm in connection with such dispute resolution process.

## SECTION 17. DEFAULT AND TERMINATION.

### A. Events of Default

1. Default by County. The County will be in default hereunder if any material breach of this Contract by the County occurs which is not cured by the County within forty-five (45) days after written notice has been given by the ESCO to the County, setting forth the nature of such breach; provided that the County shall get such reasonable additional time as is needed, if the County has commenced the cure for such breach within the forty-five (45) day period and is diligently pursuing a cure for such breach.

2. Default by ESCO. The following constitute material breaches of this Contract by the ESCO, which if not cured as set forth in Section 17.B.1 will constitute a "Default:"

(i) Any material misrepresentation, whether negligent or willful and whether in the inducement or in the performance, made by ESCO to the County.

(ii) ESCO's material failure to perform any of its obligations under this Contract including, but not limited to the following:

(a) Failure due to a reason or circumstances within ESCO's reasonable control to perform the Services with sufficient personnel and equipment or with sufficient material to ensure the performance of the Services;

(b) Failure to perform the Services in a manner reasonably satisfactory to the Project Director, the Director of Capital Planning and Policy, or the Chief Procurement Officer or inability to perform the Services satisfactorily as a result of insolvency, filing for bankruptcy or assignment for the benefit of creditors;

(c) Failure to promptly re-perform within a reasonable time Services that were rejected as erroneous or unsatisfactory;

(d) Discontinuance of the Services for reasons determined by the Chief Procurement Officer to be within ESCO's reasonable control; and

(e) Failure to comply with any other material term of this Contract, including the provisions concerning insurance and nondiscrimination.

(f) Failure to provide adequate notice of a change of control of the ESCO, together with a failure of the successor entity to provide adequate assurance of continued Services meeting the requirements of this Contract within a reasonable time following such change of control.

(g) ESCO's default under the Performance Guarantee or any other agreement it may presently have or may enter into with the County during the life of this Contract: ESCO acknowledges and agrees that in the event of a default under this Contract the County may also declare a default under any such other contracts or agreements.

(h) Failure to comply with Division 8 of the County Procurement Code, consisting of Chapter 34-260 to 34-289 during the performance of this Contract.

(i) ESCO's repeated or continued violations of County ordinances unrelated to performance under the Contract that in the opinion of the Chief Procurement Officer indicates a willful or reckless disregard for County laws and regulations.

B. County's Remedies on Default

1. Notice and Cure. In case of an event of default, as described in Section 17A.2., the ESCO shall have thirty (30) days after written notice is given to the ESCO by the County, setting forth the nature of such default to cure such default; provide that there shall be no cure period if the ESCO fails to respond within forty-eight (48) hours in case of notice of emergency conditions or in case of fraud or willful misconduct or gross negligence on the part of the ESCO or its Subcontractors. Except for the foregoing, if the nature of such breach is such that it cannot be cured or corrected within said thirty (30) day period, the Chief Procurement Officer may grant the ESCO have any additional period reasonably necessary to cure or correct such breach, as long as ESCO has commenced to cure or correct such breach within such thirty (30) day period and does, in fact, cure or correct such breach as soon as reasonably practicable, provided, however, that such additional period for cure shall not exceed one hundred and twenty days (120) days. Whether to declare ESCO in default is within the sole discretion of the Chief Procurement Officer and neither that decision nor the factual basis for it is subject to review or challenge under the Disputes provision of this Contract; provided that, except as set forth in this Contract, nothing herein shall be deemed to deprive the ESCO of other remedies available to it following a finding of default by the Chief Procurement Officer.

The Chief Procurement Officer will give ESCO written notice of the default, either in the form of a cure notice ("Cure Notice"), or, if no opportunity to cure will be granted, a default notice ("Default Notice"). If the Chief Procurement Officer gives a Default Notice, he or she will also indicate any present intent to terminate this Contract, and the decision to terminate (but not the decision not to terminate) is final and effective upon giving the notice. The Chief Procurement Officer may give a Default Notice if ESCO fails to affect a cure within the cure period given in a Cure Notice. When a Default Notice with intent to terminate is given, ESCO will discontinue any Services, unless otherwise directed in the notice, and deliver all materials accumulated in the performance of this Contract, whether completed or in the process, to the County. After giving a Default Notice, the County may invoke any or all of the following remedies:

2. Right to Withhold Payments. Except in the case and to the extent provided in Section 17.B.1, when the County elects to continue using ESCO's services, County will have the right to withhold payments owed to the ESCO until such time as the ESCO has cured the breach or noncompliance which is the subject matter of the notice.

3. Right to Terminate. If the ESCO fails to remedy a material breach during the cure period pursuant to Section 17.B.1, the County will have the right to terminate this Contract; provided, however, that the County will give the ESCO five (5) days prior written notice of termination. In the event of termination, the County reserves the right to elect to continue using the ESCO's services in whole or in part for the period of time necessary to allow the County to obtain and implement replacement services and therefore may specify in its notice of termination that the termination will not take effect until replacement services are obtained. The ESCO will agree to cooperate with the implementation of the replacement services should the County so request. During such transition period all terms and conditions of this Contract will be in full force and effect.

4. Right to Continue Using Services. In all events of termination, the County may elect to continue using the ESCO's existing services in full until the effective date of termination, as described above; increase monitoring and oversight of the ESCO's operations; or substitute County's designees for the ESCO's personnel utilizing the ESCO's facilities pending the implementation of replacement services. Any increased monitoring or oversight of the ESCO by the County will be done in a way that does not interfere with the ESCO's ability to effectively and efficiently perform its work.

5. Non-Performance; Delays. The ESCO will be liable to the County for reasonable expenses incurred by the County, including court costs, as the result of the ESCO's non-performance or delay in the performance of the service required by the terms of this Contract, to the extent that such expenses are not caused by persons or events beyond the ESCO's control.

6. Compensation Due as of Termination. All compensation due the ESCO will be calculated based upon the terms of Section 4 to the effective date of termination and will be paid to the ESCO except where the County may have a claim or dispute with regard to such payment.

7. Taking Over of Work. If this Contract is terminated by the County as a result of the ESCO's default and the County does not elect to continue using the ESCO's services, the termination will be effective at the expiration of the five (5) day notice period and the County may take over and complete the ESCO's work or it may contract with others for such completion. In such event, the ESCO will be liable to the County for any additional costs incurred by the County for such completion. After County has secured replacement services or taken over the work itself, the ESCO will within fourteen (14) days remove any and all of the ESCO's personnel, products and equipment, unless such items remain with the County pursuant to the terms of this Contract.

8. Turnover of Project Documents and Deliverables. In the event of termination of this Contract by the County, all finished and unfinished documents, data, studies and reports and other Deliverables prepared by the ESCO, its Subcontractors, agents and employees and any other County property in the ESCO's custody will be transmitted to the County within seven (7) days after the date of termination of this Contract and payment by County of all undisputed amounts due to ESCO as of the termination. The ESCO hereby assigns to the County, to the extent it is able to do so, all the right, title and interest of the ESCO in and to all subcontracts and consulting agreements and contracts to be effective without further action of the parties hereto upon the termination of this Contract.

9. All Remedies Available. If the Chief Procurement Officer considers it to be in the County's best interests, he or she may elect not to declare default or to terminate this Contract. The parties acknowledge that this provision is solely for the benefit of the County and that if the County permits ESCO to continue to provide the Services despite one or more events of default, ESCO is in no way relieved of any of its responsibilities, duties or obligations under this Contract, nor does the County waive or relinquish any of its rights. The remedies under the terms of this Contract are not intended to be exclusive of any other remedies provided, but each and every such remedy is cumulative and is in addition to any other remedies, existing now or later, at law, in equity or by statute, including, but not limited to, actions for damages and set-offs. No delay or omission to exercise any right or power accruing upon any event of default impairs any such right or power, nor is it a waiver of any event of neither default nor acquiescence in it, and every such right and power may be exercised from time to time and as often as the County considers expedient.

10. Reimbursement. The County will be entitled to reimbursement from ESCO for any costs or expenses incurred by County due to a default.

C. ESCO's Remedies. If, through no fault of the ESCO, the County fails to make payments to ESCO as set forth in Section 17.A.1 and Exhibit J, ESCO may, after the expiration of the cure period described in Section 17.A.1, terminate the Contract; provided, however, that the ESCO will give the County thirty (30) days prior written notice of termination. Upon payment of all undisputed amounts, in the event of termination, the County will have the right to continue using the ESCO's services in full for a reasonable period of time until County will have replaced such services. The ESCO

will agree to cooperate with the implementation of the replacement services should the County so request. During such transition period all terms and conditions of this Contract will remain in full force and effect. All compensation due the ESCO will be calculated based upon the terms of Section 4 and Exhibit J. to the date of termination and will be paid to the ESCO except where the County may have a claim or dispute with regard to such payment. The ESCO may include for termination payment materials delivered to the Facilities and applicable cancellation fees for equipment orders if lead times for those equipment orders have been provided in the Design & Engineering documents pursuant to Section 7.B of this Contract. However, no payments will be made for Work not actually performed, and no payment will be made or due for lost profits for portions of the Work not actually performed.

D. Removal of ESCO's Personnel, Property. After replacement services have been secured and are operational the ESCO will within fourteen (14) days remove any and all of the ESCO's personnel, products and equipment, unless such items remain with the County pursuant to the terms of this Contract.

E. Excess Costs. The County may offset any excess costs incurred: (i) if the County terminates this Contract for default or any other reason resulting from ESCO's performance or non-performance; (ii) if the County exercises any of its remedies under Section 17.B of this Contract; or (iii) if the County has any credits due or has made any overpayments under this Contract. The County may offset such excess costs by use of any payment due for Services completed before the County terminated this Contract or before the County exercised any remedies. If the amount offset is insufficient to cover those excess costs, the ESCO is liable for and will promptly remit to the County the balance upon written demand for it. This right to offset is in addition to and not a limitation of any other remedies available to the County.

F. Termination of Contract and Refund. In the event this Contract is terminated by either party, for cause or otherwise, and the County has prepaid for any Deliverables, the ESCO shall refund to the County, on a prorated basis to the effective date of termination, all amounts prepaid for deliverables not actually provided as of the effective date of the termination. The refund shall be made within fourteen (14) days of the effective date of termination.

G. Remedies Available. Subject to the requirement of dispute resolution under this Contract, the ESCO will have the right to pursue monetary remedies available in law or equity. In all cases the ESCO's damages will be those provable direct monetary damages not to exceed the value of this Contract as awarded by the County's Board of Commissioners, less the expenses saved in not having to perform this Contract. This notwithstanding, due to the critical nature of this Contract, the ESCO will not unilaterally disrupt the operation or unilaterally repossess any component thereof. ESCO agrees that no financial charges or claims shall be made by ESCO for any delays or hindrances whatsoever during the progress of this Contract and that, if the County terminates this Contract, the ESCO may not seek reinstatement of this Contract.

H. Termination for Convenience. The County may terminate this Contract, terminate a portion of the ESCO's services under this Contract, or reduce the scope of the Project, the ESCO's services or both, at any time by notice in writing from the County to the ESCO. If the Contract is terminated by the County (i) all services under this Contract will cease except for the completion of any reports, analyses or other tasks previously begun as requested and approved by the Project Director in the notice of termination or thereafter in writing and (ii) provided that the County has made payment for all undisputed amounts then owing for Work performed prior to such notice of termination, the ESCO shall deliver to the County all finished or unfinished documents, data, studies and reports prepared by or on behalf of the ESCO under this Contract within 10 days after the date the notice of termination is

considered to be delivered or from the effective date of the termination given in the notice, and these shall be and become the property of the County. Payment for the work performed before the effective date of such termination shall be based upon services actually rendered in accordance with the Cost Loaded Schedule. Such payment so made to the ESCO shall be full settlement for services actually and satisfactorily rendered under this Contract and ESCO's sole remedy. If the County terminates a portion of the ESCO's services under this Contract or reduces the scope of the Project or the ESCO's services, the County and ESCO will negotiate in good faith a reduction in the ESCO's compensation to reflect the value of the services performed and to be performed. No amount of compensation, however, is permitted for anticipated profits or on unperformed services. The ESCO will include in its contracts with its Subcontractors a provision in form and substance equivalent to this termination provision to prevent claims against the County arising from termination of subcontracts in the event of a termination for convenience. The ESCO waives any claims against the County resulting from any subcontractor's claims due to termination for convenience. If the County's election to terminate this Contract for default under Sections 17.C.3 is determined in a court of competent jurisdiction to have been wrongful, then in that case the termination is to be considered to be termination for convenience under this Section 17.J.

I. Termination for Lack of Receipt of Necessary Approvals or Non-appropriation of Funds. Notwithstanding anything to the contrary contained in this Contract, this Contract is expressly contingent upon receipt by the County of all necessary approvals to complete the Project from applicable federal, state and local authorities; provided however, that nothing contained herein will be deemed to impose upon the County a requirement for obtaining any permits or other approvals that are generally required to be obtained by the ESCO. In the event the County does not obtain approval for the Project or any phase, portion thereof or if such approval has been cancelled, rescinded or modified, this Contract or, at the County's election, that part of this Contract attributable to the phase or portion not approved, cancelled, rescinded or modified will be terminated without further action by either party and thereupon neither party will have any further liability or obligation to the other with the exception of the payment by the County to the ESCO of Services actually rendered in accordance with the Cost Loaded Schedule. Such payment so made to the ESCO will be full settlement for services rendered under this Contract and ESCO's sole remedy. If no funds or insufficient funds are appropriated and budgeted in any fiscal period of the County for payments to be made under this Contract, then the County will notify ESCO in writing of that occurrence, and this Contract will terminate on the earlier of the last day of the fiscal period for which sufficient appropriation was made or whenever the funds appropriated for payment under this Contract are exhausted. Payments for Services completed to the date of notification will be made to ESCO and any payment so made shall be in full settlement for services satisfactorily performed under the Contract. No payments will be made or due to ESCO and under this Contract beyond those amounts appropriated and budgeted by the County to fund payments under this Contract.

J. Suspending the Work. The County shall have the absolute right to suspend the Project. Where the County suspends the Project any work performed by the ESCO during such suspension period shall be at the ESCO's sole risk and the County shall not be responsible for any compensation or delay damages on account of such suspension period. The ESCO agrees to keep such Key Personnel reasonably available during all suspension periods which do not exceed ninety (90) days and the County shall not unreasonably withhold any approvals of proposed changes in Key Personnel during the County's suspension of the Work so long as in the reasonable opinion of the Project Director, such proposed change does not adversely affect the Contract Services or the performance of the Project and the Work.

K. Reduction of Services. The County reserves the right to reduce the scope of services set forth in this Contract. In the event the County reduces the scope of services, the ESCO shall be entitled to compensation for Services actually rendered in accordance with Section 4 and Exhibit J.

## SECTION 18. ASSIGNMENT.

A. No ESCO Subcontracting or Assignment without Approval. The ESCO may not assign this Contract or the Contract Documents, in whole or in part, without the prior written consent of the County, which approval shall not be unreasonably withheld or delayed as to affiliates and otherwise in its sole discretion, nor shall ESCO assign any moneys due or claims due or to become due to it under the Contract Documents without the prior written consent of the County, in its sole discretion. Any assignment of monies due under the Contract Documents made without the prior written consent of the County is void, and the assignee in that case acquires no rights against the County. In no case shall such consent relieve the ESCO from its obligations or change the terms of the Contract. The unauthorized assignment or sub-contracting of the Contract, in whole or in part, or the unauthorized transfer or assignment of any Contract funds, either in whole or in part, or any interest therein, which shall be due or are to become due to the ESCO shall have no effect on and are void so far as the County is concerned.

B. County Assignment. County may assign this Contract and the Contract Documents in its sole discretion to (i) a lender for collateral purposes, or (ii) any entity wholly owned or controlled by the County. The County may assign this Contract to any other entity approved in advance by the ESCO, which approval shall not be unreasonably withheld or delayed.

C. Permitted Assigns. This Contract shall be binding upon, and inure to the benefit of, the successors and permitted assigns of the Parties.

## SECTION 19. REPRESENTATIONS AND COVENANTS

A. ESCO's Representation of Authority. The ESCO represents and warrants that the ESCO is authorized to do business in the State of Illinois and is properly licensed by all necessary governmental and public and quasi-public authorities having jurisdiction over the services required hereunder. The ESCO hereby represents and warrants that the person executing this Contract on behalf of the ESCO is duly authorized to do so and has submitted documentation evidencing such authority, and this Contract is a legal, valid and binding obligation of the ESCO, enforceable against the ESCO in accordance with its terms, subject to bankruptcy, equitable principles and laws affecting creditor's rights generally.

B. Financial Capacity. The ESCO represents and warrants that the ESCO is financially solvent, able to pay its debts as they mature and possesses sufficient working capital to complete the services required and perform the obligations hereunder based on timely payments by the County and will promptly give to the County written notice of any material adverse change in the financial condition of the ESCO.

C. Joint and Several Liabilities. Notwithstanding anything to the contrary contained in this Contract, if the entity which is the ESCO hereunder is a partnership or a joint venture, each and every covenant, agreement, indemnity and obligation of the ESCO under the terms of this Contract is a covenant, agreement, indemnity and obligation undertaken by each partner or joint venture partner, as the case may be, in the entity which is the ESCO (collectively, "Joint Venture Partners") jointly and severally, individually and collectively and all covenants, agreements, indemnities and obligations of ESCO will be performed and observed by any one of the Joint Venture Partners regardless of the performance or non-performance of such covenants, agreements, indemnities or obligations by any of the other Joint Venture Partners.

D. Ability to Perform. The ESCO represents and warrants that the ESCO is able to furnish the professional services, and any materials, supplies, equipment and labor required to complete the Services required hereunder and perform all of its obligations and has sufficient experience and competence to do so. All personnel providing services on the Project will be qualified by training, licensing, and experience to perform their assigned tasks.

E. Familiarity with Project. The ESCO represents and warrants that the ESCO is familiar with the requirements of the Project and this Contract, and has carefully examined the provisions and requirements of this Contract; it understands the nature of the Services required; from its own assessment it has satisfied itself as to the nature of all things needed for the performance of this Contract; this Contract is feasible of performance in accordance with all of its provisions and requirements, and the ESCO warrants it can and will perform, or cause to be performed, the Services in strict accordance with the provisions and requirements of this Contract; and the ESCO or its Subcontractors are experienced in the areas of planning, designing, and performing architecture and engineering services in regard to these ECMs and the Services, and will employ the services of others experienced in the areas of planning, designing, and performing architecture and engineering, and other services required of the ESCO under this Contract. The ESCO has the necessary skill, financial resources and personnel to successfully complete its services under this Contract.

F. Adequate Review. The ESCO represents and warrants that the ESCO was given ample opportunity and time and was hereby requested by the County to review thoroughly all documents forming this Contract prior to execution of this Contract in order that it might request inclusion in this Contract of any statement, representation, promise or provision that it desired or on that it wished to place reliance. The ESCO did so review these documents, and either every such statement, representation, promise or provision has been included in this Contract or else, if omitted, the ESCO relinquishes the benefit of any such omitted statement, representation, promise or provision and is willing to perform this Contract in its entirety without claiming reliance on it or making any other claim on account of its omission.

G. No Criminal Proceedings. The ESCO has not received notice, or has no reasonable basis for believing, that it or any of its officers are the subject of any criminal action, complaint or investigation pertaining to any felony charge, or any civil action or claim predicated on alleged acts of anti-trust violations; business fraud; discrimination due to race, creed, color, handicap, gender, marital status, age, national origin, religious affiliation; or failure to fulfill any obligation required by law or contract pertaining to affirmative action. The ESCO will secure the same representation and warranty from its Subcontractors and agents performing the ESCO's obligations under this Contract.

H. True and Correct Statements. The statements of the ESCO contained herein and any and all documents submitted by or on behalf of the ESCO pursuant to this Contract are and will be true and correct in all material respects, and neither this Contract nor any of such documents omits or will omit any material fact necessary to make the statements of the ESCO contained herein or therein, when delivered to the County, in light of the circumstances under which they were made, not misleading. The ESCO will provide prompt notice to the County whenever any representation or warranty herein ceases to be true or correct. The ESCO warrants and represents to the County that the disclosures and certifications set forth on Exhibit O are and shall remain true and correct.

I. No Auditing Services. The ESCO represents and certifies that neither it nor any of its "Affiliates" has any Contract or contract with the County regarding Auditing Services for or with the County. The ESCO will not consent to a subcontract with Subcontractors which Subcontractors or any of its "Affiliates" has an agreement or contract with the County regarding Auditing Services. The terms "Auditing Services" and "Affiliates" have the meanings set forth in Section 34-12 of the Cook County Code.

J. Additional Representations Regarding Delinquencies Under County Codes. Setoff. ESCO represents and certifies that neither it, nor to the best of its knowledge, any of its Subcontractors, is disqualified from entering into an agreement with the County because of (a) a delinquency in the payment of any tax, fee or debt to the County or a determination of status as a "predatory lender" under Section 34-171 of the County Codes; (b) a disqualification for noncompliance with child support orders under Section 34-172 of the County Codes; (c) a disqualification for illegal activities under Section 34-173 of the County Codes; (d) a disqualification for willful violation of the Cook County Independent Attorney General Ordinance under Section 34-174 of the County Codes ;(e) has been found liable for making false statements of material fact to the County under Section 34-175 of the County Codes; or (f) disqualification due to contract default or termination for cause by the County within the last 24 months under Section 34-170 of the County Codes.

#### SECTION 20. OTHER CONDITIONS OR PROVISIONS.

A. Governing Law and Venue. This Contract shall be governed by the laws of Illinois. The ESCO irrevocably agrees that, subject to the County's sole and absolute election, any action or proceeding in any way, manner or respect arising out of this Contract, or arising from any dispute or controversy arising in connection with or related to this Contract, shall be litigated only in the courts having situs within the City of Chicago, the County of Cook, the State of Illinois, and the ESCO consents and submits to the jurisdiction of any local, state or federal court located within such City, County and State. The ESCO waives any right it may have to transfer or change the venue of any litigation brought against it by the County in accordance with these provisions.

B. Severability. The parties agree that to the extent a court of competent jurisdiction shall determine that any part or provision of this Contract is unenforceable as a matter of law, such part or provision of this Contract shall be deemed severable and the remainder of this Contract shall survive.

C. Waiver. No term or provision of this Contract shall be deemed waived and no breach consented to unless such waiver or consent shall be in writing and signed by the party claimed to have waived or consented. The waiver of any such provision shall not be a waiver of the provision itself or a waiver or consent to any subsequent breach.

D. Relationship of the Parties. The ESCO and its employees, agents and subcontractors are independent contractors and not employees of the County. Nothing contained in this Contract shall be deemed or construed by the parties hereto, or by any third party, as creating a relationship of principal and agent, or of partnership, or of joint venturers, or any relationship between the parties other than that of independent contractor. The rights and duties contained herein shall not inure to the benefit of any third party, except as specifically provided herein.

E. Amendment. No amendment to this Contract shall be effective until and unless reduced to writing and executed by the Parties.

F. Entire Contract. This Contract includes the Contract and the following exhibits and attachments incorporated herein by this reference: Exhibit A, Board Authorization Letter; Exhibit B, List of Energy Conservation Measures (ECMs) & Facilities, Utility Meters and Design Document Submittals; Exhibit C, Project Description and Scope of Services, Exhibit D, List of Subcontractors by Type of Service; Exhibit E, Key Personnel; Exhibit F, Project Schedule; Exhibit G, Savings Guarantee; Exhibit H, Measurement & Verification Services, Exhibit I Measurement and Verification Services Payments; Exhibit J, Schedule of Values; County Guidelines on Invoices; Exhibit K, Maintenance Services by ESCO; Exhibit L, Insurance Requirements and Certificates; Exhibit M, Required Maintenance by County; Exhibit N, Certificate Forms; Exhibit O, Economic Disclosure Statements; Exhibit P, Supplemental County Conditions; Exhibit Q, Cook County Warranty Matrix by Building;; Exhibit R, Warranties; Exhibit S, Modifications to Energy Audit Documents; ; Exhibit T, Standards of Service; Exhibit U, Commissioning Plan; Exhibit V, Training Plan; Exhibit W, Form of Bonds, including Certifications and Execution Forms. It is expressly agreed that the provisions set forth in these Contract Documents, together with all attachments and Exhibits thereto, constitute all the understandings and agreements between the parties. Any prior agreements, promises, negotiations, or representations not expressly set forth in the Contract Documents are of no force and effect.

G. Statute of Limitations. Notwithstanding anything provided herein or by applicable law, the parties agree that in no event shall the statute or statutes of limitation applicable to any part of the ESCO's Work and the Work provided by the ESCO's Subcontractors, ESCOs and agents, be deemed to commence until after Final Acceptance of the entire Project or in the case of termination, at such termination, to the extent consistent with law.

H. Rights Cumulative. Except as otherwise provided in this Contract, (i) rights and remedies available to the County and/or the ESCO as set forth in this Contract shall be cumulative with and in addition to, and not in limitation of, any other rights or remedies available to the Parties at law and/or in equity, and (ii) any specific right or remedy conferred upon or reserved to the County and/or the ESCO in any provision of this Contract shall not preclude the concurrent or consecutive exercise of a right or remedy provided for in any other provision hereof.

I. Further Assurances. Each Party hereto shall, from time to time, at the request of the other Party and without further consideration, execute and deliver and cause to be executed and delivered such other instruments and take such other actions as the requesting Party may reasonably request to undertake the Contract Services and carry out the intent and purposes of this Contract.

J. Notices. Any information or notices required to be given under this Contract shall be in writing and shall be delivered either by (i) certified mail, return receipt requested, in which case notice shall be deemed delivered three (3) business days after deposit, postage prepaid, in the U.S. mail; (ii) a reputable messenger service or a nationally recognized overnight courier, in which case notice shall be deemed delivered one (1) business day after deposit with such messenger or courier; or (iii) personal delivery with receipt acknowledged in writing, in which case notice shall be deemed delivered when received. All notices shall be addressed as follows:

If to the County:

PURCHASING AGENT  
County of Cook

1018 County Building  
118 North Clark Street  
Chicago, Illinois 60602  
(Reference Project and County Contract Document Number)

WITH A COPY TO:  
OFFICE OF CAPITAL PLANNING AND POLICY  
69 West Washington Street, 30th Floor  
Chicago, Illinois 60602  
Attention: Director

If to ESCO:

David G. Mannherz  
Executive Vice President  
1 Research Drive, Suite 400C  
Westborough, MA 01581

WITH A COPY TO:  
Adam M. Nee  
General Counsel

All project warranty and service notice, including extended services and manufacturers' warranties following Final Acceptance (other than regularly scheduled payments) shall be deemed properly given upon receipt if delivered in person or sent by electronic mail with regular mail follow-up to the following:

Ray Smudde  
[rsmudde@noresco.com](mailto:rsmudde@noresco.com)  
2800 South River Road  
Des Plaines, IL 60018

Copy to:  
Michael Raizer  
[mraizer@noresco.com](mailto:mraizer@noresco.com)

The foregoing addresses may be changed from time to time by notice to the other Party in the manner set forth above.

K. Counterparts. This Contract may be executed in counterparts, each of which shall be deemed an original, and all of which counterparts shall constitute one Contract. To facilitate execution of this Contract, the Parties may execute and exchange facsimile counterparts of the signature pages, provided originally executed signature pages are exchanged promptly thereafter.

L. Headings. The headings of articles and Sections in this Contract are included for convenience only and shall not be considered by either party in construing the meaning of this Contract.

M. Survival. All the covenants, indemnities, representations and warranties of the ESCO and the County, respectively, contained in this Contract shall survive the consummation or termination of this Contract.

N. Certifications Pursuant To County Ordinances And State Laws. Execution of this Contract shall be made by executing the Economic Disclosure Statement, including certifications and execution forms, attached to this Contract and, by this reference, incorporated into and made a part of this Contract.

O. Tax and Fee Delinquency; Cook County Code, Chapter 34, Section 34-130. The County is entitled to set off a portion of a contract price equal to the amount of the fines and penalties for each tax or fee delinquency and any debt owed by a contracting party to the County. The ESCO hereby agrees that it is subject to the provisions of this Section.

P. Disqualification For Non-Performance Cook County Ordinance Chapter 10, Section 7.3. No person or business entity will be awarded a contract or subcontract if that person or business entity has had an awarded contract terminated for cause by the County's Board of Commissioners. The period of ineligibility will continue for 24 months from the date the County's Board of Commissioners terminates the contract. The ESCO hereby represents and warrants to the County that the ESCO has not had an awarded contract terminated for cause by the County's Board of Commissioners within 24 months prior to the Effective Date.

Q. Exemption from Certain Taxes. Federal Excise Tax does not apply to materials purchased by the County by virtue of Exemption Certificate No. 36-75-0038K. Retailers' Occupation Tax, Use Tax and Municipal Retailers' Occupation Tax do not apply to materials or services purchased by the County by virtue of statute. The price or prices quoted herein will include any and all other Federal and/or State, direct and/or indirect taxes which apply to this transaction. Cook County's State of Illinois Sales Tax Exemption Identification is E-9998-2013-01.

R. No Third Party Beneficiaries; Non-Liability Of Public Officials. The rights and duties contained herein will not inure to the benefit of any third party, except as specifically provided herein. ESCO and any assignee or Subcontractors of ESCO will not charge any official, employee or agent of the County personally with any liability or expenses of defense or hold any official, employee or agent of the County personally liable to them under any term or provision of this Contract or because of the County's execution, attempted execution or any breach of this Contract.

S. Financing Assistance. To the extent requested by the County, the ESCO will assist the County in regard to any financing methods the County may select to finance costs of the Project. To the extent any such financing methods will result in additional direct costs to the ESCO, such additional direct costs shall be addressed through a modification or amendment to the Contract.

T. Execution. Execution of this First Amendment shall be made by execution of the Economic Disclosure Statement Attached hereto and made a part hereof as Exhibit O.

U. Incorporation by Reference. The recitals set forth on the first few pages of this Contract, as well as the following Exhibits attached hereto, are hereby incorporated into this Contract by this reference and expressly made a part of this Contract:\

Exhibit A	Board Authorization Letter
Exhibit B	List of Energy Conservation Measures (ECMs) & Facilities, Utility Meters, and Design Document Submittals
Exhibit C	Project Description and Scope of Services
Exhibit D	List of Subcontractors by Type of Service
Exhibit E	Key Personnel
Exhibit F	Project Schedule
Exhibit G	Savings Guarantee
Exhibit H	Measurement and Verification Plan
Exhibit I	Measurement & Verification Services Payments
Exhibit J	Schedule of Values; County Guidelines on Invoices
Exhibit K	Maintenance Services by ESCO
Exhibit L	Insurance Requirements and Certificates
Exhibit M	Required Maintenance by County
Exhibit N	Certificate Forms
	1. Notice to Proceed
	2. Substantial Completion
	3. Final Acceptance
Exhibit O	Economic Disclosure Statements
Exhibit P	Supplemental County Conditions
	1. Prevailing Wage and Davis Bacon Provisions
	2. Special Facilities Access and Security Provisions
	3. Carryforward Provisions from Exhibit B to Phase I Audit Agreement
Exhibit Q	Warranty Matrix by Building
Exhibit R	Warranties
Exhibit S	Modifications of Energy Audit Documents
Exhibit T	Standards of Service
Exhibit U	Commissioning Plan
Exhibit V	Training Plan
Exhibit W	Form of Bonds

# Exhibit A

NORESCO, LLC (PROPOSED CONTRACT AMENDMENT). Transmitting a Communication dated June 19, 2012 from Herman Brewer, Chief, Bureau of Economic Development:

requesting authorization for the Chief Procurement Officer to enter into a First Amendment to the Guaranteed Energy Performance Contract (GEPC) with Noresco, LLC, Des Plaines, Illinois, for a Guaranteed Energy Performance Contracting Project. The GEPC was authorized by Board Action on July 27, 2011 and was executed by Noresco and Cook County on July 27, 2011. Phase I of this contract provided the investment grade energy audit revised at the Department of Corrections Juvenile Temporary Detention Center of Cook County. This First Amendment provides for Phase II, consisting of engineering and construction services for the Energy Conservation Measures (ECM) determined via the investment grade energy audit at the Department of Corrections Campus and the Juvenile Temporary Detention Center. Noresco, LLC was selected through a Request for Qualifications/Request for Proposal process as highly qualified and offering a competitive price.

Reason: This contract provides for a guaranteed energy performance contracting project at the Department of Corrections and the Juvenile Temporary Detention Center campuses. The goal of the project is to identify and implement identifying energy conservation measures (ECMs) that will result in at least a 10% reduction in emissions and energy costs as compared to a Base Year, throughout a 20 year financing period. Phase I consisted of an investment grade audit of 22 buildings on the Department of Corrections and Criminal Courts Campus and the Juvenile Temporary Detention Center. The ECMs are estimated to achieve cost savings sufficient to cover financing of the ECMs. The parties have negotiated in good faith the terms of Phase II, pursuant to which Noresco, LLC will perform engineering and construction services necessary to implement the agreed upon ECMs. The engineering and construction cost of the energy conservation measures will be \$34,228,060.00, with an annual projected savings of \$2,222,800.00.

This is a joint project undertaken by the Office of Capital Planning and Policy, the Department of Environmental Control and the Bureau of Finance. This is categorized as an energy efficiency project.

Estimated Fiscal Impact: \$34,228,060.00. Contract period: Two (2) years for construction, followed by 20 years of monitoring, commencing on the date of Board approval.

20000 County Physical Plant and 32000 Juvenile Temporary Detention Center.

The Chief Procurement Officer concurs.

**Exhibit B**

**List of Energy Conservation Measures (ECMs) & Facilities, Utility Meters and Design Document Submittals**

The following table indicates the Energy Conservation Measures (ECMs) to be installed by the ESCO at each facility included in this Guaranteed Energy Performance Contract

<b>NORESCO ESA Energy Conservation Measure Matrix for Cook County Department of Corrections</b>	<b>Lighting Retrofit</b>	<b>Tamper Proof Light Fixtures</b>	<b>LED Lighting Replacement</b>	<b>New Fire Tube Boilers</b>	<b>Steam Trap Repair/Replace</b>	<b>Replace Electric Chiller No. 08</b>	<b>New Electric Chiller No. 05</b>	<b>Install/Replace VFDs</b>	<b>CAV to VAV AHU Modifications</b>	<b>EMS Upgrade and Expansion</b>	<b>End Device Repair (EDR)</b>	<b>Replace Chilled Water Pumps</b>	<b>TRV Installation</b>	<b>Pipe Insulation</b>	<b>Solar Thermal Renewable Project</b>	<b>Submeter Installation</b>
Central Power Plant	✓			✓	✓	✓	✓			✓	✓					✓
CCAB	✓								✓	✓	✓	✓		✓		✓
CCB	✓								✓	✓	✓			✓		✓
Division 5	✓	✓								✓	✓			✓		✓
Division 9	✓	✓						✓		✓	✓			✓		✓
Division 11	✓	✓								✓	✓					✓
South Administration No. 01	✓												✓	✓		✓
South Administration No. 02	✓									✓				✓		✓
South Administration No. 03	✓												✓	✓		✓
South Administration No. 04	✓												✓			✓
South Administration No. 05	✓									✓				✓		✓
JTDC East	✓							✓		✓	✓					
JTDC West	✓							✓		✓	✓					
JTDC Parking Garage			✓													
Division 1	✓															
Division 2 (all 4-dorms)	✓															
Division 3	✓															
Division 4	✓															
Division 6	✓															
Division 7	✓															
Division 10	✓															
Boot Camp															✓	

Table 1: Energy Conservation Measure (ECM) matrix

The following table is a list of electric and natural gas meters for the facilities included in this Guaranteed Energy Performance Contract

Original IGA Selected Buildings	Electric Meters				
<b>CCAB</b>	145000122	145018796	145018936	145026420	145000127
<b>CCB</b>	145000088	145000124			
<b>Powerhouse</b>	097183860	145000475	145019896	145019899	145020659
<b>Division 5</b>	145000122	145018796	145018936	145026420	145000127
<b>Division 9</b>	145000100	145000113			
<b>Division 11</b>	145001551	145001663			
<b>South Campus</b>	097144148	097146686	145000451	145019898	145021790
<b>JTDC East</b>	79163736				
<b>JTDC West</b>	140496385				
<b>Parking Garage</b>	145019032				

Table 2: Electric meters by building for the IGA selected facilities.

Buildings Added During IGA	Electric Meters				
<b>Division 1</b>	145000088	145000124			
<b>Division 2-1</b>	145000094	145000109			
<b>Division 2-2</b>	145000094	145000109			
<b>Division 2-3</b>	145000094	145000109			
<b>Division 2-4</b>	145000122	145018796	145018936	145026420	145000127
<b>Division 3</b>	145000094	145000109			
<b>Division 4</b>	145000122	145018796	145018936	145026420	145000127
<b>Division 6</b>	145000094	145000109			
<b>Division 7</b>	145000088	145000124			
<b>Division 10</b>	097189063	145000297	145000322		

Table 3: Electric meters by building for the additional facilities.

Original IGA Selected Buildings	Natural Gas Meters	
<b>Powerhouse</b>	P1679733	
<b>Division XI</b>	P1911310	
<b>JTDC East</b>	P1520995	P1918289
<b>JTDC West</b>	P1686324	

Table 4: Gas meters by building for the IGA selected facilities

**Buildings Added During IGA      Natural Gas Meters**

**Boot Camp      P1918007**

Table 5: Gas meter for Boot Camp facility.

The following table indicates the Design Documents to be submitted and Equipment Order Process for each ECM. Equipment with long lead times for delivery may require approval and ordering of equipment prior to final design.

#	ECM	Design Documents	
		Submitted to Cook County	Equipment Order Process
1	Lighting Retrofit	Product Cutsheets and Lighting Audit Survey	Major Equipment Ordered Upon Submittal Approval
2	LED Lighting Replacement	Product Cutsheets and Lighting Audit Survey	Equipment Order Upon Submittal Approval
3	Tamper Proof Fixtures	Product Cutsheets and Lighting Audit Survey	Equipment Order Upon Submittal Approval
4	New Fire Tube Boilers	Major Equipment Submittals	Major Equipment Ordered Upon Submittal Approval
5	Steam Traps Repair/Replace	Product Cutsheets	Equipment Order Upon Submittal Approval
6	New Electric Chiller 5	Major Equipment Submittals	Major Equipment Ordered Upon Submittal Approval
7	Replace Electric Chiller 8	Major Equipment Submittals	Major Equipment Ordered Upon Submittal Approval
8	Install/Replace VFD's	Product Cutsheets	Equipment Order Upon Submittal Approval
9	CAV to VAV AHU Modifications	Product Cutsheets	Equipment Order Upon Submittal Approval
10	EMS Upgrade and Expansion	System Diagrams, Points Lists and Product Cutsheets	Equipment Order Upon Submittal Approval
11	End Device Repair (EDR)	None (will replace like for like)	TBD
12	Replace CHW Pumps	Product Cutsheets	Equipment Order Upon Submittal Approval
13	TRV Installation	Product Cutsheets	Equipment Order Upon Submittal Approval
14	Insulation	Product Cutsheet	Equipment Order Upon Submittal Approval
15	Solar Thermal Project	Major Equipment Submittals	Equipment Order Upon Submittal Approval
17	Sub-Meter Installation	Product Cutsheets	Equipment Order Upon Submittal Approval

## Exhibit C

### Project Description and Scope of Services

#### ECM: Lighting Retrofit

A comprehensive room-by-room detailed scope of work is located in Appendix D of the Investment Grade Energy Audit dated June 7, 2012. Fixture specification sheets are located in Appendix H of the Investment Grade Energy Audit dated June 7, 2012. The following is a summary description of the retrofits by facility.

#### *Central Power Plant*

1. Replace the existing high and low bay luminaires, containing one HID lamp, with new fluorescent vapor proof luminaires containing four 54 watt, T5HO lamps and two high efficiency, high-output electronic ballasts.
2. Replace the existing 8' industrial hood luminaires, containing two 8' T12 HO lamps and magnetic ballast, with new 8' industrial hood luminaires containing four 28 watt, 4' T8 lamps and one high efficiency, high-power, electronic ballast.
3. Replace the existing 4' industrial hood luminaires, containing two 4' T12 HO lamps and magnetic ballast, with new 4' industrial hood luminaires containing two 28 watt, 4' T8 lamps and one high efficiency, high-power, electronic ballast.
4. Retrofit the existing hood, vapor tight and wrap luminaires, containing two 4' T8 lamps and electronic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
5. Retrofit the existing strip and wrap luminaires, containing four 4' T8 lamps and electronic ballast, with four 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
6. Retrofit the existing strip luminaires, containing two 3' T12 lamps and magnetic ballast, with two 25 watt, 3' T8 lamps and one high efficient, low-power, electronic ballast.
7. Retrofit the existing strip luminaires, containing one 4' T12 lamp and magnetic ballast, with one 28 watt, 4' T8 lamp and one high efficiency, low-power, electronic ballast.
8. Retrofit the existing strip and wrap luminaires, containing two 4' T12 lamps and magnetic ballast, with two 28 watt, 4' T8 lamp and one high efficiency, low-power, electronic ballast.
9. Retrofit the existing recessed troffer luminaires, containing four 4' T12 lamps and magnetic ballasts, with four 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
10. Replace the existing incandescent lamps with energy efficient compact fluorescent screw-in lamps of the appropriate wattage.

***Criminal Court Administration Building (CCAB)***

1. Retrofit the existing 2'x4' air handling troffer luminaires, containing two 4' T12 lamps and magnetic ballast, with two 28 watt, 4' T8 lamps and one, high efficiency, low-power, electronic ballast and replace the existing lens with a new aluminum parabolic louver.
2. Retrofit the existing 2'x4' air handling troffer luminaires, containing four 4' T12 lamps and magnetic ballasts, with two 28 watt, 4' T8 lamps and one, high efficiency, low-power, electronic ballast and replace the existing lens with a new aluminum parabolic louver.
3. Retrofit the existing strip luminaires, containing one, 2' T12 lamp and magnetic ballast, with one 17 watt, 2' T8 lamp, and one high efficiency, low-power, electronic ballast.
4. Retrofit the existing strip and vapor tight luminaires, containing two 2' T12 lamps and magnetic ballast, with two 17 watt, 2' T8 lamps and one high efficiency, low-power, electronic ballast.
5. Retrofit the existing strip luminaires, containing one 3' T12 lamp and magnetic ballast, with one 25 watt, 3' T8 lamp and one high efficiency, low-power, electronic ballast.
6. Retrofit the existing strip luminaires, containing two 3' T12 lamps and magnetic ballast, with two 25 watt, 3' T8 lamps and one high efficient, low-power, electronic ballast.
7. Retrofit the existing strip luminaires, containing one 4' T12 lamp and magnetic ballast, with one 28 watt, 4' T8 lamp and one high efficiency, low-power, electronic ballast.
8. Retrofit the existing box, hood, troffer, strip, vanity, vapor tight and wrap luminaires, containing two 4' T12 lamps and magnetic ballast, with two 28 watt, 4' T8 lamps, and one high efficiency, low-power, electronic ballast.
9. Retrofit the existing hood and wrap luminaires, containing four 4' T12 lamps and magnetic ballasts, with four 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
10. Retrofit the existing box, hood, ice tray, troffer and wrap luminaires, containing two 4' T8 lamps and electronic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
11. Retrofit the existing hood and wrap luminaires, containing four, 4' T8 lamps and electronic ballast, with four 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
12. Retrofit the existing 2'x4' recessed troffer luminaires, containing four 4' T8 lamps and electronic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, normal-power, electronic ballast with a white reflector kit.
13. Retrofit the existing 2'x2' recessed troffer luminaires, containing two T12 U-bent lamps and magnetic ballast, with three 17 watt, 2' T8 lamps and one high efficiency, normal power electronic ballast with a white reflector kit.
14. Retrofit the existing 2'x2' recessed troffer luminaires, containing two T8 U-bent lamps and electronic ballast, with three 17 watt, 2' T8 lamps and one high efficient, normal-power electronic ballast with a white reflector kit.

15. Replace the existing 8' vapor tight luminaires, containing two 8' T12 HO lamps and magnetic ballasts, with new 8' industrial luminaires containing four 28 watt, 4' T8 lamps, and one high efficiency, normal-power, electronic ballast.
16. Replace the existing low bay luminaires, containing one high pressure sodium lamp; with new vapor tight wrap fluorescent high bay luminaires containing four 28 watt, 4' T8 lamps, and one high efficiency, high-power, electronic ballast.
17. Retrofit the existing down light luminaires, containing one mercury vapor lamp, with new compact fluorescent down light kits containing two compact fluorescent lamps of the appropriate wattage and electronic ballast.
18. Replace the existing incandescent lamps with energy efficient compact fluorescent screw-in lamps of the appropriate wattage.

### ***Criminal Court Building (CCB)***

1. Retrofit the existing vanity luminaires, containing two 2' T12 lamps and magnetic ballast, with two 17 watt, 2' T8 lamps and one high efficiency, low-power, electronic ballast.
2. Retrofit the existing strip luminaires, containing one 4' T12 lamp and magnetic ballast, with one 28 watt, 4' T8 lamp and one high efficiency, low-power, electronic ballast.
3. Retrofit the existing box, hood, troffer, vapor tight and wrap luminaires, containing two 4' T12 lamps and magnetic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
4. Retrofit the existing hood and recessed troffer luminaires, containing three 4' T12 lamps and magnetic ballasts, with three 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
5. Retrofit the existing recessed troffer and wrap luminaires, containing four 4' T12 lamps and magnetic ballasts, with four 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
6. Retrofit the existing recessed troffer luminaires, containing four 4' T12 lamps and magnetic ballasts, with two 28 watt, 4' T8 lamps and one high efficiency, normal-power, electronic ballast.
7. Retrofit the existing 4'x4' recessed troffer luminaires, containing eight 4' T12 lamps and magnetic ballasts, with eight 28 watt, 4' T8 lamps and two high efficiency, low-power, electronic ballasts.
8. Replace the existing 8' strip luminaire, containing four 4' T12 lamps and magnetic ballasts, with new wrap luminaire containing four 28 watt, 4' T8 lamps and two high efficiency, normal-power, electronic ballasts.
9. Retrofit the existing 4' round luminaires, containing eight 4' T12 lamps and magnetic ballasts, with eight 28 watt, 4' T8 lamps and two high efficiency, low-power, electronic ballasts.
10. Retrofit the existing 2' round luminaires, containing four 2' T12 lamps and magnetic ballasts, with four 17 watt, 2' T8 lamps and two high efficiency, low-power, electronic ballasts.
11. Retrofit the existing recessed troffer, strip, vapor tight and wrap luminaires, containing two 4' T8 lamps and electronic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
12. Replace the existing strip luminaires, containing one 2' T8 lamp and electronic ballast, with new 2' wrap luminaires containing one 17 watt, 2' T8 lamp and one high efficiency, low power, electronic ballast.
13. Retrofit the existing 2'x4' recessed troffer luminaires, containing four 4' T12 lamps and magnetic ballasts, with two 28 watt, 4' T8 lamps and one normal-power high efficiency electronic ballast with a white reflector kit.
14. Retrofit the existing 2'x4' recessed troffer luminaires, containing four 4' T8 lamps and electronic ballast, with two 28 watt, 4' T8 lamps and one normal-power high efficiency, electronic ballast with a white reflector kit.
15. Retrofit the existing 2'x2' recessed troffer luminaire, containing two T12 U-bent lamps and magnetic ballast, with three 17 watt, 2' T8 lamps and one normal-power high efficiency, electronic ballast with a white reflector kit.

16. Retrofit the existing 2'x2' recessed troffer luminaires, containing two T8 U-bent lamps and electronic ballast, with three 17 watt, 2' T8 lamps and one normal-power high efficiency, electronic ballast with a white reflector kit.
17. Retrofit the existing 8' strip luminaires, containing one 8' T12 lamps and magnetic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, normal-power, electronic ballast with a strip centering kit.
18. Retrofit the existing 8' strip luminaires, containing two 8' T12 lamps and magnetic ballast, with four 28 watt, 4' T8 lamps and one high efficiency, normal-power, electronic ballast with a strip centering kit.
19. Replace the existing 8' strip luminaires, containing four, 8' T8 lamps and electronic ballasts, with new wrap luminaires containing four 28 watt, 4' T8 lamps and one high efficiency, normal-power, electronic ballast.
20. Replace the existing 8' industrial hood luminaire, containing two, 8' T8 lamps and electronic ballast, with a new industrial hood luminaire containing four 28 watt, 4' T8 lamps and one high efficiency, normal-power, electronic ballast.
21. Replace the existing 8' vapor tight luminaires, containing two 8' T12 lamps and magnetic ballast, with new vapor tight luminaires containing four 28 watt, 4' T8 lamps, and one high efficiency, normal-power, electronic ballast.
22. Replace the existing down light luminaires, containing one mercury vapor lamp, with new compact fluorescent down light kits containing two 32 watt, compact fluorescent lamps and electronic ballasts.
23. Retrofit the existing recessed square luminaires, containing one mercury vapor lamp, with recessed retrofit kits containing two 26 watt, compact fluorescent lamps and electronic ballasts.
24. Replace the existing recessed square luminaires, containing one metal halide lamp, with new surface mounted box luminaires containing two 28 watt, linear fluorescent lamps and one high efficiency, normal power, electronic ballast. Lobby metal halide fixtures are not proposed for upgrades.
25. Replace the existing incandescent lamps with energy efficient compact fluorescent screw-in lamps of the appropriate wattage.

### *Division 5*

1. Retrofit the existing recessed troffer luminaires, containing four 2' T12 lamps and magnetic ballasts, with four 17 watt, 2' T8 lamps and one high efficiency, low-power, electronic ballast.
2. Retrofit the existing hood, troffer, vapor tight and wrap luminaires, containing two 4' T12 lamps and magnetic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
3. Retrofit the existing strip, troffer, vapor tight and wrap luminaires, containing two, 4' T8 lamps and electronic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
4. Retrofit the existing 2'x4' recessed troffer luminaires, containing four 4' T12 lamps and magnetic ballasts, with two 28 watt, 4' T8 lamps and one normal-power high efficiency, electronic ballast with a white reflector kit.
5. Retrofit the existing 2'x4' recessed troffer luminaires, containing four 4' T8 lamps and electronic ballasts, with two 28 watt, 4' T8 lamps and one normal-power high efficiency, electronic ballast with a white reflector kit.
6. Replace the existing 4' industrial hood luminaires, containing two 4' T12 HO lamps and magnetic ballast, with new 4' industrial hood luminaires containing two 28 watt, 4' T8 lamps and one high efficiency, high-power, electronic ballast.
7. Replace the existing 8' industrial hood luminaires, containing two 8' T12 HO lamps and magnetic ballast, with new 8' industrial hood luminaires containing four 28 watt, 4' T8 lamps and one high efficiency, high-power, electronic ballast.
8. Replace the existing 8' vapor tight luminaires, containing two 8' T12 lamps and magnetic ballast, with new vapor tight luminaires containing four 28 watt, 4' T8 lamps and one high efficiency, normal-power, electronic ballast.
9. Replace the existing 8' vapor tight luminaires, containing two 8' T8 HO lamps and electronic ballast, with new vapor tight luminaires containing four 28 watt, 4' T8 lamps and one high efficiency, high-power, electronic ballast.
10. Retrofit the existing down light luminaires, containing one high pressure sodium lamp, with new compact fluorescent down light kits containing two 26 watt compact fluorescent lamps and one electronic ballast.
11. Replace the existing down light luminaires, containing one mercury vapor lamp, with new wall pack luminaires containing two 32 watt compact fluorescent lamps and electronic ballast.
12. Replace the existing incandescent lamps with energy efficient compact fluorescent screw-in lamps of the appropriate wattage.

### *Division 9*

1. Retrofit the existing under cabinet luminaires, containing two 2' T12 lamps and magnetic ballast, with two 17 watt, 2' T8 lamps and one high efficiency, low-power, electronic ballast.
2. Retrofit the existing under cabinet luminaires, containing one 4' T12 lamp and magnetic ballast, with one 28 watt, 4' T8 lamp and one high efficiency, low-power, electronic ballast.
3. Retrofit the existing box, hood, troffer, tamper proof, strip, up light and vapor tight luminaires, containing two 4' T12 lamps and magnetic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
4. Retrofit the existing wrap luminaires, containing four 4' T12 lamps and magnetic ballasts, with four 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
5. Retrofit the existing 2'x4' recessed troffer luminaires, containing four 4' T12 lamps and magnetic ballasts, with two 28 watt, 4' T8 lamps and one normal-power high efficiency, electronic ballast with a white reflector kit.
6. Retrofit the existing 2'x4' recessed troffer luminaires with parabolic diffusers, containing four 4' T12 lamps and magnetic ballasts, with four 28 watt, 4' T8 lamps and one low-power high efficiency, electronic ballast.
7. Retrofit the existing 1'x4' tamper proof box luminaires, containing two 4' T8 lamps and electronic ballast, with two 28 watt, 4' T8 lamps and one low-power high efficiency, electronic ballast.
8. Retrofit the existing 2'x2' recessed troffer luminaires, containing two T12 U-bent lamps and magnetic ballast, with three 17 watt, 2' T8 lamps and one normal-power high efficiency, electronic ballast with a white reflector kit.
9. Replace the existing pendant mounted luminaires, containing one 175 watt mercury vapor lamp, with compact fluorescent kit, containing two 32 watt, compact fluorescent lamps and high efficiency electronic ballasts.
10. Replace the existing low bay luminaires, containing one 400 watt metal halide lamp, with new fluorescent high bay luminaires containing six 54 watt, T5HO lamps and three high efficiency electronic ballasts with polycarbonate lenses and wire guards.
11. Replace the existing surface mounted box luminaires, containing one 400 watt metal halide lamp, with new fluorescent box luminaires containing four 54 watt, T5HO lamps and two high efficiency electronic ballasts.
12. Replace the existing high bay luminaires, containing one 400-watt high pressure sodium lamp, with new fluorescent high bay luminaires containing six 54 watt, T5HO lamps and three high efficiency electronic ballasts with polycarbonate lenses and wire guards.
13. Replace the existing 8' industrial hood luminaires, containing two 8' T12 HO lamps and magnetic ballasts, with new 8' industrial luminaires containing four 28 watt, 4' T8 lamps and one high efficiency, high-power, electronic ballast.
14. Replace the existing 8' strip luminaires, containing two 8' T12 HO lamps and magnetic ballasts, with new 8' strip luminaires containing four 28 watt, 4' T8 lamps and one high efficiency, high-power, electronic ballast.
15. Replace the existing incandescent lamps with energy efficient compact fluorescent screw-in lamps of the appropriate wattage.

### *Division 11*

1. Retrofit the existing vanity luminaires, containing two 2' T12 lamps and magnetic ballast, with two 17 watt, 2' T8 lamps and one high efficiency, low-power, electronic ballast.
2. Retrofit the existing strip luminaires, containing one 4' T12 lamp and magnetic ballast, with one 28 watt, 4' T8 lamp and one high efficiency, low-power, electronic ballast.
3. Retrofit the existing box, hood, strip, tamper proof, troffer vanity and vapor tight luminaires, containing two 4' T12 lamps and magnetic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
4. Retrofit the existing 2'x4' recessed troffer luminaires, containing four 4' T12 lamps and magnetic ballasts, with two 28 watt, 4' T8 lamps and one normal-power high efficiency, electronic ballast with a white reflector kit.
5. Retrofit the existing 2'x2' recessed troffer luminaires, containing two T12 U-bent lamps and magnetic ballast, with three 17 watt, 2' T8 lamps and one normal-power high efficiency, electronic ballast with a white reflector kit.
6. Retrofit the existing surface mounted box luminaires, containing one 175 or 250 watt metal halide lamp, with one 150 watt, metal halide lamp and high efficiency electronic ballast.
7. Retrofit the existing recessed luminaires, containing one 250 watt metal halide lamp, with one 150 watt, metal halide lamp and high efficiency electronic ballast.
8. Retrofit the existing surface mounted box luminaires, containing one 400 watt metal halide lamp, with one 320 watt metal halide lamp and high efficiency electronic ballast.
9. Replace the existing HID luminaires, containing 150 watt high pressure sodium lamps, with new vapor tight luminaires containing two 28 watt, 4' T8 lamps and one high efficiency, high-power, electronic ballast. Guard Tower fixtures are not proposed for upgrades.
10. Retrofit the existing down light luminaires, containing one 100 watt metal halide lamp, with new compact fluorescent down light kits containing two 26 watt compact fluorescent lamps and one electronic ballast. Guard Tower fixtures are not proposed for upgrades.
11. Replace the existing incandescent lamps with energy efficient compact fluorescent screw-in lamps of the appropriate wattage. Guard Tower incandescent lamps with very low hours of use are not proposed for upgrades; other incandescent lamps will be replaced with appropriate wattage compact fluorescent screw-in lamps.

***South Campus Administration Building No. 01***

1. Retrofit the existing hood, strip and wrap luminaires, containing two 4' T8 lamps and electronic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
2. Retrofit the existing wrap luminaires, containing four 4' T8 lamps and electronic ballasts, with four 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
3. Retrofit the existing box, strip, troffer and wrap luminaires, containing two 4' T12 lamps and magnetic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
4. Retrofit the existing recessed troffer luminaires, containing three 4' T12 lamps and magnetic ballasts, with three 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
5. Retrofit the existing wrap luminaires, containing four 4' T12 lamps and magnetic ballasts, with four 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
6. Retrofit the existing 2'x4' recessed troffer luminaires, containing four 4' T12 lamps and magnetic ballasts, with two 28 watt, 4' T8 lamps and one high efficiency, normal-power electronic ballast and a white reflector kit.
7. Retrofit the existing 8' strip luminaire, containing two 8' T12 lamps and magnetic ballast, with four 28 watt, 4' T8 lamps and one high efficiency electronic ballast with a strip centering kit.
8. Replace the existing 4' wrap luminaires, containing four 4' T12 lamps and magnetic ballast, with new wrap luminaires containing two 28 watt, 4' T8 lamps and one high efficiency, normal-power, electronic ballast.
9. Replace the existing 4' strip luminaires, containing two 4' T12 instant start lamps and magnetic ballast, with new strip luminaires containing two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
10. Replace the existing 8' strip luminaires, containing two 8' T12 HO lamps and magnetic ballast, with new 8' strip luminaires containing four 28 watt, 4' T8 lamps and one high efficiency, high-power, electronic ballast.
11. Replace the existing 8' industrial hood luminaires, containing two 8' T12 HO lamps and magnetic ballasts, with new 8' industrial luminaires containing four 28 watt, 4' T8 lamps and one high efficiency, normal-power, electronic ballast.
12. Replace the existing 8' vapor tight luminaires, containing two 8' T12 HO lamps and magnetic ballast, with new vapor tight luminaires containing four 28 watt, 4' T8 lamps and one high efficiency, high-power, electronic ballast.
13. Replace the existing incandescent lamps with energy efficient compact fluorescent screw-in lamps of the appropriate wattage.

***South Campus Administration Building No. 02***

1. Retrofit the existing strip and vanity luminaires, containing one 4' T8 lamp and electronic ballast, with one 28 watt, 4' T8 lamp and one high efficiency, low-power, electronic ballast.
2. Retrofit the existing strip, troffer and vanity luminaires, containing two 4' T8 lamps and electronic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
3. Retrofit the existing recessed troffer luminaires, containing three 4' T8 lamps and electronic ballast, with three 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
4. Retrofit the existing troffer and wrap luminaires, containing four 4' T8 lamps and electronic ballast, with four 28 watt, 4' T8 lamps and one high efficiency, electronic ballast.

***South Campus Administration Building No. 03***

1. Replace the existing vapor tight luminaires, containing one T12 HO lamp and magnetic ballast, with new 4' vapor tight luminaires containing one 28 watt, 4' T8 lamp and one high efficiency, high-power, electronic ballast.
2. Retrofit the existing box, strip, troffer, vanity, vapor tight and wrap luminaires, containing two T12 lamps and magnetic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
3. Replace the existing industrial hood luminaires, containing two T12 lamps and magnetic ballast, with new 4' vapor tight luminaires containing one 28 watt, 4' T8 lamp and one high efficiency, high-power, electronic ballast.
4. Retrofit the existing wrap luminaires, containing four T12 lamps and magnetic ballasts, with four 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
5. Retrofit the existing surface mounted box and recessed troffer luminaires, containing four T12 lamps and magnetic ballasts, with two 28 watt, 4' T8 lamps and one high efficiency, normal-power, electronic ballast with a white reflector kit.
6. Replace the existing 4' strip luminaires, containing two 4' T12 lamps and magnetic ballast, with new strip luminaires containing two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
7. Retrofit the existing 8' strip luminaires, containing two 8' T12 lamps and magnetic ballast, with four 28 watt, 4' T8 lamps and one high efficiency, normal-power, electronic ballast with a strip centering kit.
8. Retrofit the existing vanity luminaires, containing one T8 lamp and electronic ballast, with one 28 watt, 4' T8 lamp and one high efficiency, low-power, electronic ballast.
9. Retrofit the existing hood, strip, troffer, vapor tight and wrap luminaires, containing two T8 lamps and electronic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
10. Replace the existing incandescent lamps with energy efficient compact fluorescent screw-in lamps of the appropriate wattage.

***South Campus Administration Building No. 04***

1. Retrofit the existing vanity luminaires, containing three T12 lamps and magnetic ballast, with three 25 watt, 3' lamps and one high efficiency, low-power, electronic ballast.
2. Retrofit the existing box, strip, vapor tight and wrap luminaires, containing two T12 lamps and magnetic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
3. Replace the existing industrial hood luminaires, containing two T12 HO lamps and magnetic ballast, with new 4' industrial hood luminaires containing two 28 watt, 4' T8 lamp and one high efficiency, high-power, electronic ballast.
4. Replace the existing strip luminaire, containing two T12 HO lamps and magnetic ballast, with a new 4' strip luminaire containing two 28 watt, 4' T8 lamp and one high efficiency, low-power, electronic ballast.
5. Retrofit the existing recessed troffer luminaires, containing three T12 lamps and magnetic ballast, with two 28 watt, 4' lamps and one high efficiency, low-power, electronic ballast with a white reflector kit.
6. Retrofit the existing wrap luminaires, containing four T12 lamps and magnetic ballasts, with four 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
7. Retrofit the existing surface mounted box and recessed troffer luminaires, containing four T12 lamps and magnetic ballasts, with two 28 watt, 4' T8 lamps and one high efficiency, normal-power, electronic ballast with a white reflector kit.
8. Replace the existing 8' hood luminaires, containing two T12 HO lamps and magnetic ballast, with new 8' hood luminaires containing four 28 watt, 4' T8 lamp and one high efficiency, high-power, electronic ballast.
9. Replace the existing 8' vapor tight luminaires, containing two T12 HO lamps and magnetic ballast, with new 8' vapor tight luminaires containing four 28 watt, 4' T8 lamp and one high efficiency, high-power, electronic ballast.
10. Retrofit the existing wrap luminaires, containing two T8 lamps and electronic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast. Replace the existing incandescent lamps with energy efficient compact fluorescent screw-in lamps of the appropriate wattage.

***South Campus Administration Building No. 05***

1. Retrofit the existing strip and wrap luminaires, containing one 4' T8 lamp and electronic ballast, with one 28 watt, 4' T8 lamp and one high efficiency, low-power, electronic ballast.
2. Retrofit the existing troffer and vanity luminaires, containing two 4' T8 lamps and electronic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
3. Retrofit the existing recessed troffer luminaires, containing three 4' T8 lamps and electronic ballast, with three 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
4. Retrofit the existing recessed troffer luminaires, containing four 4' T8 lamps and electronic ballast, with four 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.

### *Juvenile Temporary Detention Center – East*

1. Retrofit the existing strip luminaires, containing one 4' T8 lamp and electronic ballast, with one 28 watt, 4' T8 lamp and one high efficiency, low-power, electronic ballast.
2. Retrofit the existing box, hood, strip, tamper proof, troffer and vapor tight luminaires, containing two 4' T8 lamps and electronic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
3. Retrofit the existing wrap luminaires, containing four 4' T8 lamps and electronic ballast, with four 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
4. Retrofit the existing recessed troffer luminaires, containing four 4' T8 lamps and electronic ballast, with four 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast with a white reflector kit.
5. Retrofit the existing hood troffer luminaires, containing two 4' T12 lamps and magnetic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
6. Retrofit the existing 2'x2' recessed standard and tamper proof troffer luminaires, containing two T8 U-bent lamps and electronic ballast, with two 29 watt, T8 U-bent lamps and one high efficiency, low-power electronic ballast.
7. Retrofit the existing 2'x2' recessed troffer luminaires, containing three T8 U-bent lamps and electronic ballast, with three 29 watt, T8 U-bent lamps and one high efficiency, low-power electronic ballast.
8. Replace the existing box luminaires, containing one metal halide lamp, with new linear fluorescent surface mounted troffer luminaires containing four 28 watt, 4' T8 lamps and one high efficiency, high-power, electronic ballast.
9. Replace the existing low bay luminaires, containing one metal halide lamp, with new linear fluorescent vapor tight luminaires containing four 28 watt, 4' T8 lamps and one high efficiency, high-power, electronic ballast.
10. Replace the existing pendant cylinder luminaires, containing one mercury vapor lamp, with new linear fluorescent industrial luminaires containing two 28 watt, 4' T8 lamps and one high efficiency, high-power, electronic ballast.
11. Replace the existing high bay luminaires, containing one 175 watt mercury vapor lamp, with new linear fluorescent industrial luminaires containing two 28 watt, 4' T8 lamps and one high efficiency, high-power, electronic ballast.
12. Replace the existing high bay luminaires, containing one 250 watt mercury vapor lamp, with new linear fluorescent vapor tight luminaires containing four 28 watt, 4' T8 lamps and one high efficiency, high-power, electronic ballast.
13. Retrofit the existing down light luminaires, containing one mercury vapor lamp, with new compact fluorescent down light kits containing two 26 watt compact fluorescent lamps and electronic ballast.
14. Retrofit the existing recessed down light luminaires, containing one metal halide lamp, with new compact fluorescent recessed can kits containing two 26 watt compact fluorescent lamps and electronic ballast.

*Juvenile Temporary Detention Center – West*

1. Retrofit the existing strip and under cabinet luminaires, containing one 4' T8 lamp and electronic ballast, with one 28 watt, 4' T8 lamp and one high efficiency, low-power, electronic ballast.
2. Retrofit the existing hood and vanity luminaires, containing two 4' T8 lamps and electronic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
3. Remove the existing strip luminaires, containing one, 3' T8 lamp and electronic ballast, cap off and blank switch. Under cabinet luminaires are not proposed for upgrade. The fixtures selected for removal are cove lights located in select offices and hallways.
4. Remove the existing strip luminaires, containing one 4' T8 lamp and electronic ballast, cap off and blank switch. The fixtures selected for removal are cove lights located in select offices and hallways.
5. Retrofit the existing 2'x2' recessed troffer luminaires, containing two T8 U-bent lamps and electronic ballast, with two 29 watt, T8 U-bent lamps and one high efficiency low-power electronic ballast.
6. Replace the existing incandescent lamps with energy efficient compact fluorescent screw-in lamps of the appropriate wattage.

**All Facilities**

The following exceptions and clarifications apply to the lighting retrofits for all facilities:

- No elevator/elevator cars lighting retrofits are proposed.
- Existing lenses shall not be replaced unless specifically noted even if they are damaged.
- Any areas not listed in the Room-by-Room detailed scope of work in Appendix D of the Investment Grade Energy Audit dated June 7, 2012 are not included as part of the project.
- Hazardous material abatement and removal is excluded from the scope of work.
- Existing non-code compliant electrical wiring, electrical services or grounding are not included in the scope of work.

Criminal Court Administration Building	Central Chilled Water / Power Plant	South Campus Administration Building No. 1
Criminal Court Building	Juvenile Temporary Detention Center – East	South Campus Administration Building No. 2
Division 5	Juvenile Temporary Detention Center – West	South Campus Administration Building No. 3
Division 9	Juvenile Temporary Detention Center Parking Garage	South Campus Administration Building No. 4
Division 11		South Campus Administration Building No. 5

***End of Scope of Work for the Lighting Retrofit ECM***

**ECM: LED Lighting Replacement**

A comprehensive room-by-room detailed scope of work is located in Appendix D of the Investment Grade Energy Audit dated June 7, 2012. Fixture specification sheets are located in Appendix H of the Investment Grade Energy Audit dated June 7, 2012. The following is a summary description of the retrofits by facility.

***Juvenile Temporary Detention Center Parking Garage***

1. Replace the existing low bay garage luminaires, containing one 175 watt metal halide lamp, with new LED luminaires containing 108 watts of led lamps, and a high/low occupancy sensor for dual light levels.

The additional fixtures in the parking garage include the following scope:

2. Retrofit the existing hood and vanity luminaires, containing two 4' T8 lamps and electronic ballast, with two 28 watt, 4' T8 lamps and one high efficiency, low-power, electronic ballast.
3. Retrofit the existing strip luminaires, containing one 4' T8 lamp and electronic ballast, with one 28 watt, 4' T8 lamp and one high efficiency, low-power, electronic ballast.

***End of Scope of Work for the LED Lighting Replacement ECM***

**ECM: Tamper Proof Fixtures**

A comprehensive room-by-room detailed scope of work is located in Appendix D of the Investment Grade Energy Audit dated June 7, 2012. Fixture specification sheets are located in Appendix H of the Investment Grade Energy Audit dated June 7, 2012. The following is a summary description of the retrofits by facility.

***Division 5***

1. Replace the existing compact fluorescent screw in lamps luminaires, with new 4' Tamper Proof luminaires containing two 28 watt, 4' T8 lamps and one high efficiency, normal-power, electronic ballast.

***Division 9***

1. Replace the existing incandescent screw in lamps luminaires, with new 4' Tamper Proof luminaires containing two 28 watt, 4' T8 lamps and one high efficiency, normal-power, electronic ballast.
2. Replace the existing box luminaires, containing two T8 2' lamps and electronic ballast, with new 4' Tamper Proof luminaires containing two 28 watt, 4' T8 lamps and one high efficiency, normal-power, electronic ballast.

***Division 11***

1. Replace the existing vanity luminaires, containing two T5 U-bent lamps and electronic ballast with new 2' Tamper Proof luminaires containing two 17 watt, 2' T8 lamps and one high efficiency, normal-power, electronic ballast.
2. Replace the existing surface mounted luminaires, containing three T12 4' lamps and electronic ballast, with new 4' Tamper Proof luminaires containing three 28 watt, 4' T8 lamps and one high efficiency, normal-power, electronic ballast.

***End of Scope of Work for the Tamper Proof Fixture ECM***

### **ECM: Additional Facilities Lighting Retrofit**

During the later parts of the Investment Grade Energy Audit, NORESKO was asked to look at additional areas which include Division 1, 2, 3, 4, 6, 7, and 10. In order to meet the County's schedule requirements, a scoping audit for the Lighting Retrofit in these facilities was performed rather than a detailed Room-by-Room lighting audit. In the scoping audit all fixture types are not listed out but are grouped together. Below are summary descriptions of the findings during the scoping audit.

#### ***Division 1***

1. Retrofit existing T8 and T12 linear fluorescent fixtures with new, 28 watt lamps and high efficiency electronic ballasts, installing reflectors as appropriate.
2. Replace existing vapor proof fixtures with 8' T12 lamp with new vapor proof luminaires containing 28 watt 4' lamps and electronic ballasts.

#### ***Division 2***

1. Retrofit existing T8 and T12 linear fluorescent fixtures with new, 28 watt lamps and high efficiency electronic ballasts.

#### ***Division 3***

1. Retrofit existing T12 linear fluorescent fixtures with new, 28 watt lamps, high efficiency electronic ballasts, and reflector kits.
2. Cell area compact fluorescent fixtures will be replaced with new tamper proof linear fluorescent luminaires containing new 28 watt lamps and electronic ballasts.
3. Incandescent lamps will be replaced with new compact fluorescent screw-in lamps

#### ***Division 4***

1. Retrofit existing T12 linear fluorescent fixtures with new, 28 watt lamps and high efficiency electronic ballasts, installing reflectors as appropriate.
2. High Bay metal halide fixtures will be replaced with new high efficiency linear fluorescent luminaires.
3. Cell area compact fluorescent fixtures will be replaced with new tamper proof linear fluorescent luminaires containing new 28 watt lamps and electronic ballasts.
4. Incandescent lamps will be replaced with new compact fluorescent screw-in lamps.

#### ***Division 6***

1. Retrofit existing T12 linear fluorescent fixtures with new, 28 watt lamps and high efficiency electronic ballasts, installing reflectors as appropriate.

2. Linear fluorescent 8' lamp fixtures will be replaced with new linear fluorescent luminaires containing 28 watt 4' lamps and electronic ballasts.
3. Cell area compact fluorescent fixtures will be replaced with new tamper proof linear fluorescent luminaires containing new 28 watt lamps and electronic ballasts.
4. Incandescent lamps will be replaced with new compact fluorescent screw-in lamps.

***Division 7***

1. Retrofit existing T12 linear fluorescent fixtures with new, 28 watt lamps and high efficiency electronic ballasts, installing reflectors as appropriate.

***Division 10***

1. Retrofit existing T8 and T12 linear fluorescent fixtures with new, 28 watt lamps and high efficiency electronic ballasts, installing reflectors as appropriate.
2. Cell area vanity fixtures will be replaced with new tamper proof vanity luminaires containing 28 watt lamps and electronic ballasts.
3. Metal Halide fixtures will be replaced with new, high efficiency linear fluorescent luminaires.
4. Incandescent lamps will be replaced with new compact fluorescent screw-in lamps

Locations Affected		
Division 1	Division 2	Division 3
Division 4	Division 6	Division 7
Division 10		

***End of Scope of Work for the Additional Facilities Lighting ECM***

## **ECM: New Fire Tube Boilers**

### **A. Building Demolition / Removal:**

NORESCO shall modify existing boiler area building structure in the Central Plant required for the installation of the new boilers and auxiliary equipment, which shall include the following:

1. Removal and structural reconfiguration of the center support column.
2. Removal and disposal of existing Boiler #7 concrete support pier.
3. Roof openings to accommodate new boiler stacks.

### **B. Mechanical Demolition / Removal:**

1. Remove and dispose of one existing 70,000 lb/hr water tube Boiler #7 and economizer.
2. Remove and dispose the existing boiler stack and breeching for Boiler #7. The roof shall be patched to match existing where the stack penetrated the roof.
3. Remove and dispose of one existing condensate tank, condensate pumps, piping, valves, existing concrete pads and associated instrumentation in the lower level of the Central Plant.
4. Remove and dispose the existing steam coils on the air inlet louvers and associated steam and condensate piping.
5. Remove and dispose of four (4) steam coil unit heaters suspended from ceiling.
6. Remove and dispose of one existing non-operational air compressor in the lower level of the Central Plant and this area shall be used for installation of a new boiler condensate tank and pumps.

### **C. Electrical Demolition / Removal:**

1. Disconnect power to the existing Boiler #7 and associated deaerator/feedwater pumps.
2. Disconnect power to the existing condensate pumps and controls.
3. Existing chillers CH-1, CH-3, and CH-6 shall be disconnected and electrical connections removed from existing switchboard IDP-1.
4. Existing chiller pumps CHWP-1, CHWP-3, CWP-1 and CWP-3 to be disconnected and electrical connections removed.
5. Existing Chiller CH-5 and associated pumps CWP-5 and CHWP-5 will be disconnected and connections removed in the New Electric Chiller 5 ECM. Existing pump CHWP-6 (to be re-labeled CHWP-5) will be disconnected from switchboard C and relocated to switchboard D in the New Electric Chiller 5 ECM.
6. Disconnect and remove electrical connections for existing condensate return pump CRP-1 currently connected to MCC-4.
7. Disconnect and dispose of existing Boiler #7 control panel located next to MCC-4.
8. Disconnect and remove electrical connections for existing deaerator tank control panel and pumps currently connected to MCC-4.
9. Disconnect and remove electrical connections for existing Boiler #7 and auxiliary equipment currently connected to MCC-4.

**D. Demolition Notes:**

1. Testing and abatement of hazardous materials including asbestos will be the responsibility of the County. The asbestos containing materials must be identified (tested) and abated prior to any work in these areas.
2. All miscellaneous equipment, materials, storage shelves etc. presently stored in the boiler work area shall be removed and relocated by the County prior to any associated work.
3. Existing boiler chemical tanks and associated equipment shall be removed from boiler area and completely relocated in close proximity to the new boilers by the County. Existing boiler chemical feed system shall be reused and shall be maintained by the County.

**E. Mechanical New Work Installation:**

1. Provide and install three (3) 1,400 Boiler Horsepower (BHP) Cleaver Brooks CBEX200-1400-200ST Firetube Boilers or NORESKO approved equal of the same performance requirements with a steam output of 47,015 lbs/hr @ 100psig and required ancillary systems.
2. Provide and install 10" steam line and insulation from new boiler to existing boiler plant steam header. Steam header isolation valve exists in 2 locations. Provide and install one new isolation valve and tie in to the header as required. Scheduled shutdowns may be required to perform the work.
3. Provide three (3) boiler economizers and install on each boiler. Economizers will be supported by the boilers, additional supports are not required.
4. Provide and install corten steel stacks from the outlet of the economizer of each boiler to approximately 30-ft above the roof. NORESKO to design, furnish and install new stack supports and guy-wires as required.
5. Provide and install four (4) steam coil unit heaters to replace the existing unit heaters. Match existing capacity and specifications. Reuse existing electrical and steam and condensate connections.
6. Install local boiler controls.
7. Install fuel oil piping from the two existing fuel oil pumps to each boiler burner. Reuse existing 2-1/4" Fuel Oil piping to the extent possible.
8. Provide and install natural gas piping from the existing header to each new boiler burner.
9. Provide and install a new Deaerator. Unit shall be a 4,000 gallons with 4 new boiler feedwater pumps. Boiler Equipment shall be Cleaver Brooks or NORESKO approved equal.
10. Provide and install boiler feedwater piping from the new Deaerator to each new boiler.
11. Provide and install chemical treatment stainless steel tubing from existing chemical treatment system to the new deaerator and individual injection points for each boiler feedwater connection.
12. Provide pressure testing and inspections as required by local and state code for installed piping and boilers.
13. Provide and install a new condensate tank(s) and associated pumps. The condensate system shall be either multiple tanks header together or a new single stainless steel tank

fabricated in the field. NORESKO shall determine installation method based on final design.

14. Provide and install one flash economizer heat recovery system. Connect steam vent from the flash tank to the deaerator low pressure steam header. Pipe makeup water to the flash economizer going to deaerator makeup. Connect raw water to quenching valve upstream of existing floor drain connection.
15. Provide coordination if a shutdown of the existing boiler plant is required. County shall be responsible for shutting down and restarting equipment or systems.
16. Provide commissioning of system components provided and installed by NORESKO.

**F. Electrical New Work Installation:**

1. Replace existing 2,000A fuses in generator BPS with new 1,600A fuses.
2. Replace existing feeders to ATS-3 and IDP-3 with new (4) sets of 3-600 KCMIL & 1#4/0 ground. Re-use existing conduit.
3. Modify existing switchboard C: Provide and install (1) 400AS/300AF fusible disconnect switch, type to match existing in switchboard's available space. Provide connection to new boiler B-9 and safety disconnect.
4. Modify existing distribution panel IDP-3: reconnect existing loads to remain to make space available for new 600AS/500AF disconnect switch. Provide and install new switch and feeder to new panel DP-BN located in boiler plant addition.
5. Provide and install new distribution panel DP-BN, 600A, 480V, 3ph, 3w, new feeder.
6. Provide and install connections to new boilers B-7 and B-8 and safety disconnect switches.
7. Modify existing MCC-4 located in boiler house addition: re-arrange existing loads to remain if necessary to provide space for new fusible switches: (1) 60AS/60AF and (1) 400AS/250AF.
8. Provide and install new connections to duplex condensate return pumps CRP-1 and CRP-2 (1-standby) and four (4) boiler feed pumps BFP-1,2,3,4 (one pump is standby).
9. Provide and install one (1) new 30 kVA transformer and 208/120V, 3ph, 4w, breaker panel with the capacity of (42) single pole 20A circuit breakers for boiler controls.
10. Provide and install concrete housekeeping pads for new electrical equipment as required.

**G. Instrumentation and Controls New Work:**

1. Provide and install the mechanical and electrical installation of new boiler controls.
2. Interconnect field devices with the Boiler local control panels as necessary.
3. Controls for mechanical equipment shall interface as BacNet.

**H. Structural New Work:**

1. Provide and install new concrete floor beams, trench fill, and structural steel for column support and steel roof framing for boiler exhaust stacks.
2. Repair and patch roofing to match existing, including necessary flashing around the stack penetration.

**I. The following exceptions and clarifications apply to the Boiler Project:**

1. Hazardous material abatement and removal is excluded from the scope of work and shall be performed by Cook County
2. The County shall provide all associated chemicals and maintain the water chemistry as defined by the boiler manufacturer.

**Equipment Manufacturers**

Refer to the scope of work.

**Locations Affected**

The scope of work is limited to the Powerhouse.

*End of Scope of Work for the New Fire Tube Boilers ECM*

**ECM: Steam Trap Repair & Replacement**

1. MECHANICAL:

- a. Repair/replace the steam traps that are listed as failed in Appendix E: Steam Trap Audit included in the Investment Grade Energy Audit report dated June 7, 2012. A quantity of 439 radiator steam traps in South Campus building 1, 3 and 4 will be replaced. Re-install insulation that was removed during the installation of the steam traps.

2. The following exceptions and clarifications apply to the Steam Trap Repair and Replacement ECM:

- a. Hazardous material abatement and removal is excluded from the scope of work and shall be performed by Cook County

**Equipment Manufacturers**

Replacement steam traps shall be manufactured by Armstrong or NORESKO-approved equal.

**Locations Affected**

- Central Plant
- CCB
- CCAB
- Division 5
- Division 9
- Division 11
- South Campus Building 1
- South Campus Building 2
- South Campus Building 3
- South Campus Building 4
- South Campus Building 5
- JTDC East
- JTDC West

***End of Scope of Work for the Steam Trap Repair and Replacement ECM***

**ECM: Replace Electric Chiller #8**

**1. MECHANICAL:**

**a. Demolition:**

- i. Remove and dispose of the chiller listed in Table 3 below.
- ii. Remove and reclaim existing R-11 refrigerant and oil in strict accordance with all applicable codes and regulations. The oil and refrigerant shall be properly disposed.
- iii. Disconnect the pumps CHWP-8, CWP- 8 from the existing Chilled water and Condenser water main and by-pass headers and CH-8.
- iv. Cut, cap and permanently seal the refrigerant relief vent from the purge valve at existing CH-8 at the tie-in to the common relief vent for Chillers CH-7, CH-8 & CH-9. Existing piping shall be cut back as required to facilitate the installation of the new chiller.
- v. Modify existing concrete housekeeping pad to accommodate new chiller.
- vi. To facilitate demolition and removal of the old chiller and pumps, and rigging and installation of the new chillers and new pumps into the mechanical room, the chilled water and condenser water piping will be removed / modified to the extent necessary. Chiller to be removed through new wall opening on side of building directly west of Chiller #8. New chiller to be installed through same opening. Building and associated security fencing to be repaired to match as close to existing conditions as possible.
- vii. Testing and abatement of hazardous materials including asbestos will be the responsibility of the County. The asbestos containing materials must be identified (tested) and abated prior to any work in these areas.

Central Plant	CH-8	Centrifugal	Trane	CVHE890	1,000	4,160 V
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Table 3 - Existing chiller to be removed and disposed.

**b. New Work:**

- i. Provide and install one (1) new chiller listed in Table 4, or NORESKO-approved equal. .
- ii. Provide and install new vibration isolation devices on the new chiller.
- iii. Provide and install the CHW piping, CW piping, drains, manual valves, and insulation to complete the mechanical installation of chiller. The existing valves, Griswold, check valves and piping-fittings will be re-used to the extent possible.
- iv. Provide and install a new Griswold control valve rated for 3,000 gpm flow on the existing 10 inch line from new CWP-8 to the new chiller condenser inlet.
- v. Provide and install an air elimination system (air vent taps) to assist in purging any air entrained in the system. Any existing air vent taps can be reused if they are in proper working condition.

- vi. Provide and install independent refrigeration relief piping from Chiller #8. Pipe sizing shall be in accordance with manufacturer's recommendations. Extend piping outside the building, in accordance with applicable codes. Provide and install flashing and seal roof/wall penetrations water tight.
- vii. Provide and install new refrigerant sampling line with end-of-the-line filter near Chiller #8. Provide and install new refrigerant monitor and exhaust fan.
- viii. Provide and install pipe insulation on new chilled water piping that is installed as a part of this project. Where necessary, furnish and install piping supports using clevis hangers outside the insulation, with sheet metal insulation shields between insulation and hangers. Reuse existing pipe supports and hangers to the extent possible.
- ix. Provide and install pipe labels, valve tags and valve identification schedule. Labels and tags to match existing in type, color, size and all other aspects.
- x. Provide and install new calibrated pressure gauges, thermometers / temperature gauges, pressure and temperature sensors to replace the existing on the newly piped-in chillers.

Central Plant	CH-8	Centrifugal	Carrier	19XR	1,000	4,160
						V

Table 4 - New chiller to be installed in place of existing Chiller #8.

2. ELECTRICAL:

a. Demolition and New Work:

- i. Refer to the electrical work narrative and the electrical diagrams located in Appendix G of the Investment Grade Energy Audit report dated June 7, 2012.

3. CONTROLS:

- a. Provide chiller with communication card with BACnet capability to connect the new chiller to an upgraded EMS.
- b. Provide support for commissioning of controls system and startup.

4. The following exceptions and clarifications apply to the Chiller Project:

- a. Hazardous material abatement and removal is excluded from the scope of work and shall be performed by Cook County
- b. The County shall provide all associated chemicals and maintain the water chemistry as defined by the chiller manufacture.

**Equipment Manufacturers**

The chiller shall be manufactured by Carrier or NORESKO-approved equal.

**Locations Affected**

The scope of work is limited to the Powerhouse.

*End of Scope of Work for the Replace Electric Chiller #8 ECM*

**ECM: New Electric Chiller #5**

**I. MECHANICAL:**

**a. Demolition:**

- i. Remove refrigerant and lithium bromide from existing chiller CH-5.
- ii. Remove and dispose of chiller listed in Table 1 below.
- iii. Disconnect and demo the existing steam supply lines from absorption chiller CH-5 back to the steam header. Seal and cap the steam supply line. Demolish the condensate lines, seal and cap the condensate lines from the CH-5 at the condensate receiver unit.
- iv. Demolish and remove Chilled Water Pump CHWP-5 and Condenser Water Pump CWP-5 with and appurtenant piping, electrical disconnects, and concrete foundation. Patch floor to match existing.
- v. Demolish and remove Chilled Water Pump CHWP-6 from existing chilled water supply, return and by pass headers; and Condenser Water Pump CWP-6 from existing condenser water supply, return and by-pass headers. Existing concrete foundations shall be reused for new installation of Chilled and Condenser Water Pumps CHWP-5 and CWP-5 serving new electric Chiller CH-5.
- vi. Modify the existing piping as necessary to facilitate demolition and removal, as well as the rigging and installation, of the chiller and pumps.
- vii. Testing and abatement of hazardous materials including asbestos will be the responsibility of the County. The asbestos containing materials must be identified (tested) and abated prior to any work in these areas.

Central Plant	CH-5	Absorption	Trane	ABSC14C4LH1S3DBADPS1	1,500	14

Table 1 – Existing absorption chiller to be removed.

**b. New Work:**

- i. Provide and install housekeeping pad/pad extension to accommodate new centrifugal Chiller #5. Install one (1) new electric Carrier Chiller, CH-5 as listed in table- 2 below, or NORESKO-approved equal. Pipe the new chiller to the new pumps and tie into existing chilled water supply, return and by-pass headers.
- ii. Reuse or modify the concrete foundations for the existing CHWP-6 and CWP-6 to install new pumps CHWP-5 and CWP-5. Re-pipe the new pumps back to the chilled water and condenser water supply, return and by-pass headers respectively.
- iii. Provide and install CHW piping, CW piping, drains, manual valves, and insulation to complete mechanical installation of chillers. Existing manual butterfly valves, strainers, basket strainers, check valves, Griswold pipe hangers, supports and piping to remain shall be reused to the extent possible.

- iv. Where necessary, piping supports shall be installed using clevis hangers outside the insulation, with sheet metal insulation shields between insulation and hangers. Reuse existing pipe supports and hangers to the extent possible.
- v. Provide and install independent refrigerant relief piping through roof or side wall from the purge valves for CH-5.
- vi. Insulate new chilled water piping.
- vii. Furnish and install pipe labels, valve tags, flow direction tags and valve identification schedule. Labels and tags to reasonably match existing in type, color, size and material.

Central Plant	CH-5	Centrifugal	Carrier	19XR	1,500	4,160 V

Table 2 - New chiller to be installed in place of existing Chiller #5.

2. ELECTRICAL:

- a. Demolition and New Work: Refer to the electrical work narrative and the electrical diagrams located in Appendix G Preliminary Drawings of the Phase 1: Investment Grade Energy Audit report date June 7, 2012.

3. CONTROLS:

- a. Provide chiller with communication card with BACnet capability to connect the new chiller to an upgraded EMS.

4. The following exceptions and clarifications apply to the Chiller Project:

- a. Hazardous material abatement and removal is excluded from the scope of work and shall be performed by Cook County
- b. The County shall provide all associated chemicals and maintain the water chemistry as defined by the chiller manufacturer.
- c. This ECM is dependent on the scope of work identified with the Replace Electric Chiller #8 ECM. These ECMs must be performed concurrently. This ECM requires a primary electrical service upgrade from Com Ed.
- d. The County shall procure a Com Ed study which is required to finalize the scope and cost of the electrical service work and the cost of the ECM could increase or decrease - depending on the outcome of that study. All work required of ComEd shall be contracted directly between the County and ComEd with all associated costs from ComEd incurred by the County. Any NORESKO project delays caused by County delays in procuring a Com Ed study shall be considered excusable delays.

**Equipment Manufacturers**

The chiller shall be manufactured by Carrier or NORESKO-approved equal.

**Locations Affected**

The scope of work is limited to the Powerhouse.

*End of Scope of Work for the New Electric Chiller #5 ECM*

**ECM: Replace Failed Variable Speed Drives (VFDs)**

**Division 9:**

**1. MECHANICAL**

- a. Motors will be removed and new motors will be installed as identified in Table 5. Motors are 460V, 3ph.

**2. ELECTRICAL**

- a. The existing VFDs in the MCC will be electrically bypassed.
- b. New VFDs will be installed on the list of AHU fans included in Table 5. VFDs shall have an internal disconnect, HOA switch and electronic bypass. The VFDs shall be installed between the VFD and the existing Motor Control Center (MCC).

**3. CONTROLS**

- a. The new VFDs will be integrated into the existing control system.
- b. The existing safeties will be re-installed into the new VFDs.
- c. Programming will be provided to properly control the new VFDs via the EMS. Programming to include VFD speed control, and new occupancy and OA temp schedules.

2	15	Y	Y	2.5	Y	Y
3	15	N	Y	5	Y	Y
4	100	N	Y	40	N	Y
5	25	Y	Y	7.5	Y	Y
6	7.5	N	Y	5	Y	Y
7	25	Y	Y	10	Y	Y
8	10	Y	Y	5	Y	Y

**Table 5 – List of AHU fan VFDs to be replaced in Division IX.**

**JTDC East and West:**

**1. MECHANICAL**

- a. Motors will be removed and new motors will be installed as listed in Table 6. Motors are 460V, 3ph.

**2. ELECTRICAL**

- a. The VFDs listed in Table 6 will be removed and disposed of properly.
- b. New VFDs listed in Table 6 will be installed. VFDs shall have an internal disconnect, HOA switch and electronic bypass. The new VFDs will be installed in the same location as the existing VFDs.

**3. CONTROLS**

- a. The new VFDs will be integrated into the existing control system.
- b. The existing safeties will be re-installed into the new VFDs.
- c. Programming will be provided to properly control the new VFDs via the EMS. Programming to include VFD speed control and new occupancy and OA temp schedules.

West	CHW Pump 9	40	Y
West	CHW Pump 10	40	Y
West	CHW Pump 11	40	Y
West	CHW Pump 16	30	Y
West	CHW Pump 17	30	Y
East	AHU S-6 SA Fan	15	Y

**Table 6 -- List of VFDs to be replaced in JTDC.**

**Equipment Manufacturers**

The VFDs shall be manufactured by ABB or NORESKO-approved equal.

**Locations Affected**

This ECM includes work in Division 9, JTDC East and JTDC West.

*End of Scope of Work for the Replace Failed VFDs ECM*

**ECM: CAV to VAV AHU Modifications**

**CCAB**

1. MECHANICAL
  - a. Remove existing AHU fan motors listed in Table 7 and dispose of properly.
  - b. Furnish and install new motors. Motors to be NEMA premium efficiency, inverter-duty rated. Motors to match size listed in Table 7. Motors are 460V, 3ph.
2. ELECTRICAL
  - a. Furnish and install a new VFD on the list of AHU fans included in Table 7. VFDs shall have an internal disconnect, HOA switch and electronic bypass.
  - b. Install the VFD between the existing MCC and the motor disconnect. The motor disconnect shall remain in place.
3. CONTROLS
  - a. Integrate the VFDs into existing control system.
  - b. Furnish and install a new duct static pressure sensor for each AHU to control VFD speed. Each duct pressure sensor shall be installed approximately 2/3 of the way down the main trunk duct.
  - c. Provide programming to properly control the new VFDs via the EMS. Programming to include VFD speed control, occupancy and OA temp schedules and other VAV fan operation strategies.

1	50	15
2	40	10
3	50	7.5
4	50	7.5
6	125	5
7	150	25
8	125	20
9	125	20
10	50	7.5

**Totals:                      765                      117.5**

**Table 7- AHUs in CCAB to be retrofitted to VAV units.**

**CCB:**

1. MECHANICAL
  - a. Remove existing AHU fan motors listed in Table 8 and dispose of properly.
  - b. Furnish and install new motors. Motors to be NEMA premium efficiency, inverter-duty rated. Motors to match size listed in Table . Motors are 460V, 3ph.
  - c. Lock inlet vanes installed on AHU fans open.
2. ELECTRICAL
  - a. Furnish and install a new VFD on the list of AHU fans included in Table 8. VFDs shall have an internal disconnect, HOA switch and electronic bypass.
  - b. Install the VFD between the existing MCC and the motor disconnect. The motor disconnect shall remain in place.
3. CONTROLS
  - a. Integrate VFDs listed in Table 8 into existing control system.
  - b. Furnish and install a new duct static pressure sensor for each AHU and new control wire to control VFD speed. Each AHU duct pressure sensor shall be installed approximately 2/3 of the way down the main trunk duct.
  - c. Provide programming to properly control the new VFDs via the EMS. Programming to include VFD speed control and new occupancy and OA temp schedules.

3	25	15
4	25	15
5	30	15
6	30	15
7	25	15

**Totals:                      135                      75**

**Table 8 – AHUs in CCB to be retrofitted to VAV Units.**

**Equipment Manufacturers**

The VFDs shall be manufactured by ABB or NORESKO-approved equal.

**Locations Affected**

This ECM includes work in CCAB and CCB.

*End of Scope of Work for the CAV to VAV AHU Modifications ECM*

## **ECM: EMS Upgrade and Expansion**

The following acronyms are used throughout the scope of work for this ECM and subsequent ECMs related to the Energy Management System:

- 
- ADS – Application and Data Server
  - NAE – Network Application Engine
  - NIE – Network Integration Engine
  - NCE – Network Control Engine
  - NCU – Network Control Unit
  - NCM – Network Control Module
  - NEU – Network Expansion Unit
  - FEC – Field Equipment Controller
  - VMA – Variable Air Modular Assembly
  - ASC – Application Specific Controller
  - MS/TP – Master-Slave/Token-Passing
  - IOM – Input/Output Module
  - XTM – Extension Module

### **EMS Controls Upgrades**

Note that the contract includes running communication lines from the new controllers up to 100 feet to County-provided IP drops. Any work necessary to extend the communication lines further is the responsibility of the County.

### **CCB / CCAB Buildings**

1. Upgrade Metasys network
  - a. Upgrade existing ADS server software to the most recently released version of Metasys.
  - b. Replace four (4) existing NAEs with four (4) new NAEs and connect to IP drops. Include 24 hours of onsite operator training.
  - c. Provide software programming and technical labor to integrate the existing system points into the NAE and validate associated points.

### **Division 9 Building**

1. Upgrade Metasys Network
  - a. Replace the five (5) existing NCMs with two (2) new NAEs and five (5) new FECs. The new NAEs will provide supervisory control for the building, and the FECs will replace the existing NCMs to provide I/O connectivity for the existing controls. Reuse compatible existing relays and transducers located in the existing panels and replace 12vdc devices. Install a new MS/TP Bus for each of the new controllers.

- b. Replace the existing workstation and provide a new workstation for user interface. New workstation to include latest version of Metasys software.
- c. De-commission the existing operator work station and leave it in place as the archive server.
- d. Provide software programming and technical labor to integrate the existing system and new points into the NAE and validate all points.

## 2. Upgrade Existing C-210 Controllers

- a. Remove and replace the existing C-210 controllers for each of the one hundred twenty four (124) VAV Boxes. Install one hundred and twenty four (124) new VMA Controllers to replace the C-210 controllers. Reuse compatible existing relays and replace all 12vdc devices. Install a new MS/TP Bus for each of the new controllers.

## Division 11 Building

### 1. Upgrade Metasys Network

- a. Install one (1) new NAE in the penthouse of each of the four (4) pods and connect to Subcontractor-provided IP drop. Connect the existing N2 devices in that pod that will not be retrofitted to the new NAEs. Connect the NAEs to IP drops.
- b. Remove and replace the two (2) existing NEU panels in the penthouse of each of the four (4) pods with a new FEC and associated IOMs. Connect new FEC to the existing NCE with a new MS/TP bus.
- c. Remove and replace the existing NEU panel on the third floor of each of the (4) pods with a new N2 XTM Panel. Reconnect the new XTM panel to the existing N2 bus.
- d. Install four (4) new NAEs on the third floor of the core and connect to IP drops. Re-connect all existing N2 devices in the core to the new NAEs.
- e. Remove and replace the existing four (4) NCU panels on the third floor of the core with new FECs and associated IOMs. Connect new FEC to the new NAEs with a MS/TP bus.
- f. Remove and replace the (1) existing NEU panel on the second floor of the core with one (1) new FEC and associated IOMs. Connect new FEC to the new NAEs with a MS/TP bus.
- g. Remove and replace one (1) existing NEU panel on the first floor of the core with a new N2 XTM Panel. Reconnect the new XTM panel to the existing N2 bus.
- h. Replace one (1) existing NCM with new NAE in the basement level and connect to IP drop. Existing Metasys controllers shall be connected to the new NAE via the existing N2 communication bus.

Replace the existing workstation and provide a new workstation for user interface. New workstation to include latest version of Metasys software.

- i. Provide software programming and technical labor to integrate the existing system points into the NAE and validate all points.

Cook County DOC- South Campus Buildings 2 and 5

1. Upgrade Metasys Network

- a. Replace one (1) existing NCM each in Building 2 and Building 5 with two (2) new NAEs and connect to IP drops. Existing Metasys controllers shall be connected to the NAE via the existing N2 communication bus. Replace the existing workstation and provide a new workstation for user interface. New workstation to include latest version of Metasys software at the time of contract execution.
- b. Provide software programming and technical labor to integrate the existing system points into the NAE and validate all points.

Central Plant

1. Central Plant

- a. Furnish and install four (4) new NCEs, one for each existing DDC panel NCU-1 through NCU-4 and connect to IP drop.
- b. Replace existing DCM/XM controllers operating chillers one through nine and install nine (9) new FEC I/O Modules and terminate points from the old controllers to the new controllers. Reuse existing relays and transducers located in the existing panels. Reuse the N2 bus as a MS/TP Bus.
- c. Replace the existing AS-UNT controller with one (1) new FEC for chiller ten. Reuse existing relays and transducers located in the existing panels. Reuse the N2 bus as a MS/TP Bus.
- d. Replace the existing AS-AHU controller with one (1) new FEC for control of the boiler ventilation system. Reuse existing relays and transducers located in the existing panels. Reuse the N2 bus as a MS/TP Bus.
- e. Replace the existing workstation and provide a new workstation for user interface. New workstation to include latest version of Metasys software

2. Chilled Water Bridge DDC Upgrade

- a. Remove the twelve (12) existing DX Controllers serving the twelve Chilled Water Bridges. Install twelve (12) new FECs, one for each DX Controller. Reuse existing relays and transducers located in the existing panels. Reuse the N2 bus as a MS/TP Bus.

JTDC East Building:

1. Upgrade the existing Legacy Metasys Controllers

- a. Replace the five (5) existing NCMs with new NAEs and connect to IP drops.

- b. New NAEs to be networked in with the existing NAEs installed as part of the West Building's Chiller / Boiler replacement project, which has already been completed as part of a separate contract.
- c. Provide software programming and technical labor to integrate the existing system points into the NAE and validate all points.
- d. Replace the existing workstation and provide a new workstation for user interface. New workstation to include latest version of Metasys software

The following exceptions and clarifications apply to the EMS Upgrades and Expansion Project:

Hazardous material abatement and removal is excluded from the scope of work and shall be performed by Cook County

#### **Equipment Manufacturers**

The new controls systems and components will be manufactured by Johnson Controls, Incorporated.

#### **Locations Affected**

This ECM includes work in the following buildings:

- Powerhouse
- CCB
- CCAB
- Division 9
- Division 11
- South Campus Building 2
- South Campus Building 5
- JTDC East

***End of Scope of Work for EMS Upgrade ECM***

## **EMS Controls Expansion**

A controls point list for the Controls Expansion can be found in Appendix I of the Investment Grade Energy Audit dated June 7, 2012.

### CCAB

The scope of this ECM is to expand the DDC control system to the zone level by installing new wireless thermostats in each zone. Although this will not give the EMS control of the terminal boxes, it will provide the system – and therefore the maintenance staff – with accurate information about zone temperatures. It will also allow the building temperature to be reset at night, resulting in significant energy savings.

1. Furnish and install new wireless zone sensors in 450 zones throughout CCAB.
2. Provide appropriate controls infrastructure to allow the EMS to communicate with the new wireless sensors.

### CCB

The scope of this ECM is to expand the DDC control system to the zone level. Note that paragraphs 1 and 2 are scopes that are limited to installing wireless controllers that provide temperature feedback – but not control – of the zones. The scope in paragraph 3 includes controls that both monitor zone temperatures and control electric reheat coils. Paragraph 4 is the replacement of TRVs that will control the temperature of hot water radiators, but don't provide feedback to the EMS.

1. Built-Up AHUs 1, 2 (serve the basement)
  - a. Furnish and install new wireless zone sensors in twelve (12) zones in the basement to provide remote monitoring of the areas served by AHUs 1 and 2.
  - b. Provide appropriate controls infrastructure to allow the EMS to communicate with the new wireless sensors.
2. Built-Up AHUs 3-7 (serve floors 1 through 3)
  - a. Furnish and install new wireless zone sensors in one hundred and ninety six (196) zones in floors 1 through 3 to provide remote monitoring of the areas served by AHUs 3 through 7.
  - b. Provide appropriate controls infrastructure to allow the EMS to communicate with the new wireless sensors.
3. Cooling-Only Units (serve floors 4 through 7)
  - a. Furnish and install seventy three (73) DDC wireless temperature sensors with digital outputs to control the existing electric reheat coils on floors 4 – 7 and provide remote monitoring of the areas served by the twenty three (23) cooling-only units.
  - b. Provide appropriate controls infrastructure to allow the EMS to communicate with the new wireless sensors.

4. Hot Water Radiators

- a. Demo the existing twenty three (23) hot water radiators Temperature Regulating Valves (TRVs).
- b. Furnish and install new TRVs and wall-mounted temperature sensors with the following characteristics for those radiators.
  - i. Valves shall be Danfoss RA 2000 or NORESCO-approved equal.
  - ii. Actuators shall be Danfoss 013G8562 or NORESCO-approved equal.

Division 5

.This ECM includes the scope to install new digital controls on the equipment, while leaving the existing pneumatic actuations for dampers and valves, as well as the zone-level pneumatic thermostats.

1. DDC Installation

- a. Furnish and install new DDC controls system for the major mechanical equipment, including the following.
  - a. Thirteen (13) AHUs
  - b. Five (5) Heating Ventilators
  - c. One (1) MAU
  - d. Eight (8) Heating Pumps
  - e. Two (2) CHW Pumps
- b. Install one (1) new Network Application Engines (NAE) and connect to IP drop. Include 24 hours of onsite operator training.
- c. Pneumatic actuators are to remain in place. Where necessary, install E/P transducers to convert electric signals to pneumatic.

### JTDC - West Building

The scope of this ECM is to expand the DDC control system to the occupied building spaces by installing four wireless temperature sensors per floor. Although this will not give the EMS control of the equipment installed in the zones, it will provide the system – and therefore the maintenance staff – with accurate information about zone temperatures. It will also allow the building temperature to be reset at night, resulting in significant energy savings.

1. Wireless DDC Temp Sensors
  - a. Install four (4) new space temperature sensors per floor on Concourses 1 through 8 (total of 32).
  - b. Install controllers necessary to support the integration of the new temp sensors into the existing EMS.
2. The following exceptions and clarifications apply to the EMS Controls Expansion Project:
  - a. Hazardous material abatement and removal is excluded from the scope of work and shall be performed by Cook County

### **Equipment Manufacturers**

The new controls system will be manufactured by Johnson Controls, Incorporated.

### **Locations Affected**

This ECM includes work in the following buildings:

- CCB
- CCAB
- Division 5
- JTDC West

*End of Scope of Work for EMS Controls Expansion ECM*

**ECM: End Device Repair (EDR)**

This ECM includes repair or replacement of non-functional end devices. This will happen in two stages: 1) a full system checkout of the existing controls end devices that will be performed as part of the Controls Upgrade and Expansion ECM, and 2) replacement of the sensors, actuators and other devices that are found to be deficient.

The ESCO will, during the course of its work, survey and functionally test the controlled equipment end devices. End devices that are identified as needing repair will be prioritized and repaired to improve the functionality of the controlled system and in accordance with the limits as detailed in the Investment Grade Energy Audit dated June 7, 2012. The ESCOs project team will determine the priority of the repairs and maintain the records of the repairs. ESCO representatives and the County's Project Manager/representative will review on a monthly basis the list of repairs, outstanding deficiencies, cost for the repairs and the balance of the Repair Fund. After prioritized work as defined above is completed by the ESCOs project team, the County's Project Manager/representative can direct any remaining balance of Repair Funds to complete any additional desired work. The replacement of components and utilization of the repair and replacement fund will be at the sole discretion of the ESCO.

Within forty-five days of receipt of an invoice from ESCO, the County will pay ESCO for the end device work completed. ESCO will receive a 15% markup on the work completed for this ECM. The ESCO will receive additional compensation for work completed, if required, exceeding the amount allocated in this agreement for the End Device Repair. The County will receive a credit for any unused End Device Repair funds, or it may direct NORESKO to do additional work to utilize the remaining funds.

Compensation is due to ESCO in connection with the End Device Repair Fund as described below.

- (a) **End Device Repair Fund** - The ESCO has identified building equipment that will be controlled as part of this ECM. However, it is impractical to have tested the functional operation of each piece of equipment involved in the controlled systems. Therefore, the Parties acknowledge and have agreed to the establishment of a defined End Device Repair fund to be used to identify system deficiencies and make repairs as necessary to repair and restore controlled systems to operate efficiently and deliver the expected energy savings.

The End Device Repair fund totals \$1,965,000. The breakdown for this End Device Repair Fund is detailed in D2-1 below.

Table D2-1: Breakdown of End Device Repair Fund

Subcontractor Direct Costs	\$1,670,250
ESCOs Management Fee (15% Mark Up)	\$294,750

The following is a list of typical devices that will be included in the system checkout and will be repaired / replaced as necessary.

1. Control Devices

a. Pneumatic or Digital

- i. Damper Actuators
- ii. Valve Actuators
- iii. Thermostats
- iv. Temp Sensors, Bulb
- v. Temp Sensors, Averaging
- vi. Humidity Sensors
- vii. Pressure Sensors
- viii. Differential Pressure Sensors
- ix. Flow Sensors
- x. Turbine Water Flow Sensors
- xi. Start / Stop Relays
- xii. P/E Transducers

The amount of the End Device Repair fund is based on repairing/replacing controls components such as sensors and actuators, and is not intended to include the cost necessary to repair all system deficiencies. Depending on prioritization, other system components that could be repaired through available End Device Repair funds (or through other funding) include, but are not limited to, the following:

1. Valves, Manual
2. Valves, Control (the scope includes actuators but not replacement of valve bodies)
3. Dampers, Manual
4. Dampers, Control (the scope includes actuators but not replacement of the dampers themselves)
5. Dampers, Fire

**Equipment Manufacturers**

Equipment manufacturers shall be selected as the scope of work is defined.

The following exceptions and clarifications apply:

Hazardous material abatement and removal is excluded from the scope of work and shall be performed by Cook County

**Locations Affected**

The following Buildings will be included in the End Device Repair ECM:

- Central Plant
- CCAB
- CCB
- Division 5
- Division 9
- Division 11
- South Campus Building 2
- South Campus Building 5
- JTDC – East
- JTDC – West

*End of Scope of Work for the End Device Repair (EDR) ECM*

**ECM: Replace Chilled Water (CHW) Pumps**

1. MECHANICAL:
  - a. Remove three (3) CHW pumps and motors.
  - b. Install three (3) CHW pumps. Pumps to be floor-mounted, end-suction centrifugal pumps with vertical discharge. Pump motors are 460V, 3ph.
  - c. Install piping, valves, insulation, and drain lines to make a complete mechanical installation.
  - d. Existing housekeeping pad and associated vibration isolators shall remain and be reused.
  - e. Install taps for the installation of a differential pressure sensor to be installed across the CHW coil of AHU 10.
2. ELECTRICAL:
  - a. Install a new VFD on each of the pumps. VFDs shall have an internal disconnect, HOA switch and electronic bypass.
  - b. Install the VFD by each pump across from the existing MCC.
3. CONTROLS:
  - a. Integrate VFDs into existing control system.
  - b. Install a differential pressure sensor to control VFD speed. The sensor is to be installed across the AHU 10 CHW coil.
  - c. Install low-voltage control wiring to connect VFDs and sensors to the EMS.
  - d. Provide programming to properly control the VFDs via the EMS.
  - e. Provide controls commissioning and startup support.

**Equipment Manufacturers**

The pump manufacturer will be Bell and Gossett or NORESKO-approved equal.  
The VFD manufacturer will be ABB or NORESKO-approved equal.

**Equipment Manufacturers**

Equipment manufacturers shall be selected as the scope of work is defined.

The following exceptions and clarifications apply:

Hazardous material abatement and removal is excluded from the scope of work and shall be performed by Cook County

**Locations Affected**

The work is limited to CCAB.

*End of Scope of Work for the Replace CHW Pumps ECM*

**ECM: Temperature Regulating Valve (TRV) Installation on Steam Radiators**

1. MECHANICAL:

- a. Remove and dispose of four hundred and thirty nine (439) manual steam valves.
- b. Three hundred and ten (310) radiators are located in areas housing inmates. TRVs with the following characteristics will be installed for those radiators.
  - i. Valves shall be Danfoss RA 2000 or approved equal.
  - ii. Actuators shall be Danfoss 013G8240 or approved equal.
- c. One hundred and twenty nine (129) radiators are located in office areas. TRVs with the following characteristics will be installed for those radiators.
  - i. Valves shall be Danfoss RA 2000 or approved equal.
  - ii. Actuators shall be Danfoss 013G8562 or approved equal.

2. ELECTRICAL:

- a. No electrical work required.

3. CONTROLS:

- a. No controls work required.

4. The following exceptions and clarifications apply:

- a. Hazardous material abatement and removal is excluded from the scope of work and shall be performed by Cook County

**Equipment Manufacturers**

The valves and actuators will be manufactured by Danfoss or NORESKO-approved equal.

**Locations Affected**

New TRVs will be installed on the steam radiators throughout following buildings:

- South Campus Building 1
- South Campus Building 3
- South Campus Building 4

***End of Scope of Work for the TRV Installation ECM***

**ECM: Insulation**

1. MECHANICAL:
  - a. Install insulation on mechanical piping as identified in Table 9.
  - b. Install removable insulation covers on the valves listed in Table 10.
  - c. Install insulation on the steam-to-DHW heat exchanger listed in Table .
  
2. ELECTRICAL:
  - b. No electrical work required.
  
3. CONTROLS:
  - c. No controls work required.
4. The following exceptions and clarifications apply to the Insulation Project:
  - a. Hazardous material abatement and removal is excluded from the scope of work and shall be performed by Cook County

CCAB	6 <sup>th</sup> Floor Mechanical	HW	30	2"
CCAB	Basement Mechanical	Condensate	40	2"
CCAB	Basement Mechanical	HW	10	2"
CCB	Basement Mechanical	15 psi Steam	100	2"
CCB	Basement Mechanical	100 psi Steam	30	8"
Division 5	Basement Mechanical	Condensate	50	2"
Division 5	Penthouse 1	15 psi Steam	15	2"
Division 5	Penthouse 2	15 psi Steam	15	2"
Division 5	Penthouse 3	15 psi Steam	15	2"
Division 5	Penthouse 4	15 psi Steam	15	2"
South Campus – Bldg 1	Basement Mechanical	15 psi Steam	20	2"
South Campus – Bldg 2	Basement Mechanical	100 psi Steam	12	2"
South Campus – Bldg 3	Basement Mechanical	15 psi Steam	20	2"
Powerhouse	Steam Tunnels	100 psi Steam	99	12"
Powerhouse	Steam Tunnels	100 psi Steam	3	4"
Powerhouse	Steam Tunnels	15 psi Steam	18	6"
Powerhouse	Steam Tunnels	15 psi Steam	21	8"
Powerhouse	Steam Tunnels	15 psi Steam	21	8"
Powerhouse	Steam Tunnels	Condensate	6	3"

Powerhouse	Steam Tunnels	Condensate	12	4"
Powerhouse	Steam Tunnels	DHW	30	8"

Table 9 - Insulation scope for mechanical piping.

CCAB	Basement Mechanical	100 psi Steam	10	8"
CCAB	6 <sup>th</sup> Floor Mechanical	15 psi Steam	10	2"
CCB	Basement Mechanical	100 psi Steam	15	8"
Division 5	Basement Mechanical	100 psi Steam	5	8"
Division 5	Basement Mechanical	15 psi Steam	5	2"
Division 5	Penthouse 1	15 psi Steam	3	2"
Division 5	Penthouse 2	15 psi Steam	3	2"
Division 5	Penthouse 3	15 psi Steam	3	2"
Division 5	Penthouse 4	15 psi Steam	3	2"
Division 9	Room 0007	100 psi Steam	7	8"
Division 9	Room 0007	15 psi Steam	4	2"
Division 11	A-Pod Mechanical	15 psi Steam	5	2"
Division 11	B-Pod Mechanical	15 psi Steam	5	2"
Division 11	C-Pod Mechanical	15 psi Steam	5	2"
Division 11	D-Pod Mechanical	15 psi Steam	5	2"
Division 11	Core Basement Mechanical	15 psi Steam	5	2"
South Campus Bldg 1	Basement Mechanical	15 psi Steam	10	2"
South Campus Bldg 2	Basement Mechanical	100 psi Steam	3	8"
South Campus Bldg 2	Basement Mechanical	15 psi Steam	3	2"
South Campus Bldg 3	Basement Mechanical	15 psi Steam	5	2"
South Campus Bldg 5	Basement Mechanical	15 psi Steam	6	2"
Powerhouse	Steam Tunnels	15 psi Steam	15	6"
Powerhouse	Steam Tunnels	100 psi Steam	11	6"

Table 10 - Valves requiring removable insulation covers to be installed.

South Campus – Bldg 2	Basement Mechanical	15 psi Steam	6'	12"

**Table 11 - Heat exchangers requiring insulation.**

**Equipment Manufacturers**

Not applicable.

**Locations Affected**

Refer to tables 9, 10 and 11 for the specific locations affected by this ECM.

***End of Scope of Work for the Insulation ECM***

**ECM: Solar Thermal Project**

1. MECHANICAL:

- a. Install a pressurized solar hot water system consisting of the following components:
  - i. Twenty (20) 4' x 10' AET Solar Collectors with ground mount racking
  - ii. Three (3) 200-gallon Commercial Solar Storage Tanks with brass fittings
  - iii. Two (2) FlatPlate Stainless Steel Double Wall Solar Heat Exchangers
  - iv. Two (2) Caleffi Expansion Tanks
  - v. Four (4) Grundfos Solar Circulating Pumps
  - vi. Two (2) IMC Eagle Solar Controls with Digital Display
  - vii. Two (2) Anti-Freeze (low toxicity) Fluid Handling Packages
  - viii. One (1) 3-valve Solar Tank Bypass
  - ix. One (1) BTU meter One (1) IMC Eagle Solar Control
- b. Install piping, valves, and insulation to make a complete mechanical insulation.

2. ELECTRICAL:

- a. Install required electrical connections to make a complete installation.

3. CONTROLS:

- a. No separate controls work required.

**Equipment Manufacturers**

Refer to the scope of work.

**Locations Affected**

The solar hot water heating system will be installed at the Boot Camp facility, Dorm 1.

***End of Scope of Work for the Solar Thermal ECM***

**ECM: Sub-meter Installation**

**Sub-meter Installation: Electric Meters**

1. MECHANICAL
  - a. No mechanical work required.
2. ELECTRICAL
  - a. Install electric meters listed in Table 12.
3. CONTROLS
  - a. Furnish electric meters listed in Table 12. Meters to be installed by Electrical Subcontractor.
  - b. Connect meters to the existing JCI EMS.
  - c. Provide programming to display the meter outputs.
  - d. Create a monthly report that displays the total consumption for that month.

CCAB	480	Basement Electrical (adjacent to Basement Mechanical, north side)
CCB	480	Basement Electrical (adjacent to Basement Mechanical, behind steam entrance)
Div 5	480	Basement Electrical, near DHW tanks
Div 9	480	Basement Electrical (adjacent to Mechanical Room 0007)
Div 11	480	Basement Electrical (adjacent to generator room)
South Campus – Bldg 1	240	Basement Electrical
South Campus – Bldg 2	480	Basement Electrical
South Campus – Bldg 3	240	Basement Electrical
South Campus – Bldg 4	240	Basement Electrical (in fire pump room)
South Campus – Bldg 5	480	Basement Electrical (room next to heat exchanger room)

Table 12 – Electric meters to be installed at the DOC campus.

**Sub-meter Installation: Steam Meters**

1. MECHANICAL
  - a. Install the steam meters listed in Table . Meters to be furnished by Controls Subcontractor.
  
2. ELECTRICAL
  - a. No power electrical work required, EMS control wiring scope listed below.
  
3. CONTROLS
  - a. Furnish the steam meters listed in Table . Meters to be installed by Mechanical Subcontractor.
  - b. Electrically connect meters to the existing JCI EMS.
  - c. Provide programming to display the meter outputs.
  - d. Create a monthly report that displays the total consumption for that month.

CCAB	12	Basement Mechanical	150	15,000
CCB	12	Basement Mechanical	150	15,000
Div 5	10	Basement Mechanical	150	10,000
Div 9	10	Basement Mechanical	150	10,000
		Existing to be Reused		
South Campus	10	Steam Tunnel to South Campus	150	15,000
Central Plant - CHW Plant	12	CHW Plant	150	15,000
City Connection	14	Basement of Boiler Plant	150	20,000

**Table 13 – Steam meters to be installed at the DOC campus.**

**Sub-meter Installation: Condensate Meters**

1. MECHANICAL
  - a. Install the condensate meters in all of the buildings listed in Table .
2. ELECTRICAL
  - a. No power electrical work required, EMS control wiring scope listed below.
3. CONTROLS
  - a. Furnish the condensate meters listed in Table . Meters to be installed by Mechanical Subcontractor.
  - b. Connect meters to the existing JCI EMS.
  - c. Provide programming to display the meter outputs.
  - d. Create a monthly report that displays the total consumption for that month.

**Sub-meter Installation: Water Meters**

1. MECHANICAL
  - a. Install the water meters listed in Table 14. Meters to be furnished by Controls Subcontractor.
2. ELECTRICAL
 

No power electrical work required, EMS control wiring scope listed below
3. CONTROLS
  - a. Furnish the water meters listed in Table 14.
  - b. Connect meters to the existing JCI EMS.
  - c. Provide programming to display the meter outputs.
  - d. Create a monthly report that displays the total consumption for that month.
4. The following exceptions and clarifications apply:
  - a. Hazardous material abatement and removal is excluded from the scope of work and shall be performed by Cook County

CCAB	12	Basement Mechanical	100
CCB	12	Basement Mechanical	100
Div 5	8	Basement Mechanical	100
Div 9	8	Rom 0007	100
Div 11	6	Basement Mechanical (Core)	100
South Campus – Bldg 1	4	Basement Mechanical	100
South Campus – Bldg 2	6	Tunnels – Outside Bldg 2 Basement Mechanical	100
South Campus – Bldg 3	6	Tunnels - Building 3 Entrance	100
South Campus – Building 4	6	Tunnels - Building 4 Entrance	100
South Campus – Building 5	4	Tunnels – Near Condensate Pumps	100
Central Plant – Boiler Makeup	6	Boiler Room – Basement	100

Central Plant - CHW Makeup	2	Boiler Room – East Wall	100
Central Plant – CT Makeup	4	Boiler Room – East Wall	100

Table 14 – Water meters to be installed at the DOC campus.

**Sub-meter Installation: CHW Bridge Calibration**

**DETAILED SCOPE OF WORK**

1. MECHANICAL

- a. No mechanical work required.

2. ELECTRICAL

- a. No electrical work required.

3. CONTROLS

- a. Calibrate the CHW bridges at the following buildings:
- i. CCAB
  - ii. CCB
  - iii. Old Cermak
  - iv. New Cermak
  - v. Kitchen
  - vi. Division 1
  - vii. Division 3
  - viii. Division 4
  - ix. Division 5
  - x. Division 6
  - xi. Division 9
  - xii. Division 10
  - xiii. Division 11
- b. Provide the controls programming to totalize the CHW consumption at each building.
- c. Provide programming to display the meter outputs.
- d. If the existing meters are presently reporting proper data, a monthly report that displays the total consumption for that month shall be created.

**Equipment Manufacturers**

- Electrical Meters: Electrical meters to be Veris or NORESKO-approved equal.
- Steam Meters: Steam meters shall be Onicon F2600 Insertion-type Flow Meters or NORESKO-approved equal.
- Condensate Meters: Condensate water meters shall be Onicon F-3100 In-Line Electromagnetic Flow Meters or NORESKO-approved equal.
- Domestic Water Meters: Domestic water meters shall be Onicon F-3100 In-Line Electromagnetic Flow Meters, Onicon F-3100 In-Line Electromagnetic Flow Meters or NORESKO-approved equal.

**Locations Affected**

Refer to the scopes of work for the locations affected by this ECM.

*End of Scope of Work for the Sub-meter Installation ECM*

**Exhibit D**

**List of Subcontractors by Type of Service**

Final selection of Subcontractors to be utilized in this Guaranteed Energy Performance Contract shall be based on Cook County Approval from this list, or as otherwise submitted, and the Subcontractors ability to support the Project at the time of implementation.

Lighting	HVAC	EMS Controls	Professional Services	Electrical
All Tech Energy, Inc. 1000 E. State Parkway, Suite C Schaumburg, IL 60173 WBE	AMS Mechanical Systems, Inc. 140 E. Tower Drive Burr Ridge, IL 60527	Johnson Controls Inc. (JCI) 3007 Malmo Drive Arlington Heights, IL 60005	AMS Mechanical Systems, Inc. 140 E. Tower Drive Burr Ridge, IL 60527	AMS Mechanical Systems, Inc. 140 E. Tower Drive Burr Ridge, IL 60527
Code Engineering 2021 Midwest Road, Suite 200 Oakbrook, IL 60523 MBE	A & H Mechanical, Inc. 1215 East 79 <sup>th</sup> Street Chicago, IL 60619 MBE	Applied Controls and Contracting Services, Inc. (ACCS) 539-541 W. Taft Drive South Holland, IL 60473 MBE	Comprehensive Construction Consulting, Inc. 300 Wells, Suite 1002 Chicago, IL 60606 MBE	Code Engineering 2021 Midwest Road, Suite 200 Oakbrook, IL 60523 MBE
ECO Lighting 724 W. Racquet Club Drive Addison, IL 60101 WBE	Kroeschell Engineering Co. 3222 North Kennicott Avenue Arlington Heights, IL 60004		Target Group, Inc. 330 South Wells, Suite 400 Chicago, IL 60605	Kroeschell Engineering Co. 3222 North Kennicott Avenue Arlington Heights, IL 60004
EverLights 9901 S. Torrence Avenue Chicago, IL 60617 WBE	Autumn Construction Services 1400 E. Touhy Avenue, Suite 477 Des Plaines, IL 60018 WBE		Primera Engineers 100 S. Wacker Drive, Suite 700 Chicago, IL 60606 MBE	Quantum Crossing 111 E. Wacker Drive Chicago, IL 60601 MBE
MZI Group, Inc. 2251 W. Grand Avenue Chicago, IL 60612 MBE				Taylor Electrical 4145 West Kinzie Street Chicago, IL 60624 MBE
Quantum Crossing 111 E. Wacker Drive Chicago, IL 60601 MBE				Cable Communications 8200 S. Oakley Avenue Chicago, IL 60636 WBE
National Retrofitting Group (NRG) 5707 W. Howard Street Niles, IL 60714				PCS Power & Communication Services 279 E. Helen Road Palatine, IL 60067 MBE
				Geo Services Inc. dba S & H Electric Co. 805 Amherst Court, Suite 204 Naperville, IL 60565 MBE

## Exhibit E

### Key Personnel

The following is a list of the key NORESKO personnel assigned to the Cook County Corrections Guaranteed Energy Performance Contract. The assigned personnel are subject to change based on the actual timing of the work. Should NORESKO need to replace one of the key individuals listed below, it will do so with an individual with similar experience and qualifications.

#### Project Development

- Michael Lebar, Project Developer
- Bill Nortz, Manager, Project Development

#### Engineering Analysis & Design

- Christine Walker, Manager, Energy Engineering
- Steve McGreer, Sr. Engineer
- Mark Haskell, Design Engineer
- Pradeep Shah, Design Engineer

#### Construction Management

- Ray Smudde
- Chuck Donze, Project Manager
- Scott Gehrke, Project Manager
- Jason Schnaus, Asst. Project Manager

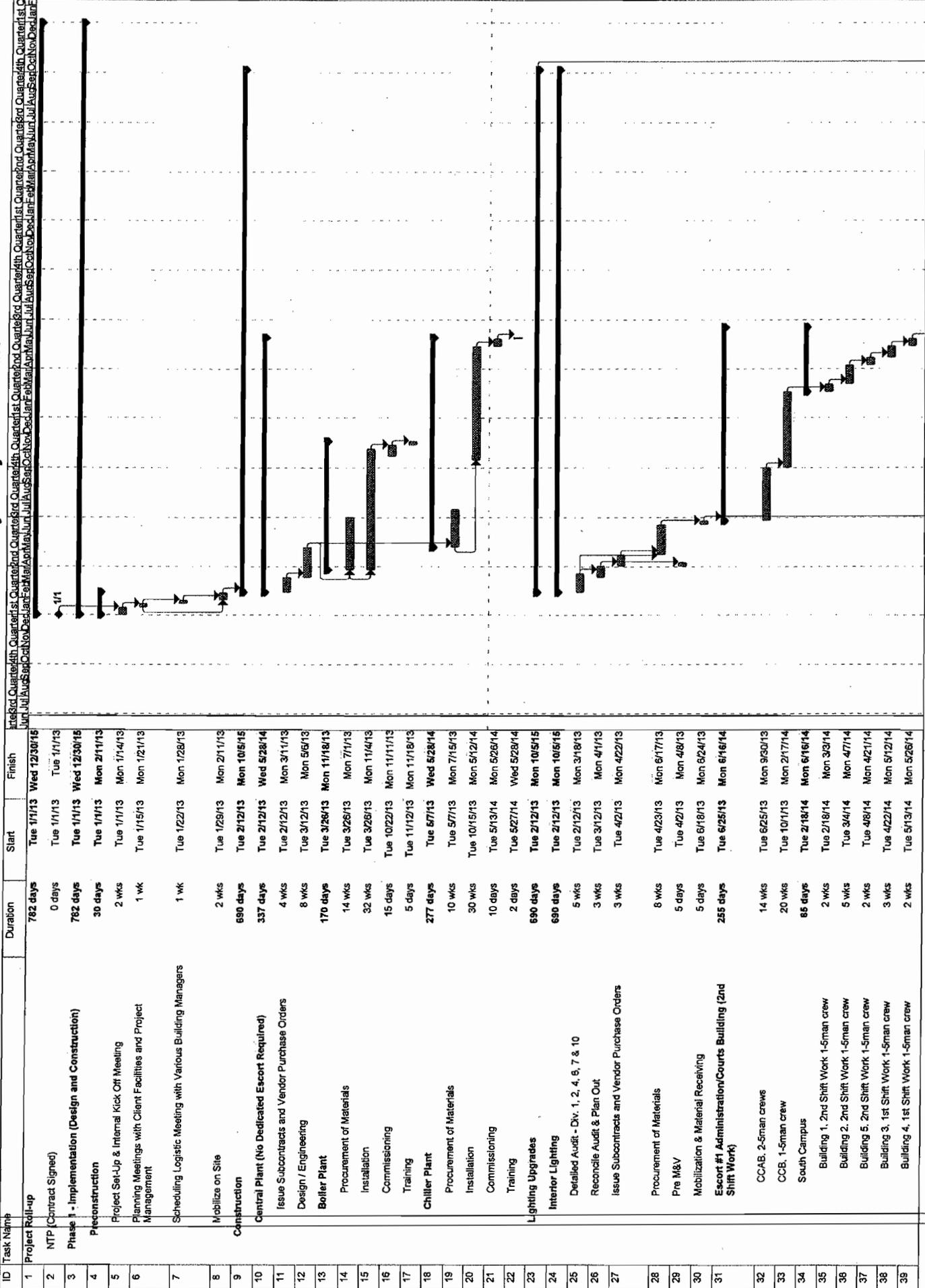
#### Measurement & Verification

- Sam Farouz, Sr. Engineer

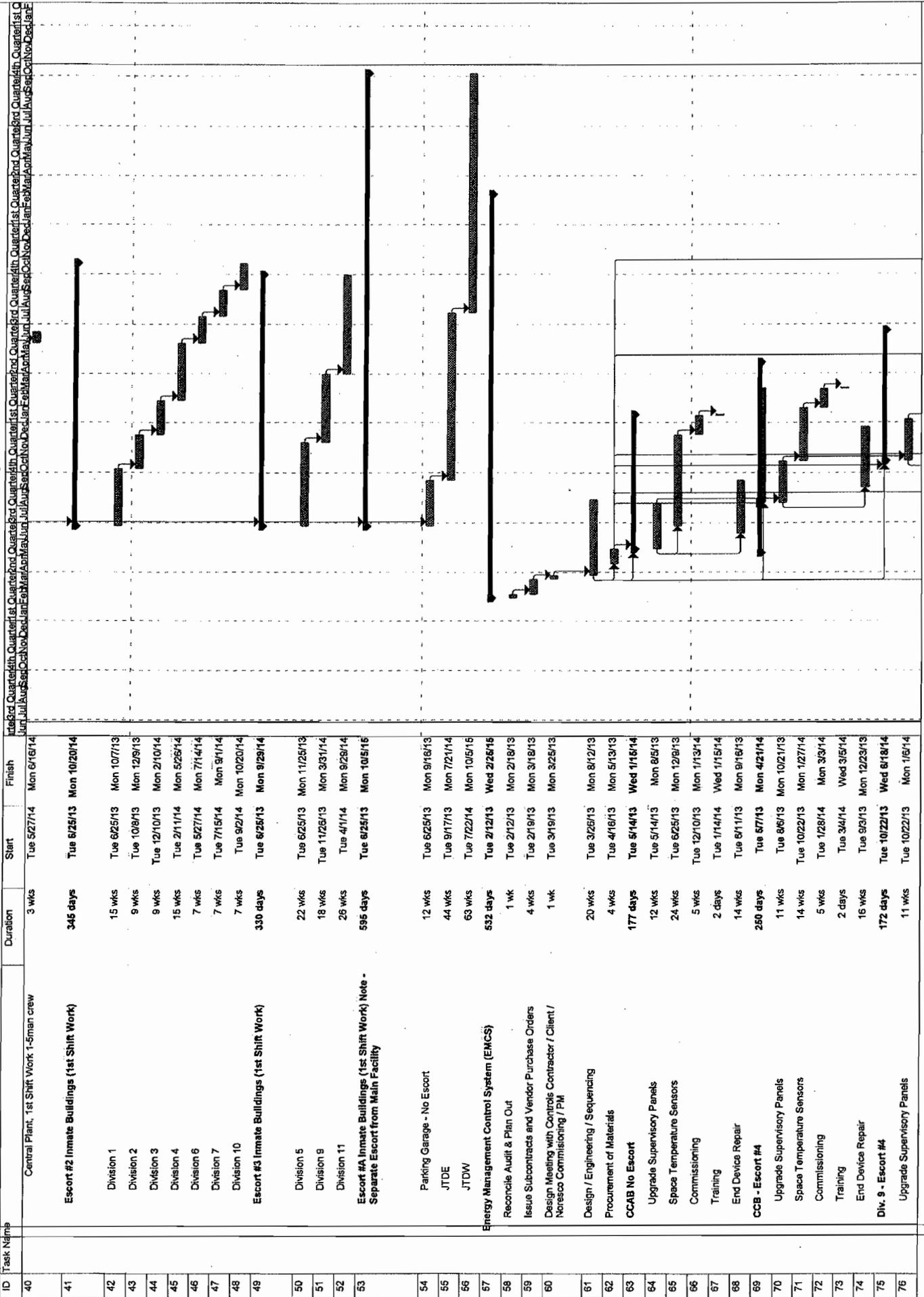
#### Commissioning

- Rodd Hirt, Commissioning Agent
- Pat Benefiel, Commissioning Agent

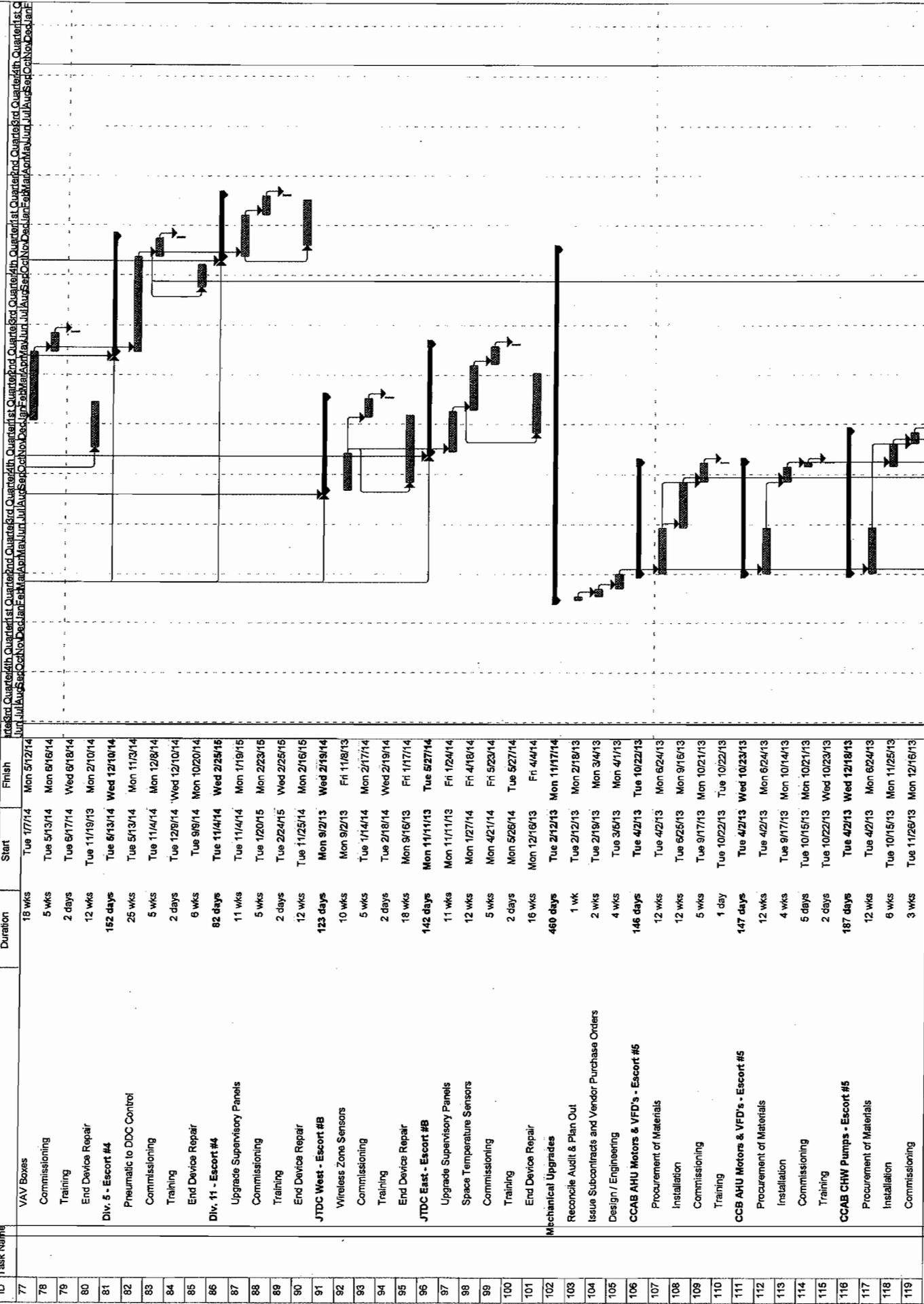
# Exhibit F - Cook County Corrections Preliminary - Project Schedule



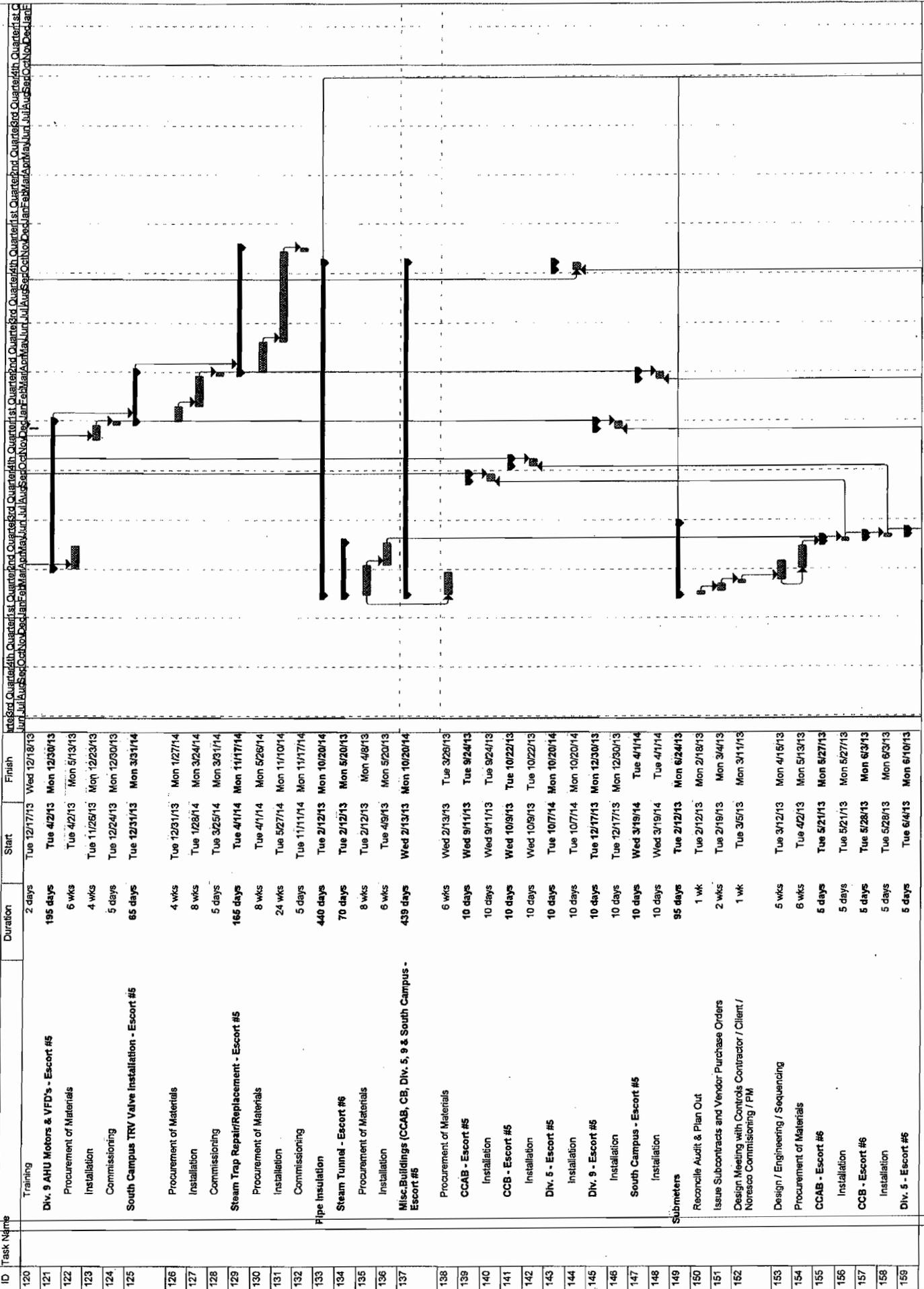
# Exhibit F - Cook County Corrections Preliminary - Project Schedule



# Exhibit F - Cook County Corrections Preliminary - Project Schedule



# Exhibit F - Cook County Corrections Preliminary - Project Schedule



ID	Task Name	Duration	Start	Finish
120	Training	2 days	Tue 12/17/13	Wed 12/18/13
121	Div. 9 AHU Motors & VFD's - Escort #5	195 days	Tue 4/2/13	Mon 12/30/13
122	Procurement of Materials	6 wks	Tue 4/2/13	Mon 5/13/13
123	Installation	4 wks	Tue 11/26/13	Mon 12/23/13
124	Commissioning	5 days	Tue 12/24/13	Mon 12/30/13
125	South Campus TRV Valve Installation - Escort #5	85 days	Tue 12/31/13	Mon 3/31/14
126	Procurement of Materials	4 wks	Tue 12/31/13	Mon 1/27/14
127	Installation	8 wks	Tue 1/28/14	Mon 3/24/14
128	Commissioning	5 days	Tue 3/25/14	Mon 3/31/14
129	Steam Trap Repair/Replacement - Escort #5	165 days	Tue 4/1/14	Mon 11/17/14
130	Procurement of Materials	8 wks	Tue 4/1/14	Mon 5/26/14
131	Installation	24 wks	Tue 5/27/14	Mon 11/10/14
132	Commissioning	5 days	Tue 11/11/14	Mon 11/17/14
133	Pipe Insulation	440 days	Tue 2/12/13	Mon 10/20/14
134	Steam Tunnel - Escort #6	70 days	Tue 2/12/13	Mon 5/20/13
135	Procurement of Materials	8 wks	Tue 2/12/13	Mon 4/8/13
136	Installation	6 wks	Tue 4/9/13	Mon 5/20/13
137	Misc. Buildings (CCAB, CB, Div. 5 & South Campus - Escort #5	439 days	Wed 2/13/13	Mon 10/20/14
138	Procurement of Materials	6 wks	Wed 2/13/13	Tue 3/26/13
139	CCAB - Escort #5	10 days	Wed 9/11/13	Tue 9/24/13
140	Installation	10 days	Wed 9/11/13	Tue 9/24/13
141	CCB - Escort #5	10 days	Wed 10/9/13	Tue 10/22/13
142	Installation	10 days	Wed 10/9/13	Tue 10/22/13
143	Div. 5 - Escort #5	10 days	Tue 10/7/14	Mon 10/20/14
144	Installation	10 days	Tue 10/7/14	Mon 10/20/14
145	Div. 9 - Escort #5	10 days	Tue 12/17/13	Mon 12/30/13
146	Installation	10 days	Tue 12/17/13	Mon 12/30/13
147	South Campus - Escort #5	10 days	Wed 3/19/14	Tue 4/1/14
148	Installation	10 days	Wed 3/19/14	Tue 4/1/14
149	Submeters	95 days	Tue 2/12/13	Mon 6/24/13
150	Reconcile Audit & Plan Out	1 wk	Tue 2/12/13	Mon 2/18/13
151	Issue Subcontracts and Vendor Purchase Orders	2 wks	Tue 2/19/13	Mon 3/4/13
152	Design Meeting with Controls Contractor / Client / Noreasco Commissioning / PM	1 wk	Tue 3/5/13	Mon 3/11/13
153	Design / Engineering / Sequencing	5 wks	Tue 3/12/13	Mon 4/15/13
154	Procurement of Materials	6 wks	Tue 4/2/13	Mon 5/13/13
155	CCAB - Escort #6	5 days	Tue 5/21/13	Mon 5/27/13
156	Installation	5 days	Tue 5/21/13	Mon 5/27/13
157	CCB - Escort #6	5 days	Tue 5/28/13	Mon 6/3/13
158	Installation	5 days	Tue 5/28/13	Mon 6/3/13
159	Div. 5 - Escort #6	5 days	Tue 6/4/13	Mon 6/10/13

## Exhibit F - Cook County Corrections Preliminary - Project Schedule

ID	Task Name	Duration	Start	Finish
160	Installation	5 days	Tue 8/4/13	Mon 8/19/13
161	Div. 9 - Escort #6	5 days	Tue 8/11/13	Mon 8/17/13
162	Installation	5 days	Tue 8/11/13	Mon 8/17/13
163	South Campus - Escort #6	5 days	Tue 8/19/13	Mon 8/24/13
164	Installation	5 days	Tue 8/19/13	Mon 8/24/13
165	Project Close Out	62 days	Tue 10/8/15	Wed 12/30/15
166	Project Substantial Completion	1 day	Tue 10/8/15	Tue 10/8/15
167	Final Punch List & Misc. Items	8 wks	Wed 10/7/15	Tue 12/1/15
168	Final Commissioning Report	4 wks	Wed 12/2/15	Tue 12/29/15
169	C&M Manuals Complete	9 wks	Wed 10/7/15	Tue 12/8/15
170	Project Final Completion	1 day	Wed 12/30/15	Wed 12/30/15

**Exhibit G**

**Savings Guarantee**

1. DEFINITIONS

When used in this Agreement, the following capitalized words shall have the meaning ascribed to them below:

"Baseline Period" is the period of time that defines the Baseline Usage and is representative of the Facilities operations, consumption, and usage that is used as the benchmark for determining cost avoidance.

"Baseline Usage" is the calculated energy usage of the Facilities prior to the implementation of the ECMs.

"Baseline Demand" is the calculated energy demand of a piece of equipment or a site prior to the implementation of the ECMs. Baseline physical conditions, such as equipment counts, nameplate data, and control strategies, will typically be determined through building occupancy, energy end-use survey and plug load surveys of the Facilities.

"Energy and Operational Cost Avoidance Guarantee Practices" are those practices identified in Section II Energy Analysis of the Investment Grade Energy Audit dated June 7, 2012 intended to achieve avoided costs in energy and/or operating expenses.

"Energy Costs" may include the cost of electricity and fuels to operate HVAC equipment, cogeneration system, facility mechanical and lighting systems, and energy management systems, and the cost of water and sewer usage, as applicable.

"ECM" the Energy Conservation Measure (ECM) is the installation of equipment or systems, or modification of equipment or systems as described in Exhibit C.

"Facilities" shall mean those indicated in Exhibit B.

"First Guarantee Period" is defined as the period beginning on the first (1st) day of the month following the date of execution of the Final Delivery and Acceptance Certificate upon Final Acceptance of Project by the County and ending on the day prior to the first (1st) twelve-month anniversary thereof.

"Guarantee Period" is defined as the First Guarantee Period and each of the successive twelve (12) month periods commencing on the anniversary of the commencement of the First Guarantee Period throughout the Term of this Agreement.

"Guaranteed Savings" is defined as the amount of avoided Energy and Operational Costs guaranteed to the County in each Guarantee Period.

"Guaranteed Savings Reconciliation Report" is defined as the process and report for determining the Verified Savings in each Guarantee Period and reconciling it to the Guaranteed Savings in the same Guarantee Period.

"IPMVP" shall mean the 2010 International Performance Measurement and Verification Protocol and its Measurement and Verification Guidelines for energy savings performance contract projects. The IPMVP guidelines classify measurement & verification approaches as Option A, Option B, Option C, and Option D.

"Measurement and Verification Plan" (M&V Plan) is defined as the plan providing details on how the Guarantee Savings will be verified. The M&V Plan is detailed in Exhibit H of this Agreement.

"Operational Costs" shall include the cost of operating and maintaining the Facilities, such as, but not limited to, the cost of inside and outside labor to repair and maintain Covered Systems and Equipment, the cost of custodial supplies, the cost of replacement parts, the cost of deferred maintenance, the cost of lamp and ballast disposal, and the cost of new capital equipment as defined for each ECM.

"Term" shall be (20) years from the first (1st) day of the month following the date of execution of the Delivery and Acceptance Certificate (Attachment E-2).Final Acceptance.

"Verified Savings" is the defined as the summation of avoided Energy and Operational Costs as determined by the Measurement & Verification Plan for the Facilities in each Guarantee Period as a result of the ECMs provided by ESCO.

## 2. TERM AND TERMINATION

2.1 Guarantee Term. The Term of this Guarantee shall commence on the first day of the month following the date of execution of the Final Acceptance Certificate upon Final Acceptance of this Project by the County and shall terminate at the end of twenty (20) years unless terminated earlier as provided for herein.

2.2 **Guarantee Termination.** Should this Agreement be terminated (including, as applicable, the Maintenance or Measurement & Verification Services) in whole or in part for any reason prior to the end of the Term, the Guaranteed Savings for the Guarantee Period in which such termination becomes effective shall be prorated as of the effective date of such termination, with a reasonable adjustment for seasonal fluctuations, if any, in Energy and Operational Costs, and the Savings Guaranty for all subsequent Guarantee Periods shall be null and void.

3. **SAVINGS GUARANTEE**

3.1 **Guaranteed Annual Savings Amount:** The Guaranteed Annual Savings Amount for each Performance Guarantee Year is set forth on the following Table 1: Guaranteed Annual Savings.

Performance Guarantee Year	Guaranteed Energy and Demand				Operation and Maintenance Savings	Utility Savings	Guaranteed Annual Savings Amount
	kWh	KW	KW (PLC)	Therms			
1	18,965,582	23,133	749	1,255,171	\$ 86,930	\$ 2,126,598	\$ 2,213,528
2					\$ 89,538	\$ 2,188,671	\$ 2,278,209
3					\$ 92,224	\$ 2,252,585	\$ 2,344,809
4					\$ 94,990	\$ 2,318,393	\$ 2,413,383
5					\$ 97,840	\$ 2,386,154	\$ 2,483,994
6					\$ 100,775	\$ 2,455,926	\$ 2,556,701
7					\$ 103,799	\$ 2,527,769	\$ 2,631,568
8					\$ 106,913	\$ 2,601,746	\$ 2,708,659
9					\$ 110,120	\$ 2,677,919	\$ 2,788,039
10					\$ 113,424	\$ 2,756,358	\$ 2,869,782
11					\$ 116,826	\$ 2,837,130	\$ 2,953,956
12					\$ 120,331	\$ 2,920,304	\$ 3,040,635
13					\$ 123,941	\$ 3,005,953	\$ 3,129,894
14					\$ 127,659	\$ 3,094,152	\$ 3,221,811
15					\$ 131,489	\$ 3,184,980	\$ 3,316,469
16					\$ 135,434	\$ 3,278,512	\$ 3,413,946
17					\$ 139,497	\$ 3,374,831	\$ 3,514,328
18					\$ 143,682	\$ 3,474,025	\$ 3,617,707
19					\$ 147,992	\$ 3,576,176	\$ 3,724,168
20					\$ 152,432	\$ 3,681,375	\$ 3,833,807
<b>Totals</b>	<b>18,965,582</b>	<b>23,133</b>	<b>749</b>	<b>1,255,171</b>	<b>2,335,836</b>	<b>56,719,557</b>	<b>59,055,393</b>

Table 1: Guaranteed Annual Savings

The Operations and Maintenance (O&M) Savings identified in Table 2 below are the result of expected reduced cost in the purchase of replacement lighting materials and are stipulated as being achieved for the term of the agreement and are subject to annual escalation.

<b>O&amp;M Savings by ECM</b>	
Lighting Retrofit	\$ 52,154
LED Lighting Replacement	\$ 23,200
Tamper Proof Fixtures	\$ 11,576
Additional Facilities Lighting Retrofit	\$ -
<b>Total Year 1 Savings</b>	<b>\$ 86,930</b>

Table 2 – Operational and Maintenance Savings by ECM

3.1.1 Additional Savings. Additional energy and/or operational cost avoidance that can be demonstrated as a result of ESCO's efforts that result in no additional costs to County beyond the costs identified in this Agreement will be included in the Guarantee Savings Reconciliation Report for the applicable Guarantee Period (s).

3.1.2 Verified Savings. The summation of avoided Energy and Operational Costs as determined by the Measurement & Verification Plan in each Guarantee Period as a result of the ECMs provided by NORESKO.

3.1.3 Savings Shortfalls. In the event that the Verified Savings in any Guarantee Period is less than the Guaranteed Savings required for that Guarantee Period ("Savings Shortfall"), ESCO shall, upon receipt of written demand from County, compensate County the amount of any such shortfall, limited by the value of the guarantee, within thirty (30) calendar days ("Savings Guarantee Payment"). Resulting compensation shall be ESCO's sole liability for any Savings Shortfall in the Guaranteed Savings.

3.2 Savings Reconciliation Documentation. ESCO will provide County with a Guarantee Savings Reconciliation Report after each Guarantee Period within ninety (90) days. County will assist ESCO in generating the savings reconciliation report by providing ESCO's receipt thereof, together with access to relevant records relating to such Energy and Operating Costs. County will also assist ESCO by permitting access to any energy billing information, maintenance records, drawings, or other data deemed necessary by ESCO to generate the said report. Data and calculations utilized by ESCO in the preparation of its Guarantee Savings Reconciliation Report will be made available to County, along with such explanations and clarifications as County may reasonably request.

3.2.1 Acceptance of Guarantee Savings Reconciliation Report. At the end of each Guarantee Period, County will endeavor to review the Guarantee Savings Reconciliation Report and provide written notice to ESCO of non-acceptance of the Guarantee Savings Reconciliation Report within forty-five (45) days for that Guarantee Year. Failure of the County to respond to a Guarantee Savings Reconciliation Report within the forty-five (45) days of the receipt of a

Guarantee Savings Reconciliation Report shall not constitute the deemed acceptance of the Report and its findings by the County provided that the ESCO may escalate a response from the County by contacting the County's Director of Capital Planning or by seeking Dispute Resolution under Section 16A.

3.2.2 Guarantee Savings Reconciliation. Verified Savings will be determined in accordance with the methodology(-ies), operating parameters, formulas, and constants as described in Exhibit H and/or defined in the Measurement & Verification Plan and/or additional methodologies defined by ESCO that may be negotiated with County at any time. Actual savings reduction in utility bills may vary from the Verified Savings for reasons outside of ESCO's control including but not limited to: changes in energy and other utility rates and tariffs, changes in County operating schedules and usage patterns, changes in County loads due to addition or reductions in energy and water consuming devices, changes in building occupancy rates, changes in weather, impacts due to the operations of ECMs, impacts due to the maintenance of ECMs maintained by County, and additions to and/or reduction in facility space usage. For the purposes of calculating any shortfalls or excesses of Verified Savings versus Guaranteed Savings, the Measurement & Verification Plan in Exhibit H will be utilized.

3.2.3 Activities and Events Adversely Impacting Savings. County must promptly notify ESCO of any activities known to County, which adversely impacts ESCO's ability to realize the Guaranteed Savings and, subject to review and adjustment pursuant to Section 3.2.4, ESCO shall be entitled to reduce the Guaranteed Savings by the amount of any such adverse impact to the extent that such adverse impact is beyond ESCO's reasonable control.

3.2.4 Guarantee Adjustment. ESCO's Guaranteed Savings obligations under this Agreement are contingent upon: (1) County following the operations and maintenance requirements for the ECMs in accordance with the Agreement; (2) no material alterations or additions being made by the County or its contractors or agents (not under the control of the ESCO) without prior notice and written agreement of the Parties; (3) County sending all current utility bills to ESCO within two (2) weeks after receipt; and (4) ESCO'S ability to render services not being impaired by unforeseeable circumstances beyond its control. To the extent that the County defaults or fails to perform fully any of its obligations under this Agreement, ESCO may, in its sole discretion, adjust the Guaranteed Savings obligation; provided, however, that no adjustment hereunder shall be effective unless ESCO has first provided the County with specific documentation of the proposed adjustments to the Guaranteed Savings and the County has had the opportunity to review the proposed adjustments with an experienced M & V expert, whom the County shall hire at its sole expense, and to discuss those adjustments with the ESCO and with written notice of County's default(s) or failure(s) to perform and County has failed to cure its default(s) and failure(s) to perform within thirty (30) days after receipt of such notice.

### 3.2.5 Energy Rates.

The energy rates are shown below in Table 3: Baseline Energy Rates. These energy rates will be escalated throughout the term of the agreement per Table 4: Escalation Rates. During each Guarantee Period throughout the contract term these rates will be compared to actual utility rates and the higher of the calculated values or the actual rates in force will be used to determine savings for all ECMs.

Bldg. No.	Building	Utility:	Electricity	Demand	Elec. PLC	Nat. Gas
		Units:	kWh	Monthly kW	Ann. kW	Therms
1	Central Plant		\$0.052	\$3.690	\$24.310	\$0.650
2	CCAB		\$0.052	\$3.690	\$24.310	\$0.650
3	CCB		\$0.052	\$3.690	\$24.310	\$0.650
4	Division 5		\$0.052	\$3.690	\$24.310	\$0.650
5	Division 9		\$0.052	\$3.690	\$24.310	\$0.650
6	Division 11		\$0.052	\$3.690	\$24.310	\$0.650
7	South Campus Building No. 01		\$0.052	\$3.690	\$24.310	\$0.650
8	South Campus Building No. 02		\$0.052	\$3.690	\$24.310	\$0.650
9	South Campus Building No. 03		\$0.052	\$3.690	\$24.310	\$0.650
10	South Campus Building No. 04		\$0.052	\$3.690	\$24.310	\$0.650
11	South Campus Building No. 05		\$0.052	\$3.690	\$24.310	\$0.650
12	JTDC East		\$0.052	\$5.530	\$24.310	\$0.700
13	JTDC West		\$0.052	\$5.530	\$24.310	\$0.700
14	JTDC Parking Garage		\$0.052	\$5.530	\$24.310	\$0.700
15	Boot Camp		\$0.052	\$3.690	\$24.310	\$0.650
16	Division 1		\$0.052	\$3.690	\$24.310	\$0.650
17	Division 2		\$0.052	\$3.690	\$24.310	\$0.650
18	Division 3		\$0.052	\$3.690	\$24.310	\$0.650
19	Division 4		\$0.052	\$3.690	\$24.310	\$0.650
20	Division 6		\$0.052	\$3.690	\$24.310	\$0.650
21	Division 7		\$0.052	\$3.690	\$24.310	\$0.650
22	Division 10		\$0.052	\$3.690	\$24.310	\$0.650

Table 3: Baseline Floor Energy Rates

Description	% Annual Escalation
Electricity	3.25%
Natural Gas	2.50%
Operation and Maintenance Cost Savings	3.00%

Table 4: Escalation Rate

#### 4. MEASUREMENT & VERIFICATION PLAN

4.1 Measurement and Verification. ESCO and the County agree that the Verified Savings will be determined using the following Measurement and Verification Plan (M&V Plan). Through this plan, the Guaranteed Annual Savings generated by the ECMs installed in the Facilities will be verified using the methods defined in the M & V Plan constituting Exhibit H.

Measurement & Verification Plan: ESCO and the County agree that the Verified Savings by ECM will be determined using the Measurement & Verification Plan protocols further described in Exhibit H. Through this plan, the guaranteed savings generated by the ECMs installed in the Facilities will be validated. The M&V methodologies proposed for these ECMs are based on the version 2010 of the IPMVP Measurement and Verification Guidelines. The objective of the plan is to quantify the verified electrical and fossil fuel savings and compare those to the specific Baseline Usage for each Facility, the difference of which is the Verified Savings.

During the term of the Agreement, ESCO may make adjustments to energy savings due to changes in building occupancy, weather data, , etc. The unit costs of energy will be applied to the energy savings calculated by this M&V plan. Current utility cost will be used as a basis for determining the unit cost, with floor prices and escalation rates set by baseline rate information and rate escalation information, presented in Table 3: Baseline Floor Energy Rates and Table 4: Escalation Rate.

4.2 M&V Descriptions: Detailed Measurement and Verification descriptions are included in Exhibit H – Measurement & Verification Plan.

#### Section 5. Installation Period Savings.

Construction and Installation Period Savings will belong exclusively to the County and will not be added to the Project Savings Amount for any Performance Guarantee Year.

#### Section 6. Additional Savings.

In the event that the verified Savings exceeds the Guaranteed Savings in any Guarantee Period, the excess savings shall belong and accrue to the County and shall not reduce the ESCO's liability for achieving the Project Savings Amount in any other Guarantee Period.

#### Section 7. Project Modifications to Reduce Performance Guarantee Payment Obligations.

The mutual goal of the Parties is to maximize the Verified Savings. Therefore, the ESCO will have the right, at all times during the Guarantee Term, subject to the County's written approval, to modify the scope of the Project, to modify or replace any of the ECMs or install additional ECMs and to revise any procedures for the operation of the ECMs or implement other procedures at the Facilities provided that: (i) such actions by the ESCO do not result in modifying the standards of comfort and service set forth in Exhibit T without the express written approval of the County; (ii) such actions do not detrimentally materially impact Work Site operations or use and occupancy of the Facilities; (iii) such actions are necessary to enable the ESCO to achieve the Guaranteed Savings; and (iv) any costs incurred relative to such modifications, additions or replacements of the ECMs, or operational changes or new procedures or additional maintenance necessitated by the ECMs, shall be the sole responsibility of the ESCO. All modifications, additions or replacements of the ECMs or revisions to operating or other procedures will be described in a supplemental schedule(s) to be provided to the County for approval, which will not be unreasonably withheld or delayed, and incorporated into this Contract through a Change Order, and the work related to such modifications, additions, or replacements shall be carried out in accordance with all of the terms and provisions of the Contract applicable to the performance of Work. Any replacement ECM shall have equal or better potential to reduce energy consumption at the Building than the ECM being replaced. As part of any Project scope modifications, the ESCO shall update any and all software during the implementation necessary for the operation of the ECMs. All replacements of and alterations or additions to the ECMs shall become part of the ECMs described in Exhibit B and shall become the property of the County.

Section 8. Disputes Regarding Energy Performance Calculations.

Any disputes concerning the calculation of the Prior Year Calculations, Causes for Adjustment, or other energy or consumption calculations described in Exhibit H shall be resolved as follows:

1. First, the Parties will use good faith efforts to resolve such dispute within twenty (20) days of written notification from the other Party of the dispute.
2. If the Parties are unable to resolve the matter within a twenty (20) day period, the dispute shall be submitted to an Engineer Neutral which must be approved by both parties in writing. The determination of the Engineer Neutral will be final and binding upon both the County and the ESCO. ESCO and the County will each be responsible for half of the fees of the Engineer Neutral.

The disputed calculation shall not take effect until there is a final adjudication or resolution of the dispute.

**Exhibit H**

**MEASUREMENT & VERIFICATION PLAN**

NORESCO and the County agree that the Verified Savings will be determined using the following Measurement and Verification Plan. Through this plan, the Guaranteed Savings generated by the Energy Conservation Measures (ECMs) installed in the Facilities will be verified.

Measurement & Verification Plan: NORESOCO and the County agree that the Verified Savings by ECM will be determined using the following Measurement & Verification Plan further described in this Exhibit. Through this plan, the guaranteed savings generated by the ECMs installed in the Facilities will be validated. The M&V methodologies proposed for these ECMs are based on the 2010 version of the International Performance Measurement and Verification Protocol. The objective of the plan is to quantify the post-installation electrical and fossil fuel usage and compare them to the specific Baseline Usage for each Facility, the difference of which is the Verified Savings.

**M&V Descriptions:**

Energy calculations are based on, but not limited to, the following variables:

- Engineering calculations
- County-provided operation schedules
- Manufacturer's published data
- Field verification of proper equipment operation
- Energy Management System (EMS) trend data and plant logs
- Baseline utility data for electric and natural gas consumption

The sections that follow contain the detailed ECM-specific Measurement and Verification (M&V) plan descriptions for each ECM.

**ECM: LIGHTING RETROFIT**

**ECM: LED LIGHTING REPLACEMENT and**

**ECM: TAMPER PROOF FIXTURES**

NORESCO will utilize IPMVP Option A for this ECM

The M&V Plan assigns all audited luminaires to one of several lamp/ballast combination (LBC) groups based on the luminaires' specific lamp and ballast type and configuration. The measured LBC groups represent 91.6 percent of the connected pre-installation lighting load. For each LBC group measured, a minimum of three luminaires were sampled. This sample size is based on confidence level of 90 percent and a precision of 10 percent, and assuming a coefficient of variation of 10 percent. The verified luminaire wattage was determined by using the average of the samples measured within each LBC group.

Upon completion of construction, NORESKO will measure the post-installation electrical demand of a representative sample of luminaires from a number of post-installation LBC groups that represent at least 90 percent of the connected post-installation kW load. The number of measurements will be based on the same statistical sampling criteria as the pre-installation sample. Since existing luminaires that have the same LBC may not be retrofitted with the same post-installation LBC, different luminaires may be selected for post-installation measurements.

Hours of operation for each building's fixtures were determined via staff interviews and data logger installation. Any variances in the number and/or equipment installed from the guaranteed scope of work will be noted in the Post-Installation Report generated by NORESKO. Verified savings will be calculated based on measured post-installation fixture wattages and the as-built quantities. The tamper-proof cell fixtures were not included in the baseline measurements due to the difficulty of fixture access. Therefore the savings for the tamper-proof fixture retrofit ECM will be stipulated per the engineering calculations.

**Savings Calculation Methodology**

To calculate the guaranteed direct lighting savings, fixtures were grouped with others sharing the same baseline LBC, post-installation LBC, and hours of operation. For each group, energy savings during each time of use period are calculated.

NORESCO calculated the contribution to the guaranteed peak demand savings by applying a diversity factor to the gross connected lighting load (kW). The operating schedule determines the demand diversity factor. For each group of fixtures in the ECM, NORESKO calculated the monthly guaranteed demand savings.

### *Direct Lighting Savings*

The formulae for calculating savings are summarized below.

#### **Electric Consumption**

$$ES_{LIGHTING} = (P_{base} * N_{base} - P_{post} * N_{post}) * H_{base}$$

- Where:  $ES_{lighting}$  = Energy savings, in kWh, for the lighting retrofits.  
 $P_{base}$  = Electrical power, in kW, per fixture for appropriate baseline LBC group.  
 $P_{post}$  = Electrical power, in kW, per fixture for appropriate post-installation LBC group.  
 $H_{base}$  = Existing annual operating hours defined by fixture's pre hours group.  
 $N_{base}$  = Number of fixtures in representative baseline LBC group.  
 $N_{post}$  = Number of fixtures in representative post-installation LBC group

#### **Electric Demand**

$$DS_{LIGHTING} = (P_{base} * N_{base} - P_{post} * N_{post}) * DF_{lighting}$$

- Where:  $DS_{lighting}$  = Monthly demand savings, in kW, for the lighting retrofits.  
 $P_{base}$  = Electrical power, in kW, per fixture for appropriate baseline LBC group.  
 $P_{post}$  = Electrical power, in kW, per fixture for appropriate post-installation LBC group.  
 $DF_{lighting}$  = Hours group diversity factor  
 $N_{base}$  = Number of fixtures in representative baseline LBC group.  
 $N_{post}$  = Number of fixtures in representative post-installation LBC group

Energy and demand cost savings were determined by multiplying the guaranteed energy and demand savings for each applicable LBC by the approved incremental energy costs. The results of these calculations were summed for total electric demand (kW) and energy (kWh) savings.

### *Lighting HVAC Interactions*

The proposed lighting upgrade reduces the wattage and hours of operation for lighting, which in turn produces less heat in the lighted areas. Since cooling systems have less heat to remove, less air conditioning energy is required.

The actual heat contributed to the cooling load varies by fixture type (recessed, surface-mounted, suspended, open, or enclosed), air return (open plenum or ducted return), and the amount of exhausted air. To represent various lighting and ventilation systems, NORESO assumes that, in conditioned spaces, electrically produced mechanical cooling removes an average of 75 percent of light-generated heat. Luminaires in unconditioned spaces, such as outdoor areas, stairways, mechanical rooms, and high-bay areas, have no effect on the mechanical cooling systems. Therefore, cooling savings calculations do not include these luminaires. For each group

of luminaires in conditioned spaces, we calculate the HVAC cooling energy savings during each time of use period as follows:

$$ES_{cooling} = \frac{ES_{lighting} \times C_{energy} \times HC}{C_{capacity}} * EFF * SEA_{cooling}$$

- Where:  $ES_{cooling}$  = Energy Savings, in kWh, for the HVAC interaction.  
 $ES_{lighting}$  = Energy savings, in kWh, for the lighting retrofits (from conditioned spaces only).  
 $C_{energy}$  = Conversion factor = 3,413 Btu/kWh.  
 $HC$  = Heat contribution of luminaires to conditioned space, stipulated at 75 percent.  
 $C_{capacity}$  = Conversion factor = 12,000 Btu/ton-hr, cooling capacity.  
 $EFF$  = Mechanical cooling efficiency, in kW/ton  
 $SEA_{cooling}$  = Cooling season, in percent of year

The contribution to peak demand savings is determined by applying a diversity factor to the gross kW load. The LBC's hours group determines the demand diversity factor already applied to the demand savings for direct lighting and lighting controls. For each group of luminaires in conditioned spaces, the monthly HVAC demand savings are calculated as follows:

$$DS_{cooling} = \frac{DS_{lighting} \times C_{energy} \times HC}{C_{capacity}} * EFF$$

- Where:  $DS_{cooling}$  = Demand Savings, in kW, for the HVAC interaction.  
 $DS_{lighting}$  = Demand savings, in kW, for the lighting retrofits (from conditioned spaces only).  
 $C_{energy}$  = Conversion factor = 3,413 Btu/kWh.  
 $HC$  = Heat contribution of luminaires to conditioned spaces, stipulated at 75 percent.  
 $C_{capacity}$  = Conversion factor = 12,000 Btu/ton-hr, cooling capacity.  
 $EFF$  = Mechanical cooling efficiency, in kW/ton

Heating penalty is calculated as follows:

$$HP_{cooling} = \frac{(ES_{lighting} + ES_{controls}) * C_{energy} * HC}{C_{MMBtu} * EFF} * SEA_{heating}$$

- Where:  $HP_{cooling}$  = Heating Penalty, in MMBtu, for the HVAC interaction.  
 $ES_{lighting}$  = Energy savings, in kWh, for the lighting retrofits (in conditioned spaces only).  
 $ES_{controls}$  = Energy savings, in kWh, for the on/off controls (in conditioned spaces only).  
 $C_{energy}$  = Conversion factor = 3,413 Btu/kWh.

$HC$  = Heat contribution of luminaires to conditioned space, stipulated at 75 percent.  
 $C_{MMBtu}$  = Conversion factor = 1,000,000 MMBtu/Btu.  
 $EFF$  = Mechanical heating efficiency, as a percentage  
 $SEA_{heating}$  = Heating season, in percent of year

To determine cost savings, we multiplied the energy and demand savings of all luminaire groups (minus the net thermal penalty) by the approved incremental energy costs. After construction, the actual number of luminaires upgraded in conditioned spaces will be verified from field inspections and documented in an as-built report; these quantities and verified wattage will be used to calculate verified savings in the above formulae.

### **Post-Installation M&V Activities**

Upon completion of construction, NORESKO will measure the post-installation electrical demand of a representative sample of fixtures from a number of post-installation LBC groups that represents at least 90 percent of the connected post-installation electrical load (kW). The post-installation LBC groups selected for measurement will be based on proposed fixture quantities. Fixture wattage power measurements will be performed on individual fixtures where feasible. If a dedicated circuit feeds a group of identical fixtures (i.e., the same LBC) the circuit may be measured as a whole if measurement of individual fixtures is not feasible.

NORESKO will record the ballast type, manufacturer, and model number for all fixtures measured. Post-installation sampling and measurements will be witnessed and signed-off by a County representative. The on-site NORESKO construction manager will monitor installation and retrofit of fixtures and verify that the correct products are installed. Any variances in the number and / or equipment installed from the proposed scope of work will be noted in the As-Built Report generated by NORESKO. The equations described above will be used to calculate verified savings based on the as-built quantities and equipment. After these activities, the verified energy savings determined by the equations and calculations listed above will be considered valid for the term of the guarantee period without additional evaluation.

### **Performance Period M&V Activities**

NORESKO will visually inspect a small sample of fixtures during the annual inspection to confirm that the proper replacement lamps are being used. NORESKO will also survey the maintenance stock and maintenance records to confirm that the proper lamps and ballasts are being inventoried. All discrepancies and improper maintenance practices found will be reported. No additional measurements will be performed. Verified energy savings will be based on the baseline and one time post-installation measurements and calculations described above and documented in the Post Implementation Report (PIR).

## **ECM: NEW FIRE TUBE BOILERS**

### **Overview of M&V Plan**

NORESCO will utilize IPMVP Option A for this ECM.

NORESCO proposes to install three (3) new 1,400 Boiler Horsepower (BHP) fire tube boilers at the Department of Corrections Central Plant. This measure will reduce heating and electrical energy consumption by providing a tighter response to varying loads while increasing the overall efficiency of the boiler systems. The M&V plan is based on using measured combustion efficiency test data for all baseline boilers, along with stipulated radiation and unmeasured losses, and the central plant natural gas utility data to determine the baseline monthly steam output, average boiler loading, and the proposed boilers' manufacturers part-load efficiency curves at the various boiler loading points.

### **Savings Calculation Methodology**

The baseline combustion efficiency for each boiler was calculated and averaged individually and combined to a total average efficiency of 72.6% using ASME PTC 4.1 Heat Loss Method. Radiation losses were assumed to be 1.33% and unmeasured losses assumed at 0.5% based on ABMA Radiation Loss Table. The proposed new boiler manufacturer's rated combustion efficiency can be maintained in the low 80% range at a turndown ratio of 6:1 on natural gas.

The monthly natural gas utility data was used with baseline measured efficiency to calculate the monthly boiler steam output (MMBTU). The monthly boiler steam output was divided by the number of hours in the month to obtain the average boiler load (MMBTU/hr) for that month and hence calculate proposed boiler average part-load efficiency based on the proposed part-load efficiency curve.

The savings for this ECM come from reduced natural gas consumption due to an increase in combustion efficiency and lower radiation losses.

### **Baseline M&V Activities**

The baseline boiler efficiency for Boilers 1-6 was determined by using combustion data from the existing boiler inspection and test reports performed annually by the County's boiler tuning contractor. Boiler 7 has not operated in three years and was not considered in determining the baseline boiler efficiency.

### **Post-Installation M&V Activities**

NORESCO proposes a one-time combustion efficiency test after the new boilers have been fully commissioned to confirm that the boiler efficiency meets or exceeds the proposed full-load boiler efficiency of all three (3) fire tube boilers. The stack temperature, O<sub>2</sub> and CO<sub>2</sub> measurement at 100% load (firing rate) will be entered into an ASME PTC 4.1 form where combustion losses will be added to the stipulated radiation losses to calculate and confirm the boiler efficiency. If the full-load boiler efficiency of all three (3) boilers meets or exceeds the proposed full load boiler efficiency used to calculate the guaranteed energy savings, then the savings guarantee will be met. In the event that the full-load boiler efficiency for any of the

three (3) boilers does not meet the proposed efficiency used to calculate the guaranteed energy savings, the combustion testing shall be performed at 75%, 50% and 25% firing rate for that boiler and the measured boiler heat loss efficiency curve will be entered into the savings calculations spreadsheet to calculate the verified savings.

**Performance Period M&V Activities**

NORESCO will perform an annual inspection of the boilers to confirm that the ECM continues to be operational and has the potential of producing the guaranteed savings. Ongoing verification will include remote monitoring to confirm that the installed ECM continues to operate as intended. NORESKO will quarterly monitor the following EMS trend data:

<b>BUILDING</b>	<b>EQUIPMENT AFFECTED</b>	<b>REQUIRED M&amp;V TREND POINTS</b>
Central Plant	Boilers 7, 8, 9	<ul style="list-style-type: none"><li>• Excess O<sub>2</sub> Level</li><li>• Fan VFD speed (Hz)</li><li>• Boiler Load (%)</li><li>• Boiler Combustion Efficiency</li></ul>

The purpose of quarterly monitoring is to confirm that the as-built sequence of operations continues to be in place without significant change or manual overriding. NORESKO will issue quarterly trend review reports documenting issues and, when feasible, recommend corrective actions.

If NORESKO identifies any changes made by the County to the energy savings strategies that may negatively impact the effectiveness of this ECM, NORESKO will report the issues to the County. Any changes to building schedules, occupancy hours, space temperature set points and plant sequence of operations are the responsibility of the County. NORESKO will note these changes when found and inform the County, but will not make adjustments to the post-installation energy consumption as calculated per the engineering calculations because these factors are outside of NORESKO's control.

Monitoring of these systems will require NORESKO to access these systems both on-site during the annual inspection site visit and remotely via a secure internet connection. Verified energy savings shown in the Guaranteed Savings Reconciliation Report (GSRR) will be based on the verified savings documented in the PIR.

## ECM: STEAM TRAPS REPAIR, REPLACEMENT

### Overview of M&V Plan

NORESCO will utilize IPMVP Option A for this ECM.

The scope of this ECM is to improve the steam distribution by repairing and replacing failed steam traps. These improvements will reduce steam losses, which will reduce the load on the steam plant, reduce energy waste, and increase the amount of condensate being returned to the steam plant. The M&V plan is based on the detailed baseline survey performed by NORESKO during the Investment Grade Energy Audit and commissioning of the newly installed traps to confirm that they operate as expected.

### Savings Calculation Methodology

An estimate of the steam losses was assigned to those traps that were found to have failed open or are leaking. A spreadsheet was used to calculate the guaranteed savings. The spreadsheet is included in Appendix A of the Investment Grade Energy Audit dated June 7, 2012. All traps included in the scope of this ECM were included in the savings calculation. The following formula was used to calculate the natural gas savings associated with the elimination of the losses associated with the faulty traps:

$$N. Gas Savings \left( \frac{Therms}{yr} \right) = \frac{Steam Loss \left( \frac{lbs}{yr} \right) \times \left[ (Steam Enthalpy \left( \frac{Btu}{lb} \right) - Condensate Enthalpy \left( \frac{Btu}{lb} \right)) + \% Condensate Return \times Condensate Enthalpy \left( \frac{Btu}{lb} \right)]}{100,000 \left( \frac{Btu}{Therm} \right) \times Heating Efficiency}$$

The following formula was used to calculate the water savings associated with the increased condensate return:

$$Water Savings \left( \frac{Kgal}{Yr} \right) = \frac{Steam Loss \left( \frac{lbs}{Yr} \right)}{Water Density \left( \frac{lbs}{Kgal} \right)}$$

### Baseline M&V Activities

A full steam trap audit was performed by NORESKO on the DOC campus, including the distribution tunnels and the buildings included in the base scope of work. Each trap was tested using an ultrasonic detector and a report was created that detailed all of the traps, their type, size, condition. The traps that were failed or are leaking will be appropriately repaired or replaced as part of this ECM.

**Post-Installation M&V Activities**

Once the non-operating traps have been replaced and are performing as intended, the verified savings per the engineering calculations and will be reported in the PIR.

**Performance Period M&V Activities**

Annual inspection of one third (33%) of the traps included in the scope of this ECM will be performed by NORESKO. A report that details the findings of the audit will be created and turned over to the County. The County will then be responsible for repairing and/or replacing any traps that are not functioning properly. All findings will be reported in the GSRR. Verified energy savings shown in the Guaranteed Savings Reconciliation Report (GSRR) will be based on the verified savings documented in the PIR

## **ECM: REPLACE ELECTRIC CHILLER #8**

### **Overview of M&V Plan**

NORESCO will utilize IPMVP Option A for this ECM.

NORESCO proposes to replace the existing 20-year old electric chiller #8 with a new, significantly more efficient 1,000-ton electric centrifugal chiller. The M&V plan is based on using the plant logs and baseline chilled water and condenser water pump flow and power measurements to establish the baseline chiller plant load and the individual chiller capacity and part-load chiller efficiency. The proposed manufacturer's rated chiller part-load efficiency curves were de-rated by 5% from the manufacturer's stated performance due to ARI testing tolerances, which allow for some variance in published performance versus actual field performance. The proposed chiller plant sequence of operations will be confirmed during commissioning.

### **Savings Calculation Methodology**

The guaranteed savings for this ECM was calculated using an 8,760 hour bin analysis in an Excel spreadsheet. The source of inputs for the calculation included:

- Chiller Logs: These logs provided historical data about run hours, CHW and CW temps, electrical consumption and chilled water output.
- Pre-Measurements: NORESKO's Monitoring and Verification (M&V) group measured the CHW and CW flows from the pumps to confirm plant output, and measured pumping electrical power. Chiller electrical power was not measured directly because the machines are connected to 4,160V electrical service.
- Interviews with Site Staff: Staff interviews provided insight to operational strategies, past history, maintenance issues, etc.

The bin analysis spreadsheet was used to calculate the plant load for every temperature bin, and the baseline sequence of operation was applied to the load to determine which chiller was running at what load and hence what efficiency. The same model was used with the new plant sequence of operation to take advantage of running the proposed replacement for chiller #8 as a lead chiller. New proposed chiller part-load efficiency curves (de-rated by 5%) along with the proposed sequence of operations were used to calculate the post-installation energy use. The difference between the baseline chiller plant energy use and the proposed chiller plant energy use is the guaranteed savings.

### **Baseline M&V Activities**

Plant logs were analyzed by NORESKO to determine the plant sequence of operations and each chiller in operation part load efficiency and capacity. NORESKO performed baseline power measurements of chilled water pumps and condenser water pumps in addition to chilled water and condenser water flow measurements using an ultrasonic flow meter to confirm the pumps' flow.

### Post-Installation M&V Activities

As-built documentation showing that the installed chiller meets or exceeds the proposed capacity and part-load efficiency along with detailed commissioning will serve as verification that the new chiller is properly installed and capable of achieving the guaranteed savings. Also, the as-built EMS control sequence will be reviewed to determine that it meets the design intent. Two weeks of trend data will be reviewed to confirm that the ECM is operating as intended with the new chiller #8 being the lead chiller. The following are the trend data required:

BUILDING	EQUIPMENT AFFECTED	REQUIRED M&V TREND POINTS
Central Plant	Chillers 2, 4, 5, 7, 8, 9, 10 and 11	<ul style="list-style-type: none"><li>• CHWST (F) for each chiller</li><li>• CHWRT (F) for each chiller</li><li>• CHW Flow (gpm) for each chiller</li><li>• ECWT (F) for each chiller</li><li>• Outside Air Wet-bulb Temperature (F)</li><li>• Chiller Status (on/off) on each chiller</li><li>• Cumulative Ton-Hours for each chiller</li><li>• Electrical Load (kW) on each chiller (if available)</li></ul>

### Performance Period M&V Activities

NORESCO will perform an annual inspection of the ECM to confirm that the ECM continues to be operational and has the potential of producing the guaranteed savings. Ongoing verification will include remote monitoring to confirm that the installed ECM continues to operate as intended. NORESKO will quarterly monitor the EMS trend data setup during the post-installation verification period to confirm that as-built control strategies and standards of operations continue to be in place. NORESKO will issue quarterly trend review reports documenting issues and, when feasible, recommend corrective actions.

If NORESKO identifies any changes made by the County to the energy savings strategies that may negatively impact the effectiveness of this ECM, NORESKO will report the issues to the County. Any changes to building schedules, occupancy hours, space temperature set points and plant sequence of operations are the responsibility of the County. NORESKO will note these changes when found and inform the County, but will not make adjustments to the post-installation energy consumption as calculated per the engineering calculations because these factors are outside of NORESKO's control.

Monitoring of these systems will require NORESKO to access these systems both on-site during the annual inspection site visit and remotely via a secure internet connection. Verified energy savings shown in the GSRR will be based on the verified savings documented in the PIR.

## **ECM: NEW ELECTRIC CHILLER #5**

### **Overview of M&V Plan**

NORESCO will utilize IPMVP Option A for this ECM.

NORESCO proposes to replace the existing 20-year old 1,400-ton absorption chiller #5 with a new, significantly more efficient 1,500-ton electric centrifugal chiller. The M&V plan is based on using the chiller plant post-installation energy use from ECM: Replace Electric Chiller #8 above as the baseline energy use for this ECM to avoid any double accounting of guaranteed savings. The proposed manufacturer's rated chillers part-load efficiency curves for the new 1,500-ton chiller were de-rated by 5% from the manufacturer's stated performance due to ARI testing tolerances, which allow for some variance in published performance versus actual field performance. The proposed chiller plant sequence of operations will be confirmed during commissioning and through quarterly review of trend data charts.

### **Savings Calculation Methodology**

The guaranteed savings for this ECM was calculated using an 8,760 hour bin analysis in an Excel spreadsheet. The source of inputs for the calculation included:

- Chiller Logs: These provided historical information about run hours, CHW and CW temps, and chilled water output.
- Pre-Measurements: NORESKO's Monitoring and Verification (M&V) group measured the CHW and CW flows from the pumps to confirm plant output, and measured pumping electrical power.
- Conversations with Site Staff: provided insight to operational strategies, past history, maintenance issues, etc.
- Natural Gas Bills: Staff interviews provided some insight into the natural gas consumption at the plant and the energy required to operate the absorption chillers.

The same approach described for ECM: Replace Electric Chiller #8 above was used to calculate the guaranteed savings except that the chiller plant post-installation energy use from ECM: Replace Electric Chiller #8 above was used as the baseline energy use for this ECM. The post-installation energy use was calculated by replacing the baseline absorption chiller #5 with the proposed 1,500-ton electric centrifugal chiller's part-load efficiency curves.

### **Baseline M&V Activities**

Plant logs were analyzed by NORESKO to determine the plant sequence of operations and each chiller in operation part load efficiency and capacity. NORESKO performed baseline power measurements of chilled water pumps and condenser water pumps in addition to chilled water and condenser water flow measurements using an ultrasonic flow meter to confirm the pumps' flow. The pump power and flow measurements are included in Appendix C of the Investment Grade Energy Audit dated June 7, 2012. Note that no baseline steam consumption information was available for the absorption chillers; therefore an average efficiency of 12.0 lbs steam / ton-hour was assumed based on the chiller technology and age.

### **Post-Installation M&V Activities**

As-built documentation showing the installed chiller meets exceeds the proposed capacity and part-load efficiency along with detailed commissioning will serve as verification that the new chiller is properly installed and capable of achieving the guaranteed savings. Also, the as-built EMS control sequence will be reviewed to determine that it meets the design intent. Two weeks of the same trend data described above for ECM: Replace Electric Chiller #8 will be reviewed to confirm that the ECM is operating as intended with the new chiller #5 being the second chiller.

### **Performance Period M&V Activities**

NORESCO will perform an annual inspection of the ECM to confirm that it continues to be operational and has the potential of producing the guaranteed savings. Ongoing verification will include remote monitoring to confirm that the installed ECM continues to operate as intended. NORESKO will quarterly monitor the EMS trend data setup during the post-installation verification period to confirm that as-built control strategies and standards of operations continue to be in place. NORESKO will issue quarterly trend review reports documenting issues and, when feasible, recommend corrective actions.

If NORESKO identifies any changes made by the County to the energy savings strategies that may negatively impact the effectiveness of this ECM, NORESKO will report the issues to the County. Any changes to building schedules, occupancy hours, space temperature set points and plant sequence of operations are the responsibility of the County. NORESKO will note these changes when found and inform the County, but will not make adjustments to the post-installation energy consumption as calculated per the engineering calculations because these factors are outside of NORESKO's control.

Monitoring of these systems will require NORESKO to access these systems both on-site during the annual inspection site visit and remotely via a secure internet connection. Verified energy savings shown in the GSRR will be based on the verified savings documented in the PIR.

## **ECM: INSTALL / REPLACE VARIABLE FREQUENCY DRIVES (VFDs)**

### **Overview of M&V Plan**

NORESCO will utilize IPMVP Option A for this ECM.

NORESCO proposes replacing the existing failed VFDs on the AHUs and chilled water pumps in the scope of this ECM. The M&V plan is based on spot measurements of fan/pump power to document the baseline power draw of the affected equipment. For the post-installation verification, the pump/fan VFD operation will be confirmed through quarterly trend data reviews.

### **Savings Calculation Methodology**

The guaranteed savings for this ECM was calculated using an 8,760 hour bin analysis in an Excel spreadsheet. The baseline for the existing fan motor energy is based on electrical measurements of the existing fans, including amperage, voltage, power factor, and power (kW). The new fan motor energy is calculated using fan laws based on the assumption that, as the outside air temperature decreases from peak cooling temperatures, the fans will slow down due to a reduced need for air to condition spaces.

### **Baseline M&V Activities**

NORESCO performed 3-phase power measurements on affected fans and pumps. Measurements included volts, amps, power factor and power. The sampled pump and fan power measurements are included in Appendix C of the Investment Grade Energy Audit dated June 7, 2012.

### **Post-Installation M&V Activities**

NORESCO will perform detailed commissioning to confirm the installed pump and fan VFDs and control algorithms meet the design intent. Two weeks of trend data will be reviewed to confirm that the ECM is operating as intended. The following trend data are required:

<b>BUILDING</b>	<b>EQUIPMENT AFFECTED</b>	<b>REQUIRED M&amp;V TREND POINTS</b>
Division 9, JTDC East and West	All AHUs and Pumps listed in Scope of ECM	<ul style="list-style-type: none"><li>• Fan VFD speed (Hz) on AHUs</li><li>• Duct Static Pressure for each AHU</li><li>• Duct Static Pressure Setpoint for each AHU</li><li>• Pump VFD Speed (Hz)</li><li>• Chilled Water Differential Pressure</li><li>• Chilled Water Differential Pressure Setpoint</li></ul>

### **Performance Period M&V Activities**

NORESCO will perform an annual visual inspection of the ECM to confirm that the ECM continues to be operational and has the potential of producing the guaranteed savings. Ongoing verification will include remote monitoring to confirm that the installed ECM continues to operate as intended. NORESKO will quarterly monitor the EMS trend data setup during the performance period to confirm that as-built control strategies and standards of operations continue to be in place. NORESKO will issue quarterly trend review reports documenting issues and, when feasible, recommend corrective actions.

If NORESKO identifies any changes made by the County to the energy savings strategies that may negatively impact the effectiveness of this ECM, NORESKO will report the issues to the County. Any changes to building schedules, occupancy hours, space temperature set points and plant sequence of operations are the responsibility of the County. NORESKO will note these changes when found and inform the County, but will not make adjustments to the post-installation energy consumption as calculated per the engineering calculations because these factors are outside of NORESKO's control.

Monitoring of these systems will require NORESKO to access these systems both on-site during the annual inspection site visit and remotely via a secure internet connection. Verified energy savings shown in the GSRR will be based on the verified savings documented in the PIR.

## ECM: CAV TO VAV AHU MODIFICATIONS

### Overview of M&V Plan

NORESCO will utilize IPMVP Option A for this ECM.

NORESCO proposes retrofitting several large constant air Air Handling Units (AHUs) from Constant Air Volume (CAV) to Variable Air Volume (VAV) operation. This means that, as spaces are satisfied, the airflow delivered to those spaces will decrease, thus saving fan energy. The M&V plan is based on spot measurements of fan power to document the baseline power draw of the affected equipment. For the post-installation verification, the fan VFD operation will be confirmed through quarterly trend data reviews.

### Savings Calculation Methodology

The guaranteed savings for this ECM was calculated using an 8,760 hour bin analysis in an Excel spreadsheet. The baseline for the existing fan motor energy is based on electrical measurements of the existing fans, including amperage, voltage, power factor, and power. The new fan motor energy is calculated using fan laws based on the assumption that, as the outside air temperature decreases from peak cooling temperatures, the fans will slow down due to a reduced need for air to condition spaces.

### Baseline M&V Activities

NORESCO performed 3-phase power measurements on the affected fans. Measurements included volts, amps, power factor and power. The sampled fan power measurements are included in Appendix C of the Investment Grade Energy Audit dated June 7, 2012.

### Post-Installation M&V Activities

NORESCO will conduct detailed commissioning to confirm the installed fan VFDs and control algorithms meet the design intent. Two weeks of trend data will be reviewed to confirm that the ECM is operating as intended. The following trend data are required:

BUILDING	EQUIPMENT AFFECTED	REQUIRED M&V TREND POINTS
CCAB, CCB	All AHUs in CCAB, CCB Converted to VAV	<ul style="list-style-type: none"><li>• Fan VFD speed (Hz) on AHUs</li><li>• Duct Static Pressure for each AHU</li><li>• Duct Static Pressure Setpoint for each AHU</li></ul>

### **Performance Period M&V Activities**

NORESCO will perform an annual inspection of the ECM to confirm that the ECM continues to be operational and has the potential of producing the guaranteed savings. Ongoing verification will include remote monitoring to confirm that the installed ECM continues to operate as intended. NORESOCO will quarterly monitor the EMS trend data setup during the performance period to confirm that as-built control strategies and standards of operations continue to be in place. NORESOCO will issue quarterly trend review reports documenting issues and, when feasible, recommend corrective actions.

If NORESOCO identifies any changes made by the County to the energy savings strategies that may negatively impact the effectiveness of this ECM, NORESOCO will report the issues to the County. Any changes to building schedules, occupancy hours, space temperature set points and plant sequence of operations are the responsibility of the County. NORESOCO will note these changes when found and inform the County, but will not make adjustments to the post-installation energy consumption as calculated per the engineering calculations because these factors are outside of NORESOCO's control.

Monitoring of these systems will require NORESOCO to access these systems both on-site during the annual inspection site visit and remotely via a secure internet connection. Verified energy savings shown in the GSRR will be based on the verified savings documented in the PIR.

## **ECM: EMS UPGRADE AND EXPANSION**

### **Overview of M&V Plan**

NORESCO will utilize IPMVP Option A for this ECM.

NORESCO proposes expanding the existing DDC systems and upgrading their hardware and software. These upgrades and expansions will enable better control of the building environment and significant energy savings. The M&V plan relies on documenting baseline conditions through fan spot power measurements and motor loggers, as well as the installation of data loggers to collect space temperatures and return air temperatures and run-hours. Post-installation M&V will consist of the review of trend logs and quarterly review of key performance parameters via analysis of trend data charts to confirm that the proposed strategies continue to operate per the design intent.

### **Savings Calculation Methodology**

The guaranteed savings for this ECM were calculated using 8,760 hour bin analyses in Excel spreadsheets. The majority of the savings are the result of the new control systems being able to turn off equipment (especially AHUs) and resetting heating and cooling setpoints during unoccupied times. The analyses calculated the reduction in motor power consumption and reductions in building heating and cooling losses due to these modifications in operation.

### **Baseline M&V Activities**

NORESCO performed baseline fan spot power measurements. Additionally, space temperature and return air temperature measurements data loggers installed in a sample of spaces and AHUs. Finally, motor status loggers were installed on a sample of supply fans to document baseline run-hours. The sampled fan power measurements and logger data are included in Appendix C of the Investment Grade Energy Audit dated June 7, 2012.

### **Post-Installation M&V Activities**

NORESCO will conduct detailed commissioning to confirm the installed control algorithms meet the design intent. Two weeks of trend data will be reviewed to confirm that the ECM is operating as intended. The following trend data are required:

<b>BUILDING</b>	<b>EQUIPMENT AFFECTED</b>	<b>REQUIRED M&amp;V TREND POINTS</b>
All Buildings in Scope of ECM	All Equipment in Scope of ECM	<ul style="list-style-type: none"><li>• OA damper position</li><li>• Fan Command and Status</li><li>• AHU Supply Air Temperature Setpoints</li><li>• Space temperature</li><li>• Space Temperature Setpoint</li><li>• OA Temperature</li><li>• RA Temperature</li><li>• MA Temperature</li></ul>

### **Performance Period M&V Activities**

NORESCO will perform an annual inspection of the ECM to confirm that the ECM continues to be operational and has the potential of producing the guaranteed savings. Ongoing verification will include remote monitoring to confirm that the installed ECM continues to operate as intended. NORESKO will quarterly monitor the EMS trend data setup during the performance period to confirm that as-built control strategies and standards of operations continue to be in place. NORESKO will issue quarterly trend review reports documenting issues and, when feasible, recommend corrective actions.

If NORESKO identifies any changes made by the County to the energy savings strategies that may negatively impact the effectiveness of this ECM, NORESKO will report the issues to the County. Any changes to building schedules, occupancy hours, space temperature set points and plant sequence of operations are the responsibility of the County. NORESKO will note these changes when found and inform the County, but will not make adjustments to the post-installation energy consumption as calculated per the engineering calculations because these factors are outside of NORESKO's control.

Monitoring of these systems will require NORESKO to access these systems both on-site during the annual inspection site visit and remotely via a secure internet connection. Verified energy savings shown in the GSRR will be based on the verified savings documented in the PIR.

## **ECM: END DEVICE REPAIR (EDR)**

### **Overview of M&V Plan**

NORESCO will utilize stipulated savings option for this ECM.

NORESCO proposes to fix non-functional end devices. This ECM will enable better temperature control of spaces and will generate energy savings due to reduced heating, cooling and fan energy. The M&V plan is based on confirming that the end devices selected for repair have been repaired properly and hence are capable of producing the guaranteed savings.

### **Savings Calculation Methodology**

The replacement of failed sensors, valves, damper actuators and other devices will reduce energy consumption. This energy savings was estimated by performing a utility "end-use analysis", which is the disaggregation of utility bills into individual consumers of energy (lighting, fans, etc.). Once this was done, a small percentage of the energy associated with the operation of those systems that are being repaired was estimated as the resultant savings.

### **Baseline M&V Activities**

There were no baseline M&V activities performed for this ECM as the actual testing of the end devices will be performed as part of the implementation phase.

### **Post-Installation M&V Activities**

NORESCO will commission the ECM to ensure the selected devices have been repaired properly. Upon confirmation of the proper implementation of the ECM the verified savings will be stipulated to be equal to the guaranteed savings.

### **Performance Period M&V Activities**

There will be no performance period activities specific to this ECM. The trend review monitoring of associated with EMS upgrade measure will help identify ongoing issues with end devices.

## **ECM: REPLACE CHILLED WATER (CHW) PUMPS**

### **Overview of M&V Plan**

NORESCO will utilize IPMVP Option A for this ECM.

NORESCO proposes to replace the existing (3) 100 hp Chilled Water (CHW) pumps in CCAB with three (3) new pumps, motors, and Variable Frequency Drives (VFDs). New controls will be installed to appropriately modulate the flow of CHW to the cooling coils in the Air Handling Units (AHUs). The new pumps will be more energy efficient at part-load conditions, which is where the majority of the pumps' run-hours occur.

The M&V plan relies on documenting the baseline through nameplate data for the pumps along with an estimated load factor. For the post-installation the pump VFD operation will be confirmed through quarterly trend data reviews.

### **Savings Calculation Methodology**

The savings for this ECM was calculated using an 8,760 hour bin analysis in an Excel spreadsheet. The calculations assumed that the building cooling load varies linearly with outdoor air temperature in cooling season, and chilled water pump loads vary linearly with building cooling load. The calculations also assume a minimum speed for the proposed conditions to reflect the minimum load required by the most hydraulically remote chilled water coil.

### **Baseline M&V Activities**

NORESCO documented the nameplate data for the baseline pumps and calculated the baseline power draw using an estimated load factor.

### **Post-Installation M&V Activities**

Detailed commissioning to confirm the installed pump VFDs and control algorithms meet the design intent. Two weeks of trend data review to confirm that the ECM is operating as intended. Trend data required:

<b>BUILDING</b>	<b>EQUIPMENT AFFECTED</b>	<b>REQUIRED M&amp;V TREND POINTS</b>
CCAB	Pumps 43, 44, 55	<ul style="list-style-type: none"><li>• Pump VFD Speed (Hz)</li><li>• AHU 10 Cooling Coil Pressure Differential (in. H<sub>2</sub>O)</li><li>• AHU 10 Cooling Coil Pressure Differential (in. H<sub>2</sub>O)</li><li>• Chilled Water Loop Pressure Differential Setpoint (in. H<sub>2</sub>O)</li><li>• Outside Air Temperature (F)</li></ul>

### **Performance Period M&V Activities**

NORESCO will perform an annual inspection of the ECM to confirm that the ECM continues to be operational and has the potential of producing the guaranteed savings. Ongoing verification will include remote monitoring to confirm that the installed ECM continues to operate as intended. NORESKO will quarterly monitor the EMS trend data setup during the post-installation verification period to confirm that as-built control strategies and standards of operations continue to be in place without significant change or manual overriding. NORESKO will issue quarterly trend review reports documenting issues and recommended corrective actions.

If NORESKO identifies any changes made by the County to the energy savings strategies that may negatively impact the effectiveness of this ECM, NORESKO will report the identified issues to the County. Any changes to building schedules, occupancy hours, space temperature set points and plant sequence of operations are the responsibility of the County. NORESKO will note these changes when found and inform the County, but will not make adjustments to the post-installation energy consumption as calculated per the engineering calculations because these factors are outside of NORESKO's control.

Monitoring of these systems will require NORESKO to access these systems both on-site during the annual inspection site visit and remotely via a secure internet connection. Verified energy savings shown in the GSRR will be based on the verified savings documented in the PIR.

## **ECM: TRV INSTALLATION**

### **Overview of M&V Plan**

NORESCO will utilize stipulated savings option for this ECM.

NORESCO proposes to install Thermostatic Radiator Valves (TRVs) on the steam radiators in the scope of this ECM. The installation of the valves results in much more stable temperature control and reduces overheating of spaces. The M&V plan is based on confirming that the specified TRVs have been installed properly and hence are capable of producing the guaranteed savings.

### **Savings Calculation Methodology**

The guaranteed savings for this ECM was calculated using an 8,760 hour bin analysis in an Excel spreadsheet. The calculation assumed that the existing manual control valves do a poor job of maintaining appropriate space temperatures. The savings are a result of less overheating during moderate temperatures, but little savings during peak heating periods.

### **Baseline M&V Activities**

Site survey of the buildings in the scope and interviews with the site staff determined the baseline space temperature control by the existing steam valves. Because the valves are manual and in poor condition, it is reasonable to infer, and was verified by the site staff, that it is common for people to open their windows in the winter due to over-heating.

### **Post-Installation M&V Activities**

NORESCO will commission the ECM to ensure the proposed scope has been implemented per the proposed specification. Upon confirmation of the proper installation of the ECM the verified savings will be equal to the guaranteed savings based on the engineering calculations.

### **Performance Period M&V Activities**

An annual visual inspection on a small sample will be conducted to confirm that the ECM is still in place. Any issues observed will be reported in the GSRR. Annual verified energy savings reported in the GSRR will be equal to the verified savings reported in the PIR.

## ECM: INSULATION

### Overview of M&V Plan

NORESKO will utilize stipulated savings option for this ECM.

NORESKO proposes to insulate the bare pipe sections and the associated fittings and valves. The added new insulation will save natural gas costs by reducing heat loss through the bare metal surface to the ambient unconditioned spaces. The M&V plan is based on confirming that the specified insulation has been installed properly and is capable of producing the guaranteed savings.

### Savings Calculation Methodology

A spreadsheet was developed to calculate the heat loss from the uninsulated surface based on the following heat transfer formulae which can be found in ASHRAE fundamentals handbook.

Convection Surface Coefficient (N) (BTU/(hr. sq.ft. °F)) is defined as follows:

$$N = 1.016 \times \left(\frac{1}{M}\right)^{0.2} \times \left(\frac{1}{J}\right)^{0.181} \times (L - J)^{0.266}$$

$$M = C + (2 \times K)$$

Radiation Surface Coefficient (P) (BTU/(hr. sq.ft. °F)) is defined as follows:

$$P = \frac{0.8 \times 0.1713 \times 10^{-8} \times [(L + 459.6)^4 - (J + 459.6)^4]}{L - J}$$

Heat Loss through Cylindrical Pipe (Q) (BTU/(hr. sq.ft)) is defined as follows:

$$Q = \frac{H - J}{\frac{\frac{M}{2} \times \ln\left(\frac{C}{B}\right)}{AA} + \frac{\frac{M}{2} \times \ln\left(\frac{M}{C}\right)}{BB} + \frac{1}{N + P}}$$

Annual Heat Loss (R) (MBTU/Yr) is defined as follows:

$$R = \frac{\pi \times \frac{M}{12} \times G \times Q \times CC}{1000}$$

$$G = D + (E \times F)$$

Annual Natural Gas Loss (S) (CCF/Yr) is defined as follows:

$$S = \frac{R}{\frac{DD}{100}}$$

Where:

- M = Total external diameter (in.)
- J = Ambient room temperature (°F)
- L = Pipe external temperature (°F)
- H = Pipe internal temperature (°F)
- C = Pipe outside diameter (in.)
- K = Insulation thickness (in.)
- B = Pipe inside diameter (in.)
- AA = Pipe thermal conductivity (BTU. in/(hr.sq.ft.°F))
- BB = Insulation thermal conductivity (BTU. in/(hr.sq.ft.°F))
- D = Total pipe length (ft)
- E = Number of valves and fittings
- F = Equivalent linear feet per fitting
- G = Total equivalent pipe length (ft)
- CC = Hours when pipe is hot (hr)
- DD = Heating system efficiency (%)

The same formulae were applied to the existing case where the pipes and fitting were bare and then applied to the proposed case with the specified insulation thickness and thermal conductivity in place. The difference in heat loss and hence natural gas loss between the existing (baseline) case and the proposed (post-installation) case is equal to the guaranteed savings.

**Baseline M&V Activities**

NORESCO created an inventory of the bare pipe and valves. The external temperature of each section of piping was measured using an infrared temperature sensor to determine its service: high pressure steam, low pressure steam, condensate or hot water.

**Post-Installation M&V Activities**

NORESCO will commission the ECM to ensure the proposed scope has been implemented per the proposed specification. Upon confirmation of the proper installation of the ECM the guaranteed savings will be equal to the guaranteed savings based on the engineering calculations described above.

**Performance Period M&V Activities**

Due to the simplicity and static nature of this ECM, once the installation has been confirmed during commissioning no further inspection will be conducted. Annual verified energy savings reported in the GSRR will be equal to the verified savings reported in the PIR.

## **ECM: SOLAR THERMAL PROJECT**

### **Overview of M&V Plan**

NORESCO will utilize stipulated savings option for this ECM.

NORESCO proposes to install a solar DHW heating system that will become the primary source of domestic hot water for Dorm 1. The new system will tie into the existing system, so that if the solar system does not provide adequate capacity, the natural gas-fired unit will provide backup. This installation will provide a significant amount of hot water for the facility by utilizing renewable solar energy. The guaranteed savings were based on the amount of natural gas offset by using the solar energy to heat the water. The M&V plan is based on confirming that the solar DHW heating system has been installed properly and hence is capable of producing the guaranteed savings.

### **Savings Calculation Methodology**

The guaranteed savings for this measure were calculated using RETScreen, an Excel-based software program that calculates energy savings for a wide range of energy savings measures. The savings calculations for solar hot water heaters use the number of solar collectors, collector angles, calculated hot water loads, and weather data for a given region to calculate the heating savings of a solar hot water system.

### **Baseline M&V Activities**

There was no baseline M&V activities performed for this ECM.

### **Post-Installation M&V Activities**

NORESCO will commission the ECM to ensure the proposed scope has been implemented per the proposed specification. Upon confirmation of the proper installation of the ECM the verified savings will be equal to the guaranteed savings based on the engineering calculations described above.

### **Performance Period M&V Activities**

An annual visual inspection will be conducted to confirm that the ECM is still in place. Any issues observed will be reported in the GSRR. Annual verified energy savings reported in the GSRR will be equal to the verified savings reported in the PIR.

## **ECM: SUB-METER INSTALLATION**

### **M&V Plan**

No savings are associated with this measure, so M&V is not applicable.

**Exhibit I**

**Measurement and Verification Services Payments**

The County agrees to pay ESCO the annual payments shown below for the Measurement and Verification services provided in this Contract. All payments pursuant to this Exhibit I are subject to the Termination and Suspension provisions contained within the First Amendment to the Guaranteed Energy Performance Contract.

<b>Year</b>	<b>Annual Amount</b>
1	\$112,149
2	\$82,851
3	\$85,543
4	\$88,324
5	\$91,194
6	\$94,158
7	\$97,218
8	\$100,378
9	\$103,640
10	\$107,008
11	\$110,486
12	\$114,077
13	\$117,784
14	\$121,612
15	\$125,565
16	\$129,645
17	\$133,859
18	\$138,209
19	\$142,701
20	\$147,339

EXHIBIT J- SCHEDULE OF VALUES

BUILDING	DESCRIPTION OF WORK	TOTAL	DEVELOPMENT AND ENGINEERING	ECM IMPLEMENTATION
Central Plant	Lighting Retrofit	\$ 153,624.00	\$ 6,736.96	\$ 146,887.04
Central Plant	New Fire Tube Boilers	\$ 5,895,000.00	\$ 258,516.71	\$ 5,636,483.29
Central Plant	Replace Electric Chiller #	\$ 1,596,000.00	\$ 69,990.27	\$ 1,526,009.73
Central Plant	Submeter Installation	\$ 174,000.00	\$ 7,630.32	\$ 166,369.68
Central Plant	EMS Upgrade and Expansion	\$ 677,120.00	\$ 29,664.17	\$ 647,455.83
Central Plant	End Device Repair (EDR)	\$ -	\$ -	\$ -
Central Plant	Steam Trap Repair/Replace	\$ 375,000.00	\$ 25,215.79	\$ 349,784.21
Central Plant	New Electric Chiller #	\$ 1,072,000.00	\$ 47,011.01	\$ 1,024,988.99
Central Plant	New Pumps for New Electric Chiller #	\$ 85,000.00	\$ 2,850.48	\$ 82,149.52
CCAB	Lighting Retrofit	\$ 942,000.00	\$ 41,310.05	\$ 900,689.95
CCAB	Submeter Installation	\$ 78,000.00	\$ 3,420.88	\$ 74,579.12
CCAB	EMS Upgrade and Expansion	\$ 504,352.00	\$ 22,117.63	\$ 482,234.37
CCAB	End Device Repair (EDR)	\$ -	\$ -	\$ -
CCAB	CAV to VAV AHU Modifications	\$ 1,073,000.00	\$ 47,054.88	\$ 1,025,945.12
CCAB	Replace CHW Pumps	\$ 424,000.00	\$ 18,583.91	\$ 405,416.09
CCAB	Insulation	\$ 154,000.00	\$ 6,793.45	\$ 147,206.55
CCB	Lighting Retrofit	\$ 763,000.00	\$ 33,450.25	\$ 729,549.75
CCB	Submeter Installation	\$ 78,000.00	\$ 3,420.88	\$ 74,579.12
CCB	EMS Upgrade and Expansion	\$ 954,881.00	\$ 43,588.21	\$ 911,292.79
CCB	End Device Repair (EDR)	\$ -	\$ -	\$ -
CCB	CAV to VAV AHU Modifications	\$ 380,000.00	\$ 16,664.35	\$ 363,335.65
CCB	Insulation	\$ 27,000.00	\$ 1,184.05	\$ 25,815.95
Division 5	Lighting Retrofit	\$ 664,000.00	\$ 29,118.76	\$ 634,881.24
Division 5	Tamper Proof Fixtures	\$ 422,000.00	\$ 18,596.20	\$ 403,403.80
Division 5	Submeter Installation	\$ 78,000.00	\$ 3,420.88	\$ 74,579.12
Division 5	EMS Upgrade and Expansion	\$ 1,148,205.00	\$ 50,352.67	\$ 1,097,852.33
Division 5	End Device Repair (EDR)	\$ -	\$ -	\$ -
Division 5	Insulation	\$ 37,000.00	\$ 1,622.58	\$ 35,377.42
Dividec 8	Lighting Retrofit	\$ 574,000.00	\$ 25,171.94	\$ 548,828.06
Division 9	Tamper Proof Fixtures	\$ 310,000.00	\$ 22,265.31	\$ 287,734.69
Division 9	Submeter Installation	\$ 78,000.00	\$ 3,420.88	\$ 74,579.12
Division 9	EMS Upgrade and Expansion	\$ 1,354,384.00	\$ 58,385.68	\$ 1,296,000.32
Division 9	End Device Repair (EDR)	\$ -	\$ -	\$ -
Division 9	Install/Replace VFD's	\$ 386,000.00	\$ 16,927.47	\$ 369,072.53
Division 11	Lighting Retrofit	\$ 1,074,940.00	\$ 47,139.94	\$ 1,027,800.06
Division 11	Tamper Proof Fixtures	\$ 1,711,000.00	\$ 75,033.43	\$ 1,635,966.57
Division 11	Submeter Installation	\$ 78,000.00	\$ 3,420.88	\$ 74,579.12
Division 11	EMS Upgrade and Expansion	\$ 786,232.00	\$ 34,817.60	\$ 751,414.40
Division 11	End Device Repair (EDR)	\$ -	\$ -	\$ -
South Campus Building No. 01	Lighting Retrofit	\$ 64,000.00	\$ 2,806.63	\$ 61,193.37
South Campus Building No. 01	Submeter Installation	\$ 86,000.00	\$ 2,894.33	\$ 83,105.67
South Campus Building No. 01	Insulation	\$ 8,000.00	\$ 350.83	\$ 7,649.17
South Campus Building No. 01	TRV Installation	\$ 84,000.00	\$ 4,122.33	\$ 79,877.67
South Campus Building No. 02	Lighting Retrofit	\$ 111,000.00	\$ 4,867.74	\$ 106,132.26
South Campus Building No. 02	Submeter Installation	\$ 66,000.00	\$ 2,894.33	\$ 63,105.67
South Campus Building No. 02	EMS Upgrade and Expansion	\$ 48,289.00	\$ 2,117.94	\$ 46,171.06
South Campus Building No. 02	Insulation	\$ 11,000.00	\$ 452.39	\$ 10,547.61
South Campus Building No. 03	Lighting Retrofit	\$ 28,000.00	\$ 3,859.11	\$ 24,140.89
South Campus Building No. 03	Submeter Installation	\$ 66,000.00	\$ 2,894.33	\$ 63,105.67
South Campus Building No. 03	Insulation	\$ 4,000.00	\$ 175.41	\$ 3,824.59
South Campus Building No. 03	TRV Installation	\$ 171,000.00	\$ 7,498.96	\$ 163,501.04
South Campus Building No. 04	Lighting Retrofit	\$ 45,000.00	\$ 1,973.41	\$ 43,026.59
South Campus Building No. 04	Submeter Installation	\$ 66,000.00	\$ 2,894.33	\$ 63,105.67
South Campus Building No. 04	TRV Installation	\$ 147,000.00	\$ 6,446.47	\$ 140,553.53
South Campus Building No. 05	Lighting Retrofit	\$ 50,000.00	\$ 2,182.68	\$ 47,817.32
South Campus Building No. 05	Submeter Installation	\$ 66,000.00	\$ 2,894.33	\$ 63,105.67
South Campus Building No. 05	EMS Upgrade and Expansion	\$ 48,289.00	\$ 2,118.04	\$ 46,170.96
South Campus Building No. 05	Insulation	\$ 5,000.00	\$ 219.27	\$ 4,780.73
JTDC East	Lighting Retrofit	\$ 577,000.00	\$ 25,302.50	\$ 551,697.50
JTDC East	EMS Upgrade and Expansion	\$ 342,316.00	\$ 15,011.77	\$ 327,304.23
JTDC East	End Device Repair (EDR)	\$ -	\$ -	\$ -
JTDC East	Install/Replace VFD's	\$ 86,000.00	\$ 3,859.11	\$ 82,140.89
JTDC West	Lighting Retrofit	\$ 308,000.00	\$ 33,862.88	\$ 274,137.12
JTDC West	EMS Upgrade and Expansion	\$ 105,183.00	\$ 4,611.77	\$ 100,571.23
JTDC West	End Device Repair (EDR)	\$ -	\$ -	\$ -
JTDC West	Install/Replace VFD's	\$ 80,000.00	\$ 3,548.87	\$ 76,451.13
JTDC Parking Garage	LED Lighting Replacement	\$ 1,333,000.00	\$ 53,018.25	\$ 1,279,981.75
Esot Camp	Solar Thermal Project	\$ 208,816.00	\$ 8,157.22	\$ 200,658.78
Division 1	Additional Facilities Lighting	\$ 455,213.00	\$ 18,862.71	\$ 436,350.29
Division 2	Additional Facilities Lighting	\$ 265,763.00	\$ 11,634.85	\$ 254,128.15
Division 3	Additional Facilities Lighting	\$ 205,686.00	\$ 9,020.06	\$ 196,665.94
Division 4	Additional Facilities Lighting	\$ 671,658.00	\$ 29,444.59	\$ 642,213.41
Division 6	Additional Facilities Lighting	\$ 560,399.00	\$ 24,136.95	\$ 536,262.05
Division 7	Additional Facilities Lighting	\$ 21,877.00	\$ 963.77	\$ 20,913.23
Division 10	Additional Facilities Lighting	\$ 746,924.00	\$ 32,755.27	\$ 714,168.73
All Buildings	End Device Repair (EDR)	\$ 1,965,000.00	\$ -	\$ 1,965,000.00
	<b>Total</b>	<b>\$ 34,248,000.00</b>	<b>\$ 1,501,036.43</b>	<b>\$ 32,746,963.57</b>



**COOK COUNTY OFFICE OF CAPITAL PLANNING AND POLICY  
PAYMENT APPLICATION GUIDELINE PACKAGE  
GENERAL CONTRACTOR & DESIGN-BUILDER**

This Payment Application Packet is provided as a courtesy to facilitate the payment application process for you. Following is a checklist of the items required to be included in payment applications to the County. Please become familiar with the General Condition "Payment to Contractor". The County retains the right to request additional documentation.

Include all items in the order specified below. Do not leave anything out. Missing items will cause the payment application to be returned for completion. Do not change the number of originals and copies required.

ITEM	DESCRIPTION	NO. OF ORIGINALS REQUIRED
1.	<b>Cover Letter w/check list</b> (sample included).....	1
2.	<b>Cook County Voucher Form 29A</b> (sample included-use electronic form from OCPP).....	1
3.	<b>Contractor's Invoice (Include Payment Application Number)</b> .....	1
4.	<b>NOTARIZED Letter stating compliance with Cook County resident requirements</b> (sample included)..... Only the Prime provides the Notarized letter. The certification includes all the subs that performed work on the project during the current pay period.	1
5.	<b>NOTARIZED Application and Certificate for Payment</b> (per AIA Document G702) (sample included).....	1
6.	<b>Schedule of Values and Retainage</b> (per AIA Document G703) (sample included).....	1
7.	<b>Sworn Statement for Contractor and Subcontractor to Owner</b> (Tops Form 3466 or per GC-16) .....	1
8.	<b>Contractor's NOTARIZED Waiver of Lien to Date / Final Waivers</b> .....	1
9.	<b>All Subcontractor's &amp; Supplier's NOTARIZED Waivers of Lien to Date / Final Waivers</b> .....	1
	➤ This item must be included for the subcontractors and suppliers who performed work on the project that was invoiced on the previous payment application.	
	➤ The Waivers must be equal to the amounts shown on the previous payment application for any particular subcontractor or supplier.	
10.	<b>Contractor's NOTARIZED Payroll</b> .....	1
	<i>Include the addresses</i> of all employees that have worked on the project during the current pay period	
11.	<b>Sub-contractor's NOTARIZED Payroll</b> .....	1
	➤ This item must be included for subcontractors that performed work on the project during the pay period being applied for, and the work is invoiced on the payment application.	
	➤ This item <i>must include the addresses</i> of all the subcontractor's employees that have worked on the project during the pay period being applied for	
12.	<b>Updated and Labeled Photographs for the current month (2-hardcopies and 1 -digital copy on CD)</b> .....	←
	➤ Photographs must be submitted once a month whether a payment application is submitted/ approved or not. Photographs, including electronic photographs, must be neatly labeled, identified and dated.	

**IMPORTANT INFORMATION REGARDING PAYMENT APPLICATIONS:**

1. **This packet and these guidelines have been compiled solely for your convenience:** The County reserves the right to request additional documentation and/or to revise the requirements contained in this packet at any time. It is the Contractor's responsibility to become familiar with the Conditions of the Contract as they relate to these items.
2. **Do not change any information on the checklist:** These are the documents and minimum quantities required by the County to process your payment application. There may be times when an item is not applicable. For example: No subs worked for the prime during the payment application period. Mark item 11 "NA" and provide a one-line explanation at the bottom of the page.
3. **The contract requires a payment application be submitted once per month:** Leave enough time for the Consultant (if applicable) to review and sign your payment application, and for any corrections to be made if necessary. Payment applications for each month must be submitted separately. Do not combine multiple months into any one-payment application.
4. **Payment applications for amounts of \$100,000.00 and more are required to have Board approval:** Payment applications that are required to have Board approval are placed on the Board agenda after being reviewed by the departments noted in item 9 below. Payment applications for \$100,000.00 or more are to be submitted at least 35 calendar days in advance of a Board meeting. Upcoming Board meetings can be found on the following web site:  

<http://www.cookctyclerk.com/countyboard/boardmeetings/Pages/default.aspx>
5. **After the payment application is complete:**
  - a. **Contractors:** Submit the payment application to the AE/consultant for the project. The AE/Consultant for the project must thoroughly review your payment application for completeness and accuracy and certify it. Leave enough time for the AE to do this so that it can be submitted by the required date. The AE forwards the certified payment application to the Office of Capital Planning and Policy.
  - b. **Design-Builders:** Submit the payment application directly to the County.
6. **Submit the completed payment application directly to:**

Ms. Danielle Opyt  
Administrative Assistant  
Cook County Office of Capital Planning and Policy  
69 W. Washington Street, 30<sup>th</sup> Floor  
Chicago, IL 60602
7. **DO NOT give the payment application to the Project Director, or any other County representative:** The Administrative Assistant will log in your payment application and forward it to the Project Director for review. The County will not be responsible for delays in processing applications if this procedure is not followed.
8. **Incomplete or incorrect applications for payment will be returned for completion/correction:** Due to the high volume of paperwork received each day, incorrect payment applications will not be held by, or corrected by, the County.
9. **Processing of a payment application:** All payment applications, whether or not they have to be approved by the Board, are first reviewed by the Office of Capital Planning and Policy. They are also reviewed and processed by other departments including the Purchasing Agent, the Auditor and the Comptroller/Finance. The County makes reasonable efforts to directly process payment applications. Late submittals, errors and audits and unforeseen circumstances are a few reasons why the process could be delayed.
10. **Checking on the status of a payment application:** After submitting a payment application, please allow a minimum of 60 days before calling to check on the status of a payment. The Administrative Assistant (Office of Capital Planning and Policy) can be reached at 312.603.0348 and has access only to the following information:
  - a. Whether or not a payment application has been passed on by Capital Planning and Policy for processing and if not, why.
  - b. Whether or not a check has been posted (but does not have access to the information as to when it will be mailed)

**All other questions regarding your payment application must be directed to the Project Director for this project.**
11. **COMMONLY ASKED QUESTIONS & SAMPLE FORMATS:** Please review the following commonly asked questions and sample formats included with these guidelines for your convenience.

COMMONLY ASKED QUESTIONS REGARDING PAYMENT APPLICATIONS:

**1. If I submit a payment application on March 4 (2002), can I submit another one on March 22 (2002)?**

No. The contract calls for payment applications be submitted once a month. The next payment application can be submitted on April 5 (2002).

**2. Why does it take so long for a payment application to be processed**

Once the payment application is logged in by the administrative assistant, it is reviewed and signed by the OCPP Project Director, Deputy Director and Director. It is then transmitted to the Purchasing Agent, the Comptroller and the Clerk of the Board for processing and addition to the Board Agenda.

**3. When are subcontractors / suppliers waivers of liens due?**

This item must be included for the subcontractors and suppliers who performed work on the project that was invoiced on the previous payment application. FOR EXAMPLE:

<u>Subcontractor</u>	<u>Pay App #</u>	<u>Amount claimed for this subcontractor</u>	<u>Include Waiver of Lien with Pay App Number</u>	<u>Waiver Amount</u>
Plug & Plumb Inc.	1	\$45,000.00	2	\$45,000.00
Hotwire Electric Co.	2	\$62,000.00	3	\$62,000.00
Plug & Plumb Inc.	2	\$28,000.00	3	\$28,000.00

**4. When are the Final Waivers of Lien Due?**

Per the Contract, the Final Waivers of Lien must be submitted with the Final Payment Application.

**5. If I forget to include a Subcontractor's Waiver of Lien to Date can I include it with the next payment application?**

No. Your payment application will be returned to you to add the forgotten Waiver.

**6. If payment applications are due once a month and I submit my payment application by a deadline date but it is incorrect, or incomplete, will it be considered to have met the required monthly submittal?**

No. The submittal date will be considered to be the date the payment application is submitted complete and correct.

**7. If for some reason, I miss submitting a payment application on time can I roll it up into the next one?**

No. Keep the payment applications for each month separate.

**8. Can I give my payment application to the Project Director for this project?**

No. It must be submitted directly to the Administrative Assistant.

**9. If I submit my payment application but forget the voucher 29A, or an invoice, or something else, will it be held until I can send the forgotten item/s in?**

No. It will be returned as incomplete. The County processes a high volume of paperwork each day. There is no system to file or hold incomplete / incorrect payment applications. The County cannot be responsible for lost payment applications.

**SAMPLE COVER LETTER WITH CHECKLIST**  
**DO NOT CHANGE QUANTITIES OF ORIGINALS AND COPIES**

Date: \_\_\_\_\_

To: Ms. Elizabeth Melas  
Deputy Director  
Office of Capital Planning & Policy  
69 W. Washington St., 30<sup>th</sup> Floor  
Chicago, IL, 60602

Subject: Payment Application No: \_\_\_\_\_ Submittal No: \_\_\_\_\_ for Pay Period \_\_\_\_\_ to \_\_\_\_\_  
Project: \_\_\_\_\_  
General Contractor: \_\_\_\_\_ Contract No. \_\_\_\_\_

Dear Ms. Melas:

Enclosed is a Payment Application for the above referenced project. The following items are included:

CHECK	ITEM	ORIGINALS
_____	Cook County Voucher Form 29A .....	1
_____	Contractor's or Design-Builder's Invoice .....	1
_____	NOTARIZED Letter stating compliance with Cook County resident requirement .....	1
_____	NOTARIZED Application and Certificate for Payment (AIA DOCUMENT G702).....	1
_____	Schedule of Values and Retainage (AIA DOCUMENT G703) .....	1
_____	Contractor's Sworn Statement or Frank R. Walker Company Form 59 (per GC-16).....	1
_____	Waiver of Lien, or Waiver of Lien to Date (NOTARIZED originals) .....	1
_____	Subcontractor's & Suppliers Waivers of Lien, or Waivers of Lien to Date NOTARIZED .....	1
_____	Contractor's or Design-Builder's Certified (NOTARIZED) Payroll .....	1
_____	Sub-contractor's Certified (NOTARIZED) Payroll .....	1
_____	Updated Photographs (2-sets of hardcopies and 1-CD with digital copies).....	←

Sincerely yours,

\_\_\_\_\_  
SIGNATURE  
\_\_\_\_\_  
PRINT NAME  
\_\_\_\_\_  
TITLE

**SAMPLE 29A VOUCHER**  
**REQUEST ELECTRONIC FORM SHOWN BELOW FROM YOUR PROJECT DIRECTOR**

QUANTITY	DESCRIPTION	UNIT PRICE	AMOUNT		
<div style="border: 1px dashed black; padding: 5px;">  <p>SELLER'S INVOICE NO. _____</p> </div>	<div style="border: 1px dashed black; padding: 5px;"> <p align="center"><b>VOUCHER FORM</b> <b>COOK COUNTY GOVERNMENT</b></p> <p align="right">(FORM 29 A)</p> <p>DATE: _____</p> <p>Req. No. _____</p> <p>Purchase Order No. _____</p> <p>VENDOR NAME: _____</p> <p>STREET ADDRESS &amp; SUITE NO.: _____</p> <p>CITY, STATE &amp; ZIP CODE: _____</p> <p>VENDOR NO.: _____</p> <p>SELLER'S NAME &amp; ADDRESS: _____</p> <p align="center"><b>Danielle Oypt</b></p> <p>DELIVER TO: (ADMINISTRATIVE ASSISTANT) _____</p> <p>COST CENTER: _____</p> </div>				
<div style="border: 1px dashed black; padding: 5px;"> <p>FEIN NUMBER _____</p> <p>MUST BE PROVIDED OR VOUCHER WILL BE RETURNED</p> </div>	<div style="border: 1px dashed black; padding: 5px;"> <p>GENERAL CONTRACTOR'S PAYMENT APPLICATION NO. _____</p> <p>County Contract No. _____</p> <p>Authorized by the Cook County Board on: _____</p> <p align="center">MONTH, DAY &amp; YEAR</p> <p>Project Name &amp; Location(s): _____</p> <p>OCPP Project Director: _____</p> <p>FOR THE FOLLOWING PERIOD:</p> <p>MONTH, DAY &amp; YEAR through MONTH, DAY &amp; YEAR</p> <p>Summary Description of Services Rendered for this Period: _____</p> </div>	<div style="border: 1px dashed black; padding: 5px;"> <p>FOR COUNTY USE ONLY</p> <p>DEPARTMENT: _____</p> <p>ACCOUNT: _____</p> </div>	<div style="border: 1px dashed black; padding: 5px;"> <p>INSERT QUANTITY IF APPLICABLE, BELOW</p> </div>	<div style="border: 1px dashed black; padding: 5px;"> <p>INSERT UNIT PRICE IF APPLICABLE, BELOW</p> </div>	<div style="border: 1px dashed black; padding: 5px;"> <p>INSERT AMOUNT BELOW</p> </div>
<p>DEPARTMENT APPROVAL: _____ INITIALS _____ DATE: _____</p> <p>DIRECTOR: Bruce Washington PROJECT DIRECTOR: _____</p> <p>DEPUTY DIRECTOR: _____</p> <p>DATE: _____ FINANCIAL CONTROL: _____</p>		<b>TOTAL:</b>	<b>0.00</b>		
<p>WE HEREBY CERTIFY THAT THIS INVOICE IS RENDERED IN FULL CONFORMITY WITH THE PURCHASE ORDER OR CONTRACT AND MEETS THE SPECIFICATIONS CONTAINED THEREIN. FEDERAL REGULATIONS ARE ALSO COMPLIED WITH.</p> <p align="center"><i>Sign Here</i></p> <p>VENDOR'S SIGNATURE _____</p>		<p>I HEREBY CERTIFY THAT I HAVE EXAMINED THE RECEIVING REPORT FROM THE USING DEPARTMENT AND IT AGREES WITH THIS INVOICE AND THAT SATISFACTORY EVIDENCE IS ATTACHED HEREWITH OF RECEIPT OF GOODS AND OR SERVICES</p> <p>PURCHASING AGENT _____</p>			
		<p>EXAMINED AND APPROVED:</p> <p>AUDITOR _____</p> <p>COMPTROLLER _____</p>			

SAMPLE ONLY

**IMPORTANT:**

1. Provide all of the information shown in dashed squares above. **Incomplete or incorrect forms will cause the payment application to be returned for revision.**
2. **Address and deliver the payment application directly to the Administrative Assistant at the Office of Capital Planning and Policy.** The County will not be responsible for delays in processing payment applications that have been sent or given to any other County representative.
3. **Remember to sign the Voucher.**

**SAMPLE CERTIFIED LETTER FORMAT**

**CONTRACTOR OR DESIGN-BUILDER'S LETTERHEAD**

Date

Cook County  
Office of Capital Planning & Policy  
69 W. Washington St., 30<sup>th</sup> Floor  
Chicago, IL, 60602

RE:            Payment Application No. \_\_\_\_\_ for Pay Period \_\_\_\_\_ to \_\_\_\_\_  
                  Project Name and Location \_\_\_\_\_  
                  Cook County Contract No. \_\_\_\_\_ Best Bet's Invoice No. \_\_\_\_\_

To Whom it May Concern:

To the best of our knowledge a least fifty percent of the total work on the above referenced project has been or will be performed by residents of Cook County.

SAMPLE ONLY

\_\_\_\_\_  
To be signed by appropriate company representative  
Include Title

Signed, Subscribed  
&  
Notarized

# APPLICATION AND CERTIFICATE FOR PAYMENT

PAGE ONE OF \_\_\_\_\_ PAGES

TO OWNER: County of Cook  
 69 W. Washington St. 30<sup>th</sup> Floor  
 Chicago, IL 60602

PROJECT: \_\_\_\_\_

VIA ARCHITECT: \_\_\_\_\_

FROM CONTRACTOR: \_\_\_\_\_

CONTRACT FOR: \_\_\_\_\_

APPLICATION NO: \_\_\_\_\_  
 PERIOD TO: \_\_\_\_\_  
 PROJECT NO: \_\_\_\_\_  
 CONTRACT DATE: \_\_\_\_\_  
 CONTRACT NO: \_\_\_\_\_

DISTRIBUTION  
 OWNER [ ]  
 ARCHITECT [ ]  
 CONTRACTOR [ ]

## CONTRACTOR'S APPLICATION FOR PAYMENT

Application is made for payment, as shown below, in connection with the Contract Continuation Sheet, AIA Document G703, is attached.

1. ORIGINAL CONTRACT SUM
2. Net Change by Change Orders
3. CONTRACT SUM TO DATE (Line 1+2)
4. TOTAL COMPLETED & STORED TO DATE (Column G on G703)
5. RETAINAGE:
  - a. 10% of Completed Work (Columns D + E on G703)
  - b. 10% of Stored Material (Column F on G703)
 Total Retainage (Line 5a + 5b or Total in Column I of G703)
6. TOTAL EARNED LESS RETAINAGE (Line 4 less Line 5 Total)
7. LESS PREVIOUS CERTIFICATES FOR PAYMENT (Line 6 from prior Certificate)
8. CURRENT PAYMENT DUE
9. BALANCE TO FINISH, INCLUDING RETAINAGE (Line 3 less Line 6)

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief, the Work covered by this application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR: \_\_\_\_\_

By: \_\_\_\_\_ Date: \_\_\_\_\_

State of: \_\_\_\_\_

County of: \_\_\_\_\_

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_

Notary Public: \_\_\_\_\_ SEAL: \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

## ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising this application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the Contractor is entitled to payment of the AMOUNT CERTIFIED.

AMOUNT CERTIFIED: \_\_\_\_\_

(Attach explanation if amount certified differs from the amount applied for. Initial all figures on this application and on the Continuation Sheet that are changed to conform to the amount certified.)

ARCHITECT: \_\_\_\_\_

By: \_\_\_\_\_ Date: \_\_\_\_\_

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract.

CHANGE ORDER SUMMARY	ADDITIONS	DEDUCTIONS
Total changes approved in previous months by Owner		
Total Approved this Month		
<b>TOTALS</b>		
NET CHANGES by Change Orders		



**Exhibit K**  
**Maintenance Services by ESCO**

Maintenance Services provided by ESCO under this Guaranteed Energy Performance Contract are limited to annual Steam Trap Testing and Inspection. Beginning in year one, after Final Project Acceptance, ESCO will inspect 1/3<sup>rd</sup> of the approx. 500 steam traps and 450 radiator traps annually for the contract term. The results for each annual testing and inspection will be documented in an Annual Report, submitted to the County, and the County shall be responsible for making the necessary repairs or replacements as recommended in the Annual Report.

The County agrees to pay ESCO the annual payments shown below for the Steam Trap Testing and Inspection services provided in this Contract.

<u>Year</u>	<u>Annual Amount</u>
1	\$18,169
2	\$18,759
3	\$19,369
4	\$19,998
5	\$20,648
6	\$21,320
7	\$22,012
8	\$22,728
9	\$23,466
10	\$24,229
11	\$25,017
12	\$25,830
13	\$26,669
14	\$27,536
15	\$28,431
16	\$29,355
17	\$30,309
18	\$31,294
19	\$32,311
20	\$33,361

## EXHIBIT L

### INSURANCE REQUIREMENTS

#### **A. General Insurance Requirements**

Prior to the commencement of the Work, the ESCO shall secure and thereafter shall maintain at all times during the term of this Contract insurance policies in accordance with all the requirements of this Exhibit L. The insurance purchased and maintained by the ESCO shall be on a primary and non-contributory basis and shall not be excess or pro rata to any other insurance issued or maintained by Cook County. The ESCO's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability. The insurance may be provided in a policy or policies, primary and excess. Nothing contained in these insurance requirements is to be construed as limiting the extent of the ESCO's responsibility for the payment of damages resulting from the operations of this Contract.

#### **B. Specific Coverages Required**

The specific policies required are set forth below, and the limits of liability shall be as stated below, unless, prior to commencement of any Work, written approval is granted by the County Director of Risk Management for variation from those limits.

##### 1. Workers Compensation Insurance

Workers Compensation and Employer Liability insurance is required in accordance with the Laws of the State of Illinois or any other applicable jurisdiction, including the following.

- Employers' Liability coverage with limits of \$1,000,000 each accident, \$1,000,000 each employee, and \$1,000,000 policy limit for disease
- Broad form all states coverage
- Waiver of Subrogation

##### 2. Commercial General Liability Insurance

An occurrence form Commercial General Liability Insurance policy is required to cover bodily injury and property damage. The General Liability coverage shall not be less than \$1,000,000 per occurrence and \$2,000,000 in the aggregate with the following provisions included:

- All premises and operations
- Explosion, collapse and underground damage
- ESCO's Protective coverage for independent Contractors and Subcontractors of the ESCO
- Contractual liability for the obligations assumed in, Indemnity, Subrogation and Waiver, Waiver of Recovery, and this Exhibit L, Insurance Requirements

- Personal Injury Liability Endorsement with no exclusions pertaining to employment and contractual obligations
- Broad Form Property Damage Liability
- Products and Completed Operations coverage (maintained for the same or greater limits, for a minimum of 2 years following Project completion).
- Railroad Protective Liability: Where such exposure exists, the ESCO will provide coverage in the name of each railroad company having jurisdiction over right-of-way across which Work under the Contract is to be performed.
- The limits of insurance shall be provided on a "per project aggregate" basis

### 3. Comprehensive Automobile Liability Insurance

When any motor vehicles are used in connection with the Services to be performed, the ESCO shall secure Comprehensive Automobile Insurance to cover all owned, non-owned and hired automobiles, trucks, and trailers. The limits shall not be less than the following:

- Liability - All Autos: Bodily Injury & Property - \$ 1,000,000 per Occurrence
- Uninsured/Motorists: Per Illinois Requirements

### 4. ESCO's Pollution Liability Insurance

ESCO will maintain pollution liability insurance with limits of liability of \$1,000,000 each claim and aggregate with a deductible no greater than \$100,000 each claim. The Contractor is responsible for the deductible.

The policy will provide coverage for sums the ESCO becomes legally obligated to pay as loss as a result of claims for bodily injury, property damage or clean-up costs caused by a pollution incident. Pollution incidents will include the discharge, dispersal, release or escape of any solid, liquid, gaseous or thermal irritant or contaminant, including but not limited to smoke, vapors, soot, fumes, acids, alkalis, toxic chemicals, medical waste, waste materials, lead, asbestos, silica, hydrocarbons and microbial matter. Microbial matter includes fungi, bacterial or viral matter which reproduces through the release of spores or the splitting of cells or other means, including but not limited to mold, mildew and viruses, whether or not such microbial matter is living.

Cook County and their agents will be included as additional insureds on the ESCO's pollution liability and the coverage afforded the additional insureds under this policy will state that it is primary and non-contributory.

ESCO waives and will require its pollution liability insurer to waive their rights of subrogation against Cook County and its agents for claims insured by the ESCO's pollution liability insurance.

If the policy is a 'claims made' form or if any coverage under this policy is written as 'claims made', coverage will be maintained for three years after project completion.

5. Professional Errors and Omissions Liability Insurance

The ESCO shall maintain Professional Errors and Omissions Liability Insurance with limits not less than \$2,000,000 per occurrence and \$2,000,000 in the aggregate, with a deductible of no more than \$100,000 per negligent act, error or omission and in the aggregate. Such insurance will be provided on a claims made basis and shall be kept in force for a period not less than three years beyond the earlier to occur of Final Acceptance of the entire Project or termination of the Project. To the extent available, such insurance shall be retroactive to the date that the ESCO commences Services pursuant to this Contract. The ESCO shall annually provide the County with proof of renewal. The deductible shall be the responsibility of the ESCO.

6. Umbrella Excess Liability Insurance

Umbrella Excess Liability Insurance shall be required in addition to coverage specified pursuant to Sections B.1 through B. 4 above, applying to the County, any Program Manager, the ESCO and Subcontractors of any tier in the amounts stated below:

- \$10,000,000 each occurrence for all liability
- \$10,000,000 in the aggregate per policy year
- \$10,000,000 Products/Completed Operations aggregate

The limits of insurance shall be provided on a "per project" basis.

Unless covered by ESCO's insurance policies, Subcontractors of any tier will be required to provide Umbrella Excess Liability Insurance in the amounts stated below:

- \$2,000,000 each occurrence for all liability
- \$2,000,000 in the aggregate per policy year
- \$2,000,000 Products/Completed Operations aggregate

The limits of insurance shall be provided on a "per project" basis.

7. Builders' Risk Insurance/Installation Floater Insurance

Either Builders' Risk Insurance or Installation Floater Insurance is required on an all risk form, including flood and earthquake, for 100% of the completed value of the Work, unless otherwise specified in the Special Conditions. A Builders' Risk policy shall be required for construction of a building or an addition to a structure. Installation Floater Insurance shall be required for renovation projects. Further provisions regarding such insurance will be set forth in the Special Conditions. Such policy shall include as named insured parties the County and all Subcontractors, as their interests may appear. The policy deductible shall not exceed \$50,000, unless otherwise set forth in Special Conditions, and the ESCO shall be responsible for payment of the deductible in the event of covered loss. The policy shall also include loss of use to protect the County from being financially harmed because of delay due to an insured loss in the building improvements under construction. The off-site and in-transit limit will be sufficient to cover the value of the largest component. Upon request, the ESCO will furnish County with the cost of the premium and deductible for the Builders' Risk or Installation Floater policy.

#### Additional Insured Parties

The following shall be added as additional insured parties on the Commercial General Liability, Automobile and Umbrella Liability policies.

- The County of Cook, Illinois
- Commissioners, Officials and Employees of Cook County
- Any Program Manager, its sub-consultants, and their respective partners, officers and employees
- Others as may be specified in the Contract Documents

The additional insured parties shall have the rights of an Additional Insured as provided by ISO endorsement CG 20 10 and CG 20 37 or their equivalent. No other form will be accepted without express prior written approval of Cook County Risk Management. All liability policies shall entirely delete ISO endorsements CG21 34 and CG21 39, and any other endorsement or policy provision which limits or excludes products liability, completed operations, or contractual liability coverage. The coverage provided to the additional insured parties by the ESCO's insurance will be on a primary and non-contributory basis and not excess or pro rata to any other insurance issued to Cook County.

#### Damage Claims

The ESCO shall furnish to the Owner written acknowledgement of receipt from the insurance carrier for each damage claim involving the Work, including the insurance carrier's assigned claim number. Upon request, the ESCO or its insurance carrier shall also furnish to the Owner a status report on all damage claims, including inspections made, the disposition of claims, and what action has been taken towards settlement of each claim. If the ESCO fails to furnish the

acknowledgment of any report the Owner may withhold the amount of such damage claims from any subsequent payment request, to be held until full compliance.

### Payment

All insurance policies required hereunder shall be paid for by the ESCO. The cost of such insurance policies will not be a specific bid item, but the cost of such insurance will be covered in the various unit prices bid or in the total cost of construction as appropriate. No overhead or profit elements will be allowed on insurance premiums or self-insured retention.

### Additional ESCO Obligations Regarding Insurance

Nothing contained in these insurance requirements is to be construed as limiting the extent of the ESCO's responsibility for payment of damages resulting from operations under this Contract. The ESCO shall advise all insurance companies to familiarize themselves with the conditions and provisions of this Contract dealing with waivers of subrogation, insurance and indemnification. ESCO and all Subcontractors shall not violate or knowingly permit to be violated any condition of the policies of insurance provided by the terms of this Contract and shall at all times satisfy any requirements of the insurance companies issuing them.

### Applicability to Subcontractors

Unless Subcontractors are covered by ESCO's insurance, ESCO shall require all Subcontractors to obtain and provide evidence of insurance policies described in Sections B.1 through B.4 prior to the commencement of any Work or presence on the site of such Subcontractor. The insurance carried by Subcontractors shall meet all the requirements of this Exhibit L unless otherwise provided in the Contract. All requirements imposed by the policies referred to above upon and to be performed by ESCO shall likewise be imposed upon, assumed and performed by each of the Subcontractors. ESCO and each Subcontractor shall execute with their Subcontractors a written agreement which shall include all such requirements. Any "hold harmless" and "indemnity" clause must benefit and not be detrimental in any way to the County, its other ESCOs, any Program Manager and others so specifically identified in this Contract.

### Tools and Equipment

The ESCO shall secure, pay for and maintain, and unless Subcontractors are covered under ESCO's policy shall require its Subcontractors to maintain, property casualty insurance as necessary to protect the ESCO and Subcontractors against loss of owned or rented capital equipment and tools, including any tools owned by mechanics, and any tools, equipment, scaffolding, stagings, towers, and forms owned or rented by the ESCO and Subcontractors. The

requirement to secure and maintain such insurance is solely for the benefit of the ESCO and Subcontractors. Failure of the ESCO and Subcontractors to secure such insurance or to maintain adequate levels of coverage shall not obligate the Owner, Program Manager, and the Architect for any loss of owned or rented equipment. If the ESCO or any Subcontractors secures such insurance, the insurance policy shall include a waiver of subrogation clause as follows: "It is agreed that in no event shall this insurance company have any right to recovery against the Owner and any Program Manager."

#### Insurance Notices and Certificates

ESCO or its insurance carrier shall notify the Program Manager, Director and the Chief Procurement Officer at least 60 days prior to the effective date of any cancellation or modification of such policies; provided, however, that only 30 days notice shall be required for cancellation due to non-payment of premium. ESCO is required to furnish certificates of insurance to the County prior to execution of the Contract by the County, and shall provide an updated certificate of insurance no later than 30 days prior to the expiration date of any policy showing that such policy has been renewed or replaced. Prior to the date on which ESCO or any Subcontractor commences performance of its part of the Work, ESCO shall cause to be furnished to the County any updates of such certificates of insurance maintained by the ESCO and where applicable shall submit certificates of insurance for each Subcontractor in connection with the performance of the Work. As and when the County may direct, copies of endorsements shall be submitted to the County. All endorsements, and certificates of insurance submitted to the County shall be in a form and content acceptable to the County

#### EVIDENCE OF INSURANCE

ESCO must submit evidence of insurance in the form of insurance certificates to the County prior to the Effective Date or in a form otherwise acceptable to the County, however the ESCO shall only be compelled to furnish the County with copies of the insurance policies under court order or upon failure of the applicable insurer or insurers to honor claims under such policies for which the certificates indicate coverage. The ESCO shall furnish to the Chief Procurement Officer and to the County's Director of Risk Management certificates of insurance evidencing coverage as stated above issued by an insurance company authorized to do business under the laws of the State of Illinois, accepted by the County and meeting the requirements of and shall have a financial rating no lower than VII and a policy holder's service rating no lower than (A-) as listed in A.M. Best's Key Rating Guide, current edition or interim report. No cancellation or modification of the policies shall occur without at least sixty (60) calendar days prior written notice given to the County; provided, however that only 30 days notice shall be required for cancellation due to non-payment of premium. The receipt of any certificate of insurance does not constitute agreement by the County that the insurance requirements have been fully met or that

the insurance policies indicated on the certificate of insurance are in compliance with insurance required above. In no event shall any failure of the County to receive certificates of insurance required hereof or to demand receipt of such Certificates of Insurance be construed as a waiver of ESCO's obligations to obtain insurance pursuant to these insurance requirements. The County shall have the right to modify, delete, alter or change these insurance requirements.



# CERTIFICATE OF PROPERTY INSURANCE

DATE (MM/DD/YYYY)  
07/23/2012

Page 1 of 2

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

If this certificate is being prepared for a party who has an insurable interest in the property, do not use this form. Use ACORD 27 or ACORD 28.

PRODUCER Willis of Massachusetts, Inc. c/o 26 Century Blvd. P. O. Box 305191 Nashville, TN 37230-5191	CONTACT NAME:		
	PHONE (A/C, NO, EXT):	877-945-7378	FAX (A/C, NO): 888-467-2378
	E-MAIL ADDRESS:	certificates@willis.com	
	PRODUCER CUSTOMER ID#:	219500	
	INSURER(S) AFFORDING COVERAGE	NAIC#	
INSURED Noresco, LLC One Research Drive Suite 400C Westborough, MA 01581	INSURER A:	Factory Mutual Insurance Company	21482-004
	INSURER B:		
	INSURER C:		
	INSURER D:		
	INSURER E:		
	INSURER F:		

**COVERAGES**      **CERTIFICATE NUMBER: 18260517**      **REVISION NUMBER: See Remarks**

LOCATION OF PREMISES/DESCRIPTION OF PROPERTY (Attach Acord 101, Additional Remarks Schedule, if more space is required)  
**Re: First amendment to the Guaranteed Energy Performance Contract.**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN. THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	COVERED PROPERTY	LIMITS	
<b>A</b>	<input checked="" type="checkbox"/> <b>PROPERTY</b>	<b>AG751</b>	<b>6/1/2012</b>	<b>6/1/2013</b>	<input type="checkbox"/> BUILDING	\$	
	CAUSES OF LOSS				DEDUCTIBLES	<input type="checkbox"/> PERSONAL PROPERTY	\$
	<input type="checkbox"/> BASIC				BUILDING	<input type="checkbox"/> BUSINESS INCOME	\$
	<input type="checkbox"/> BROAD				CONTENTS	<input type="checkbox"/> EXTRA EXPENSE	\$
	<input checked="" type="checkbox"/> <b>SPECIAL</b>					<input type="checkbox"/> RENTAL VALUE	\$
	<input type="checkbox"/> EARTHQUAKE				<input type="checkbox"/> BLANKET BUILDING	\$	
	<input type="checkbox"/> WIND				<input type="checkbox"/> BLANKET PERS PROP	\$	
	<input type="checkbox"/> FLOOD				<input checked="" type="checkbox"/> BLANKET BLDG & PP	\$Replacement	
					<input checked="" type="checkbox"/>	\$Cost	
						\$	
	<input type="checkbox"/> INLAND MARINE	TYPE OF POLICY			\$		
	CAUSES OF LOSS				\$		
	<input type="checkbox"/> NAMED PERILS	POLICY NUMBER			\$		
					\$		
	<input type="checkbox"/> CRIME				\$		
	TYPE OF POLICY				\$		
					\$		
	<input type="checkbox"/> BOILER & MACHINERY/ EQUIPMENT BREAKDOWN				\$		
					\$		
					\$		
					\$		
					\$		

SPECIAL CONDITIONS/OTHER COVERAGES (Attach Acord 101, Additional Remarks Schedule, if more space is required)  
**THIS VOIDS AND REPLACES PREVIOUSLY ISSUED CERTIFICATE DATED: 7/9/2012 WITH ID: 18215236**

See attached:-

<b>CERTIFICATE HOLDER</b>	<b>CANCELLATION</b>
County of Cook, Illinois Attn: Office of Capital Planning & Policy 69 West Washington Street, 30th Floor Chicago, IL 60602	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE



**ADDITIONAL REMARKS SCHEDULE**

AGENCY Willis of Massachusetts, Inc.		NAMED INSURED Noresco, LLC One Research Drive Suite 400C Westborough, MA 01581	
POLICY NUMBER AG751			
CARRIER Factory Mutual Insurance Company	NAIC CODE 21482-004	EFFECTIVE DATE: 06/01/2012	

**ADDITIONAL REMARKS**

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,  
FORM NUMBER: 24 FORM TITLE: CERTIFICATE OF PROPERTY INSURANCE

Special Conditions/Other Coverages

Companies Affording Coverage:

Insurer	Policy No.	Coverage
Factory Mutual Insurance Co.	AG751	45%
ACE American Insurance Co.	GPAD3786848-6	17%
Liberty Mutual Insurance Co.	YS2L9L430723022	5%
Zurich American Ins. Co.	PPR5471875-00	4.5%
XL America Ins. Co	US00062050PR12A	7%
Allianz	CLP3013431	7%
Federal Insurance Co	6684820	10% of \$50M
Ironshore	000284801	1.5% of \$50M
Swiss Re	31374906	11.5% of \$50M xs \$50M

Policy Limit: \$100,000,000

The County of Cook, IL and The Commissioners, Officials and Employees, Program Manager, its  
Sub-Consultants and respective Parties required by written contract are named as Loss Payees as  
respects to Property coverage ATIMA.





# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
07/24/2012

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

**IMPORTANT:** If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

<b>PRODUCER</b> MARSH USA, INC. ATTN: JANICE GORE 20 CHURCH STREET HARTFORD, CT 06103  S75450-PROF-E&O-12-13	<b>CONTACT NAME:</b> PHONE (A/C, No, Ext): E-MAIL ADDRESS:		FAX (A/C, No):
	<b>INSURER(S) AFFORDING COVERAGE</b>		<b>NAIC #</b>
<b>INSURED</b> NORESKO, LLC ONE RESEARCH DRIVE, STE. 400C WESTBOROUGH, MA 01581	INSURER A: Hartford Fire Insurance Co		19682
	INSURER B: N/A		N/A
	INSURER C: N/A		N/A
	INSURER D: N/A		N/A
	INSURER E:		
	INSURER F:		

**COVERAGES**                      **CERTIFICATE NUMBER:** NYC-006417128-02                      **REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL/SUBR INSR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	<b>GENERAL LIABILITY</b> <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR  GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC					EACH OCCURRENCE \$ DAMAGE TO RENTED PREMISES (Ea occurrence) \$ MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ GENERAL AGGREGATE \$ PRODUCTS - COMP/OP AGG \$ \$
	<b>AUTOMOBILE LIABILITY</b> <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS					COMBINED SINGLE LIMIT (Ea accident) \$ BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
	<b>UMBRELLA LIAB</b> <input type="checkbox"/> OCCUR <b>EXCESS LIAB</b> <input type="checkbox"/> CLAIMS-MADE  DED    RETENTION \$					EACH OCCURRENCE \$ AGGREGATE \$ \$
	<b>WORKERS COMPENSATION AND EMPLOYERS' LIABILITY</b> ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N <input checked="" type="checkbox"/> N    N/A				<input type="checkbox"/> WC STATU-TORY LIMITS <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ E.L. DISEASE - EA EMPLOYEE \$ E.L. DISEASE - POLICY LIMIT \$
A	PROFESSIONAL LIABILITY		02CSET10045	04/01/2012	04/01/2013	2,000,000/CLAIM 2,000,000 AGG

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)  
RE: FIRST AMENDMENT TO THE GUARANTEED ENERGY PERFORMANCE CONTRACT

<b>CERTIFICATE HOLDER</b> COUNTY OF COOK, ILLINOIS ATTN: OFFICE OF CAPITAL PLANING & POLICY 69 WEST WASHINGTON STREET, 30TH FLOOR CHICAGO, IL 60602	<b>CANCELLATION</b> SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.  AUTHORIZED REPRESENTATIVE of Marsh USA Inc.  James T. Haggerty <i>James T. Haggerty</i>
---	---

**Exhibit M**

**Required Maintenance by County**

The County shall be responsible to operate, maintain, and repair the ECMs in a manner consistent with manufacturer's recommendations to ensure the persistence of guaranteed savings and standards of comfort over the term of the Project. ESCO will provide the County with manufacturers' Operation and Maintenance (O&M) manuals for new equipment installed. These O&M manuals will contain manufactures recommended maintenance practices. The O&M requirements will be reviewed during the ECM Training.

**Exhibit N**

**Certificate Forms**

**NOTICE TO PROCEED**

[Address of ESCO]

Dear \_\_\_\_\_:

Guaranteed Energy Performance Contract:Phase II Services  
[name of Project]  
Notice To Proceed/ Contract Number \_\_\_\_\_

On July \_\_, 2012, the Cook County Board of Commissioners awarded a contract to [ESCO] in the total amount of \_\_\_\_\_) for the above referenced project. The breakout of the total awarded contract is as follows:

- Construction and Installation Contract Work: = \$ \_\_\_\_\_
- 20 year Measurement and Verification: = \$ \_\_\_\_\_
- The Phase I Audit for the Project was completed in 2012.

Therefore per the terms of the negotiated contract, the **NOTICE to PROCEED** Date (for Phase II Services) is \_\_\_\_\_. The ESCO has \_\_\_\_ days to achieve Substantial Completion for all ECMs in all Buildings (as defined in the contract Calendar Day resulting in Substantial Completion by \_\_\_\_\_. Final Acceptance of the Project is to be achieved by \_\_\_\_\_.

Please call me at 312/603-\_\_\_\_, if you have any questions regarding this matter.

**THE COUNTY OF COOK**

\_\_\_\_\_  
(Name)  
(Title)

Date: \_\_\_\_\_

**DELIVERY AND ACCEPTANCE CERTIFICATE  
UPON SUBSTANTIAL COMPLETION**

The County of Cook hereby acknowledges receipt of the Energy Conservation Measure(s) (the "ECM(s)") set forth below and described in Exhibits B and C in the First Amendment to the Guaranteed Energy Performance Contract (the " First Amendment ") between the County of Cook and \_\_\_\_\_ (the "ESCO") as fully installed and in good working condition as required under the First Amendment, which are listed and attached hereto. The County of Cook hereby accepts the ECM(s) listed below and located in \_\_\_\_\_ (the "Building") after full inspection thereof as satisfactory for all purposes of the First Amendment. Payments under the First Amendment are determined in accordance with Section 14 of the First Amendment The ESCO has represented that all ECMs listed below which must be tested together in order to be successfully commissioned pursuant to the First Amendment ("ECM Groupings") have been so tested and commissioned so that the County of Cook has possession of such ECMs and may use them for their intended uses, subject to punchlist Work.

The Acceptance of Substantial Completion of the ECMs listed in Attachment 1 **[constitutes]** **[does not constitute]** Substantial Completion of all ECMs in the Building under the Project. The ESCO Warranty for Substantial Completion of ECMs commences upon Substantial Completion of all ECMs in a Building.

Substantial Completion Date: \_\_\_\_\_

ECM(s): \_\_\_\_\_

Date Accepted by The County of Cook: \_\_\_\_\_

Accepted for: **The County of Cook**

Accepted by: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Note: ECM(s) and the Building to which this Delivery and Acceptance Certificate relates is/are attached hereto as Attachment 1.

ATTACHMENT 1

**Building** \_\_\_\_\_

*ECM Description*

**Remaining ECMS to be Completed in Building**

**FINAL DELIVERY AND ACCEPTANCE CERTIFICATE  
FINAL ACCEPTANCE OF PROJECT**

The County of Cook hereby acknowledges Final Acceptance of the Energy Conservation Measures (the "ECMs") described in Attachment 1 to this Certificate constituting all ECMs described in Exhibits B and C to the First Amendment to Guaranteed Energy Performance Contract (the "First Amendment") between the County of Cook and \_\_\_\_\_ (the "ESCO"). The date of Final Acceptance is the date certified by the County of Cook that the entire Project as described in the First Amendment has been installed, functionally tested, Substantially Completed and all punchlist items completed in accordance with the Contract Documents. The County of Cook hereby accepts the ECMs listed hereto after full inspection thereof as satisfactory for all purposes of the Agreement so that the County of Cook has possession of such ECMs, the Work and the entire Project and may use them for their intended uses. Payment(s) to be made upon achievement of Final Acceptance shall be made upon satisfaction of all conditions required under Section 14F of the First Amendment in accordance with such Section.

Date Accepted by The County of Cook: \_\_\_\_\_

Accepted for:           **The County of Cook**

Accepted by: \_\_\_\_\_

Name: \_\_\_\_\_

Title: \_\_\_\_\_

Note: ECMs to which this Delivery and Acceptance Certificate relates are attached hereto as Attachment 1.

ATTACHMENT 1

[List of all ECMs by Building, together with dates of Substantial Completion]

**ECONOMIC DISCLOSURE STATEMENT  
AND EXECUTION DOCUMENT  
INDEX**

<b>Section</b>	<b>Description</b>	<b>Pages</b>
Instructions	Instructions for Completion of EDS	EDS i - ii
1	MBE/WBE Utilization Plan	EDS 1
2	Letter of Intent	EDS 2
3	Petition for Reduction/Waiver of MBE/WBE Participation Goals	EDS 3
4	Certifications	EDS 4, 5
5	Economic and Other Disclosures, Affidavit of Child Support Obligations and Disclosure of Ownership Interest	EDS 6 – 12
6	Sole Proprietor Signature Page	EDS 13a/b/c
7	Partnership Signature Page	EDS 14/a/b/c
8	Limited Liability Corporation Signature Page	EDS 15a/b/c
9	Corporation Signature Page	EDS 16a/b/c
10	Cook County Signature Page	EDS 17

**INSTRUCTIONS FOR COMPLETION OF  
ECONOMIC DISCLOSURE STATEMENT AND EXECUTION DOCUMENT**

This Economic Disclosure Statement and Execution Document ("EDS") is to be completed and executed by every Bidder on a County contract, every party responding to a Request for Proposals or Request for Qualifications ("Proposer"), and others as required by the Chief Procurement Officer. If the Undersigned is awarded a contract pursuant to the procurement process for which this EDS was submitted (the "Contract"), this Economic Disclosure Statement and Execution Document shall stand as the Undersigned's execution of the Contract.

**Definitions.** Capitalized terms used in this EDS and not otherwise defined herein shall have the meanings given to such terms in the Instructions to Bidders, General Conditions, Request for Proposals, Request for Qualifications, or other documents, as applicable.

**"Affiliated Entity"** means a person or entity that, directly or indirectly: controls the Bidder, is controlled by the Bidder, or is, with the Bidder, under common control of another person or entity. Indicia of control include, without limitation, interlocking management or ownership; identity of interests among family members; shared facilities and equipment; common use of employees; and organization of a business entity following the ineligibility of a business entity to do business with the County under the standards set forth in the Certifications included in this EDS, using substantially the same management, ownership or principals as the ineligible entity.

**"Bidder," "Proposer," "Undersigned," or "Applicant,"** is the person or entity executing this EDS. Upon award and execution of a Contract by the County, the Bidder, Proposer, Undersigned or Applicant, as the case may be, shall become the Contractor or Contracting Party.

**"Proposal,"** for purposes of this EDS, is the Undersigned's complete response to an RFP/RFQ, or if no RFQ/RFP was issued by the County, the "Proposal" is such other proposal, quote or offer submitted by the Undersigned, and in any event a "Proposal" includes this EDS.

**"Code"** means the Code of Ordinances, Cook County, Illinois available through the Cook County Clerk's Office website (<http://www.cookctyclerk.com/sub/ordinances.asp>). This page can also be accessed by going to [www.cookctyclerk.com](http://www.cookctyclerk.com), clicking on the tab labeled "County Board Proceedings," and then clicking on the link to "Cook County Ordinances."

**"Contractor" or "Contracting Party"** means the Bidder, Proposer or Applicant with whom the County has entered into a Contract.

**"EDS"** means this complete Economic Disclosure Statement and Execution Document, including all sections listed in the Index and any attachments.

**"Lobby" or "lobbying"** means to, for compensation, attempt to influence a County official or County employee with respect to any County matter.

**"Lobbyist"** means any person or entity who lobbies.

**"Prohibited Acts"** means any of the actions or occurrences which form the basis for disqualification under the Code, or under the Certifications hereinafter set forth.

**Sections 1 through 3: MBE/WBE Documentation.** Sections 1 and 2 must be completed in order to satisfy the requirements of the County's MBE/WBE Ordinance, as set forth in the Contract Documents, if applicable. If the Undersigned believes a waiver is appropriate and necessary, Section 3, the Petition for Waiver of MBE/WBE Participation must be completed.

**Section 4: Certifications.** Section 4 sets forth certifications that are required for contracting parties under the Code. Execution of this EDS constitutes a warranty that all the statements and certifications contained, and all the facts stated, in the Certifications are true, correct and complete as of the date of execution.

**Section 5: Economic and Other Disclosures Statement.** Section 5 is the County's required Economic and Other Disclosures Statement form. Execution of this EDS constitutes a warranty that all the information provided in the EDS is true, correct and complete as of the date of execution, and binds the Undersigned to the warranties, representations, agreements and acknowledgements contained therein.

**INSTRUCTIONS FOR COMPLETION OF  
ECONOMIC DISCLOSURE STATEMENT AND EXECUTION DOCUMENT**

**Sections 6, 7, 8, 9: Execution Forms.** The Bidder executes this EDS, and the Contract, by completing and signing three copies of the appropriate Signature Page. Section 6 is the form for a sole proprietor; Section 7 is the form for a partnership or joint venture; Section 8 is the form for a Limited Liability Corporation, and Section 9 is the form for a corporation. Proper execution requires **THREE ORIGINALS**; therefore, the appropriate Signature Page must be filled in, three copies made, and all three copies must be properly signed, notarized and submitted. The forms may be printed and completed by typing or hand writing the information required.

**Required Updates.** The information provided in this EDS will be kept current. In the event of any change in any information provided, including but not limited to any change which would render inaccurate or incomplete any certification or statement made in this EDS, the Undersigned will supplement this EDS up to the time the County takes action, by filing an amended EDS or such other documentation as is requested.

**Additional Information.** The County's Governmental Ethics and Campaign Financing Ordinances, impose certain duties and obligations on persons or entities seeking County contracts, work, business, or transactions. For further information please contact the Director of Ethics at (312) 603-4304 (69 W. Washington St. Suite 3040, Chicago, IL 60602) or visit our web-site at [www.cookcountygov.com](http://www.cookcountygov.com) and go to the Ethics Department link. The Bidder must comply fully with the applicable ordinances.

**MBE/WBE UTILIZATION PLAN (SECTION 1)**

BIDDER/PROPOSER HEREBY STATES that all MBE/WBE firms included in this Plan are certified MBEs/WBEs by at least one of the entities listed in the General Conditions.

- I. **BIDDER/PROPOSER MBE/WBE STATUS:** (check the appropriate line) Bidder/Proposer is a certified MBE
- \_\_\_\_\_ or WBE firm. (If so, attach copy of appropriate Letter of Certification)
- \_\_\_\_\_ Bidder/Proposer is a Joint Venture and one or more Joint Venture partners are certified MBEs or WBEs. (If so, attach copies of Letter(s) of Certification, a copy of Joint Venture Agreement clearly describing the role of the MBE/WBE firm(s) and its ownership interest in the Joint Venture and a completed Joint Venture Affidavit available from the Office of Contract Compliance)
- Bidder/Proposer is not a certified MBE or WBE firm, nor a Joint Venture with MBE/WBE partners, but will utilize MBE and WBE firms either directly or indirectly in the performance of the Contract. (If so, complete Sections II and III).

- II.  **Direct Participation of MBE/WBE Firms** **Indirect Participation of MBE/WBE Firms**

Where goals have not been achieved through direct participation, Bidder/Proposer shall include documentation outlining efforts to achieve Direct Participation at the time of Bid/Proposal submission. Indirect Participation will only be considered after all efforts to achieve Direct Participation have been exhausted. Only after written documentation of Good Faith Efforts is received will Indirect Participation be considered.

MBEs/WBEs that will perform as subcontractors/suppliers/consultants include the following:

MBE/WBE Firm: A & H Mechanical

Address: 1215 E. 79<sup>th</sup> Street, Chicago, IL 60619

E-mail: harold@a-hmechanical.com

Contact Person: Harold Harvey Phone: (773) 933-2400

Dollar Amount Participation: \$ To be Determined

Percent Amount of Participation: To be Determined %

\*Letter of Intent attached? Yes  No \_\_\_\_\_

\*Letter of Certification attached? Yes  No \_\_\_\_\_

MBE/WBE Firm: All Tech Energy, Inc.

Address: 1000 East State Parkway, Suite C, Schaumburg, IL 60173

E-mail: kesposito@alltechenergy.com

Contact Person: Kathy Esposito Phone: (847) 882-0500

Dollar Amount Participation: \$ To be Determined

Percent Amount of Participation: To be Determined %

\*Letter of Intent attached? Yes  No \_\_\_\_\_

\*Letter of Certification attached? Yes  No \_\_\_\_\_

Attach additional sheets as needed

**\*Additionally, all Letters of Intent, Letters of Certification and documentation of Good Faith Efforts omitted from this bid/proposal must be submitted to the Office of Contract Compliance so as to assure receipt by the Contract Compliance Administrator not later than three (3) business days after the Bid Opening date.**

**COOK COUNTY GOVERNMENT LETTER OF INTENT (SECTION 2)**

MWBE Firm: A & H Mechanical Certifying Agency: City of Chicago  
Address: 1216 E. 79th Street Certification Expiration Date: April 1, 2013  
City/State: Chicago, IL Zip: 60619 FEIN #: 27-0720112  
Phone: (773) 933-2400 Fax: (773) 933-2424 Contact Person: Harold Harvey  
Email: harold@a-hmechanical.com Contract #: (773) 506-2929

Participation:  Direct  Indirect

Will the MWBE firm be subcontracting any of the performance of this contract to another firm?

No  Yes - Please attach explanation. Proposed Subcontractor: \_\_\_\_\_

The undersigned MWBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

TRV Installation, steam trap repair/replacement; mechanical services as required.

Indicate the Dollar Amount or Percentage and the Terms of Payment for the above-described Commodities/ Services:  
Dollar amount to be determined. Payment within 30 days after receipt from County.

*(if more space is needed to fully describe MWBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)*

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/Supply and Fee/Cost were completed.

Signature (MWBE) [Signature]  
Print Name Harold Harvey  
Firm Name A & H Mechanical, Inc.

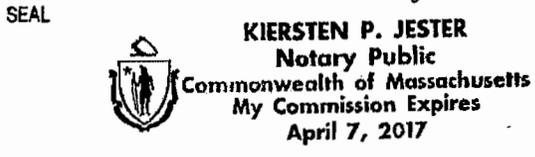
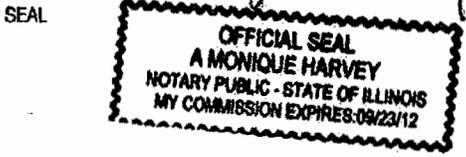
Signature (Firm Bidder/Proposer) [Signature]  
Print Name Executive Vice President  
Firm Name NORESCO, LLC

Date 07-05-12

Date 7.5.12

Subscribed and sworn before me  
this 5 day of July, 2012  
Notary Public A. Monique Harvey

Subscribed and sworn before me  
this 5<sup>th</sup> day of July, 2012  
Notary Public Kiersten P. Jester



THE BOARD OF COMMISSIONERS  
TONI PRECKWINKLE  
PRESIDENT

EARLEAN COLLINS	1st Dist.	PETER N. SILVESTRI	9th Dist.
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EDWIN REYES	8th Dist.	JEFFREY R. YOBOLSKI	16th Dist.
		ELIZABETH ANN DODDY GORMAN	17th Dist.



COOK COUNTY  
OFFICE OF CONTRACT COMPLIANCE

LAVERNE HALL  
DIRECTOR

118 North Clark Street, Room 1020  
Chicago, Illinois 60602-1304  
TEL (312) 603-5502  
FAX (312) 603-4547

July 13, 2011

Mr. Harold Harvey, President  
A & H Mechanical, Inc.  
1215 E. 79<sup>th</sup> St.  
Chicago IL, 60619

Annual Certification Expires: July 13, 2012

Dear Mr. Harvey:

Congratulations on your continued eligibility for Certification as a MBE (6) by Cook County Government. This MBE (6) Certification is valid until July 13, 2013; however your firm must be revalidated annually. Your firm's next annual validation is required by July 13, 2012.

As a condition of continued Certification during this three (3) year period, you must file a "No Change Affidavit" within sixty (60) business days prior to the date of annual expiration. Failure to file this Affidavit shall result in the termination of your Certification. You must notify Cook County Government's Office of Contract Compliance of any change in ownership or control or any other matters or facts affecting your firm's eligibility for Certification.

Cook County Government may commence action to remove your firm as a MBE (6) vendor if you fail to notify us of any changes of facts affecting your firm's Certification, or if your firm otherwise fails to cooperate with the County in any inquiry or investigation. Removal of your status may also be commenced if your firm is found to be involved in bidding or contractual irregularities.

Your firm's name will be listed in Cook County's Directory of Minority Business Enterprises and Women Business Enterprises in the area(s) of specialty:

**Construction: Air Conditioning, Heating, Ventilation Services, Installation**

Your firm's participation on Cook County contracts will be credited toward MBE(WBE goals in your area(s) of specialty. While your participation on Cook County contracts is not limited to your specialty, credit toward MBE (6) goals will be given only for work done in the specialty category.

Thank you for your continued interest in Cook County Government's Minority and Women Business Enterprise Programs.

Sincerely,

LaVerne Hall  
Director  
LH/ss



**COOK COUNTY GOVERNMENT LETTER OF INTENT (SECTION 2)**

M/WBE Firm: All Tech Energy, Inc. Certifying Agency: Cook County  
Address: 1000 East State Parkway, Suite C Certification Expiration Date: 7/2/2013  
City/State: Schaumburg, IL Zip: 60173 FEIN #: 36-3935029  
Phone: (847) 882-0500 Fax: (847) 882-0800 Contact Person: Kathy Esposito  
Email: kesposito@alltechenergy.com Contract #: (847) 882-0500

Participation:  Direct  Indirect

Will the M/WBE firm be subcontracting any of the performance of this contract to another firm?

No  Yes - Please attach explanation. Proposed Subcontractor: \_\_\_\_\_

The undersigned M/WBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

Lighting retrofits, installation of tamper proof fixtures, LED lighting replacement.

Indicate the Dollar Amount or Percentage and the Terms of Payment for the above-described Commodities/ Services:  
Dollar amount to be determined. Payment within 30 days after receipt from County.

*(If more space is needed to fully describe M/WBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)*

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/Supply and Fee/Cost were completed.

*Kathy Esposito*  
Signature (M/WBE)  
Kathy Esposito  
Print Name  
All Tech Energy, Inc.  
Firm Name

*David G. Mannherz*  
Signature (Firm Bidder/Proposer)  
David G. Mannherz  
Print Name  
NORESCO, LLC  
Firm Name

Date 7/3/2012

Date 7.5.12

Subscribed and sworn before me

Subscribed and sworn before me

this 3rd day of July, 2012

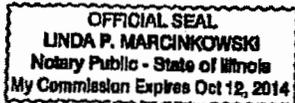
this 5th day of July, 2012

Notary Public *Linda P. Marcinkowski*

Notary Public *Kiersten P. Jester*

SEAL

SEAL



**KIERSTEN P. JESTER**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
April 7, 2017

THE BOARD OF COMMISSIONERS  
TONI PRECKWINKLE

PRESIDENT

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WIN REYES	8th Dist.	JEFFREY A. TOBOLSKI	16th Dist.
		ELIZABETH ANI DODDY OORAM	17th Dist.



COOK COUNTY  
OFFICE OF CONTRACT COMPLIANCE

LAVERNE HALL  
DIRECTOR

118 North Clark Street, Room 1020  
Chicago, Illinois 60602-1304  
TEL (312) 603-5502  
FAX (312) 603-4547

July 5, 2012

Ms. Kathy Esposito, President  
All Tech Energy, Inc.  
1000 E. State Parkway - Suite C  
Schaumburg, IL 60173

Dear Ms. Esposito:

Congratulations, the Office of Contract Compliance is pleased to inform you that All Tech Energy, Inc. will maintain its certification as a WBE (7) by Cook County Government. This WBE (7) Certification must be revalidated annually.

Please use the enclosed Certificate of Certification as validation of your Cook County WBE status and area of specialty.

As a condition of continued Certification during this three (3) year period, you must file a "No-Change Affidavit" within sixty (60) business days prior to the date of annual expiration. A processing fee of \$50.00, payable to Cook County Department of Revenue is required with the No-Change Affidavit. Failure to file this Affidavit shall result in the termination of your Certification. You must notify Cook County Government's Office of Contract Compliance within ten (10) days of any change in ownership or control or any other matters or facts affecting your firm's eligibility for Certification.

Your firm's participation on Cook County contracts will be credited toward WBE (7) goals in your area(s) of specialty. While your participation on Cook County contracts is not limited to your area of specialty, credit toward WBE (7) goals will only be recognized for work done in the specialty category.

Thank you for your continued interest in Cook County Government's Minority and Women Business Enterprise Programs.

Sincerely,

Handwritten signature of Laverne Hall in cursive script.

Laverne Hall  
Director

LH/ehw

# Cook County Government

## Office of Contract Compliance

certifies that the criteria for certification as a

**Woman Business Enterprise**

has been met by

**All Tech Energy, Inc.**

Construction: Electrical Contractor

Consulting/ Energy Management Consulting Services

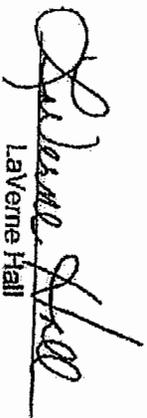
Issued Date: July 2, 2012

No-Change Affidavit Due: July 2, 2013

NIGP Code(s): 91082 & 91841

Ethnicity Code: 7

County: Cook

  
Laverne Hall  
Contract Compliance Director

**MBE/WBE UTILIZATION PLAN (SECTION 1)**

BIDDER/PROPOSER HEREBY STATES that all MBE/WBE firms included in this Plan are certified MBEs/WBEs by at least one of the entities listed in the General Conditions.

- I. **BIDDER/PROPOSER MBE/WBE STATUS:** (check the appropriate line) Bidder/Proposer is a certified MBE  
 \_\_\_\_\_ or WBE firm. (If so, attach copy of appropriate Letter of Certification)
- \_\_\_\_\_ Bidder/Proposer is a Joint Venture and one or more Joint Venture partners are certified MBEs or WBEs. (If so, attach copies of Letter(s) of Certification, a copy of Joint Venture Agreement clearly describing the role of the MBE/WBE firm(s) and its ownership interest in the Joint Venture and a completed Joint Venture Affidavit - available from the Office of Contract Compliance)
- X   Bidder/Proposer is not a certified MBE or WBE firm, nor a Joint Venture with MBE/WBE partners, but will utilize MBE and WBE firms either directly or indirectly in the performance of the Contract. (If so, complete Sections II and III).

- II.  **Direct Participation of MBE/WBE Firms** **Indirect Participation of MBE/WBE Firms**

Where goals have not been achieved through direct participation, Bidder/Proposer shall include documentation outlining efforts to achieve Direct Participation at the time of Bid/Proposal submission. Indirect Participation will only be considered after all efforts to achieve Direct Participation have been exhausted. Only after written documentation of Good Faith Efforts is received will Indirect Participation be considered.

MBEs/WBEs that will perform as subcontractors/suppliers/consultants include the following:

MBE/WBE Firm: Applied Controls & Contracting Services, Inc.

Address: 539-541 W. Taft Drive, South Holland, IL 60473

E-mail: Gkinnison@accshome.com

Contact Person: George Kinnison Phone: (708) 596-7400

Dollar Amount Participation: \$ To be Determined

Percent Amount of Participation: To be Determined %

\*Letter of Intent attached? Yes   X   No \_\_\_\_\_  
 \*Letter of Certification attached? Yes   X   No \_\_\_\_\_

MBE/WBE Firm: Autumn Construction Services, Inc.

Address: 1400 E. Touhy Avenue, Suite 477, Des Plaines, IL 60018

E-mail: susan.nelson@autumnconstruction.com

Contact Person: Susan Nelson Phone: (630) 588-9585

Dollar Amount Participation: \$ To be Determined

Percent Amount of Participation: To be Determined %

\*Letter of Intent attached? Yes   X   No \_\_\_\_\_  
 \*Letter of Certification attached? Yes   X   No \_\_\_\_\_

Attach additional sheets as needed

**\*Additionally, all Letters of Intent, Letters of Certification and documentation of Good Faith Efforts omitted from this bid/proposal must be submitted to the Office of Contract Compliance so as to assure receipt by the Contract Compliance Administrator not later than three (3) business days after the Bid Opening date.**

**COOK COUNTY GOVERNMENT LETTER OF INTENT (SECTION 2)**

MWBE Firm: Applied Controls & Contracting Services, Inc. Certifying Agency: Cook County  
Address: 539-541 W. Taft Drive Certification Expiration Date: 5/29/13  
City/State: South Holland, IL Zip 60473 FEIN #: 36-3756670  
Phone: (708) 596-7400 Fax: (708) 596-1020 Contact Person: George Kinnison  
Email: gkinnison@accshome.com Contract #: (708) 207-7157

Participation:  Direct  Indirect

Will the MWBE firm be subcontracting any of the performance of this contract to another firm?

No  Yes - Please attach explanation. Proposed Subcontractor: \_\_\_\_\_

The undersigned MWBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

Controls and device repair.  
\_\_\_\_\_  
\_\_\_\_\_

Indicate the Dollar Amount or Percentage and the Terms of Payment for the above-described Commodities/ Services:  
Dollar amount to be determined. Payment within 30 days after receipt from County.  
\_\_\_\_\_  
\_\_\_\_\_

*(If more space is needed to fully describe MWBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)*

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/Supply and Fee/Cost were completed.

*George N. Kinnison*  
Signature (MWBE)  
GEORGE N. KINNISSON  
Print Name

*David G. Mannherz*  
Signature (Bidder/Proposer)  
David G. Mannherz  
Print Name  
Executive Vice President

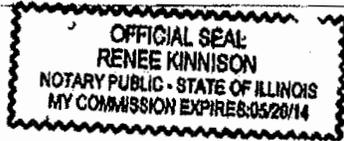
APPLIED CONTROLS & CONTRACTING SERVICES  
Firm Name  
7-4-2012  
Date

NOHESCO, LLC  
Firm Name  
7.5.12  
Date

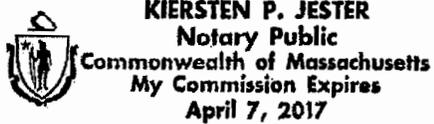
7-4-20 *Renee Kinnison*  
Subscribed and sworn before me  
this 4<sup>th</sup> day of July, 2012.

5<sup>th</sup> day of July, 2012  
Subscribed and sworn before me  
Notary Public *Kiersten P. Jester*

Notary Public  
SEAL



SEAL



THE BOARD OF COMMISSIONERS

TONI FRECKWINKLE

PRESIDENT

JANISZ GOSLING	1st Dist.	DEBRA H. BAVETTA	2nd Dist.
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DEBORAH BERRY	6th Dist.	LAUREN WATSON	6th Dist.
ANDY FLORES	7th Dist.	BRUCE BOWEN	7th Dist.
KEVIN G. BARNETT	8th Dist.	CHRISTY A. PASTERNAK	8th Dist.
DAVID HAYES	9th Dist.	CHRISTY A. TROTT	9th Dist.
		BRUCE W. BOYD	10th Dist.



COOK COUNTY  
OFFICE OF CONTRACT COMPLIANCE

LAVERNE HALL  
DIRECTOR

118 North Clark Street, Room 1020  
Chicago, Illinois 60602-1304  
TEL (312) 601-5502  
FAX (312) 601-4517

May 28, 2012

Mr. George Kinnison, President  
Applied Controls & Contracting Services, Inc.  
639 541 W. Tark Drive  
South Holland, IL 60473

Dear Mr. Kinnison:

Congratulations. We are pleased to inform you that Applied Controls & Contracting Services, Inc. will maintain its certification as an MBE (6) by Cook County Government. This MBE Certification must be revalidated annually.

Please use the enclosed Certificate of Certification as validation of your Cook County MBE status and area of specialty.

As a condition of continued Certification during this three (3) year period, you must file a "No-Change Affidavit" within sixty (60) business days prior to the date of annual expiration. A processing fee of \$50.00, payable to Cook County Department of Revenue is required with the No-Change Affidavit. Failure to file this Affidavit shall result in the termination of your Certification. You must notify Cook County Government's Office of Contract Compliance within ten (10) days of any change in ownership or control or any other matters or facts affecting your firm's eligibility for Certification.

Your firm's participation on Cook County contracts will be credited toward MBE goals in your area(s) of specialty. While your participation on Cook County contracts is not limited to your area of specialty, credit toward MBE goals will only be recognized for work done in the specialty category.

Thank you for your continued interest in Cook County Government's Minority and Women Business Enterprise Programs.

Sincerely,

LaVerne Hall  
Director  
LH/ek

**Cook County Government**

**Office of Contract Compliance**

certifies that the criteria for certification as a

**Small Business Enterprise**

has been met by

**Applied Controls & Contracting Services, Inc.**

Facilities: Design and Installation of Temperature Control Systems, Installation of Low Voltage Electronic Equipment, Fire Alarm & Security Inspection, HVAC Maintenance, Duct Cleaning

Issued Date: May 29, 2012

No Change Affidavit Due: May 29, 2013

NIGP Code(s): 08126, 93337, 96246, 99042

Ethnicity Code: 6

County: Cook



LaVonne Hall  
Contract Compliance Director

**COOK COUNTY GOVERNMENT LETTER OF INTENT (SECTION 2)**

M/WBE Firm: Aulumn Construction Services, Inc. Certifying Agency: Cook County  
Address: 1400 E. Touhy Avenue, Suite 477 Certification Expiration Date: April 12, 2013  
City/State: Des Plaines, IL Zip: 60018 FEIN #: 36-4035882  
Phone: (630) 588-9585 Fax: (630) 588-9586 Contact Person: Susan Nelson  
Email: susan.nelson@aulumnconstruction.com Contract #: (630) 207-0072

Participation:  Direct  Indirect

Will the M/WBE firm be subcontracting any of the performance of this contract to another firm?

No  Yes - Please attach explanation. Proposed Subcontractor: \_\_\_\_\_

The undersigned M/WBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

Submeter installation, CAV to VAV modifications, steam trap repair/replace, TRV installation and replacement of CHW pumps.

Indicate the **Dollar Amount** or **Percentage**, and the **Terms of Payment** for the above-described Commodities/ Services:  
Dollar amount to be determined. Payment within 30 days after receipt from County.

*(If more space is needed to fully describe M/WBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)*

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/Supply and Fee/Cost were completed.

Susan Nelson  
Signature (M/WBE)  
Susan Nelson  
Print Name  
Aulumn Construction Services, Inc  
Firm Name

David G. Mannherz  
Signature (Prime Bidder/Proposer)  
David G. Mannherz  
Executive Vice President  
Print Name  
NOBESCO, LLC  
Firm Name

Date July 5, 2012

Date 7.5.12

Subscribed and sworn before me

Subscribed and sworn before me

this 5th day of July, 20 12

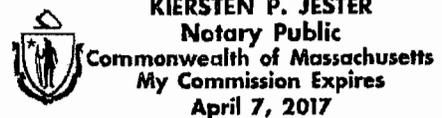
this 5th day of July, 20 12

Notary Public: Laura L. Schmidt

Notary Public: Kiersten P. Jester

SEAL

SEAL

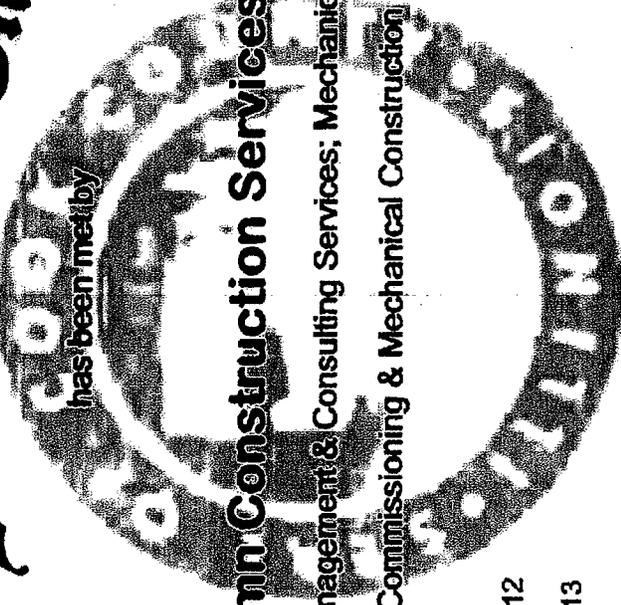


# Cook County Government

## Office of Contract Compliance

certifies that the criteria for certification as a

**Women Business Enterprise**



**Autumn Construction Services, Inc.**

Construction: Construction Management & Consulting Services; Mechanical Systems Consulting;  
Commissioning & Mechanical Construction

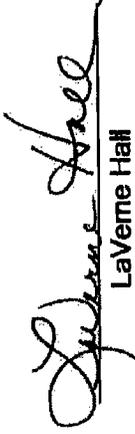
Issued Date: April 12, 2012

No-Change Affidavit Due: April 12, 2013

NIGP Code(s): 96178

Ethnicity Code: 7

County: Cook

  
LaVerne Hall

Contract Compliance Director

**MBE/WBE UTILIZATION PLAN (SECTION 1)**

BIDDER/PROPOSER HEREBY STATES that all MBE/WBE firms included in this Plan are certified MBEs/WBEs by at least one of the entities listed in the General Conditions.

**I. BIDDER/PROPOSER MBE/WBE STATUS:** (check the appropriate line) Bidder/Proposer is a certified MBE

\_\_\_\_\_ or WBE firm. (If so, attach copy of appropriate Letter of Certification)

\_\_\_\_\_ Bidder/Proposer is a Joint Venture and one or more Joint Venture partners are certified MBEs or WBEs. (If so, attach copies of Letter(s) of Certification, a copy of Joint Venture Agreement clearly describing the role of the MBE/WBE firm(s) and its ownership interest in the Joint Venture and a completed Joint Venture Affidavit . available from the Office of Contract Compliance)

Bidder/Proposer is not a certified MBE or WBE firm, nor a Joint Venture with MBE/WBE partners, but will utilize MBE and WBE firms either directly or indirectly in the performance of the Contract. (If so, complete Sections II and III).

**II.  Direct Participation of MBE/WBE Firms                      Indirect Participation of MBE/WBE Firms**

Where goals have not been achieved through direct participation, Bidder/Proposer shall include documentation outlining efforts to achieve Direct Participation at the time of Bid/Proposal submission. Indirect Participation will only be considered after all efforts to achieve Direct Participation have been exhausted. Only after written documentation of Good Faith Efforts is received will Indirect Participation be considered.

MBEs/WBEs that will perform as subcontractors/suppliers/consultants include the following:

MBE/WBE Firm: Code Engineering

Address: 2021 Midwest Road, Suite 200, Oakbrook, IL 60523

E-mail: code.slm@comcast.net

Contact Person: Sim Dawson Phone: (630) 728-5314

Dollar Amount Participation: \$ To be Determined

Percent Amount of Participation: To be Determined %

\*Letter of Intent attached? Yes  No \_\_\_\_\_

\*Letter of Certification attached? Yes  No \_\_\_\_\_

MBE/WBE Firm: \_\_\_\_\_

Address: \_\_\_\_\_

E-mail: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Phone: \_\_\_\_\_

Dollar Amount Participation: \$ \_\_\_\_\_

Percent Amount of Participation: \_\_\_\_\_ %

\*Letter of Intent attached? Yes \_\_\_\_\_ No \_\_\_\_\_

\*Letter of Certification attached? Yes \_\_\_\_\_ No \_\_\_\_\_

Attach additional sheets as needed

**\*Additionally, all Letters of Intent, Letters of Certification and documentation of Good Faith Efforts omitted from this bid/proposal must be submitted to the Office of Contract Compliance so as to assure receipt by the Contract Compliance Administrator not later than three (3) business days after the Bid Opening date.**

**COOK COUNTY GOVERNMENT LETTER OF INTENT (SECTION 2)**

MWBE Firm: Code Engineering Certifying Agency: CITY OF CHICAGO  
Address: 2021 Midwest Road, Suite 200 Certification Expiration Date: 4/1/13  
City/State: Oakbrook, IL Zip: 60523 FEIN #: 36-3832876  
Phone: (630) 953-8586 Fax: (630) 789-8933 Contact Person: Sim Dawson  
Email: CODE.SIM@COMCAST.NET Contract #: (630) 728-5314

Participation:  Direct  Indirect

Will the MWBE firm be subcontracting any of the performance of this contract to another firm?

No  Yes - Please attach explanation. Proposed Subcontractor: \_\_\_\_\_

The undersigned MWBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

Lighting retrofits, submeter installation, controls and device repair and retrofit, EMS upgrade and expansion wiring, VFD installation, misc. electrical services.

Indicate the Dollar Amount or Percentage and the Terms of Payment for the above-described Commodities/ Services:  
Dollar amount to be determined. Payment within 30 days after receipt from County.

*(If more space is needed to fully describe MWBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)*

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/Supply and Fee/Cost were completed.

Signature (MWBE)

Print Name

Firm Name

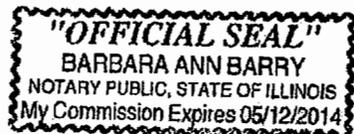
Date

Subscribed and sworn before me

this 5 day of July, 2012.

Notary Public

SEAL



Signature (Prime Bidder/Proposer)

Print Name

Firm Name

Date

Subscribed and sworn before me

this 5<sup>th</sup> day of July, 2012.

Notary Public

SEAL



KIERSTEN P. JESTER  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
April 7, 2017



DEPARTMENT OF PROCUREMENT SERVICES  
CITY OF CHICAGO

**APR 09 2012**

Sim Dawson  
Code Engineering Services  
2021 Midwest Road  
Oakbrook, IL 60523

**Annual Certificate Expires: April 1, 2013**

Dear Mr. Dawson:

We are pleased to inform you that Code Engineering Services has been recertified as a Minority Business Enterprise (MBE) by the City of Chicago. This certification is valid until April 1, 2017; however your firm must be re-validated annually.

As a condition of continued certification during this five year period, you must file an annual No-Change Affidavit. Your firm's No Change Affidavit is due by **April 1, 2013**. Please remember, you have an affirmative duty to file your No-Change Affidavit 60 days prior to the date of expiration. Therefore, you must file your No-Change Affidavit by **February 1, 2013**.

It is important to note that you also have an ongoing affirmative duty to notify the City of Chicago of any changes in ownership or control of your firm, or any other fact affecting your firm's eligibility for certification within **10 days** of such change. These changes may include but are not limited to a change of address, change of business structure, change in ownership or ownership structure, change of business operations, and/or gross receipts that exceed the program threshold.

Please note – you shall be deemed to have had your certification lapse and will be ineligible to participate as a MBE if you fail to:

- file your No Change Affidavit within the required time period;
- provide financial or other records requested pursuant to an audit within the required time period; or
- notify the City of any changes affecting your firm's certification within 10 days of such change.

APR 09 2012

Further, if you or your firm is found to be involved in certification, bidding and/or contractual fraud or abuse, the City will pursue decertification and debarment. And in addition to any other penalty imposed by law, any person who knowingly obtains, or knowingly assists another in obtaining, a contract with the city by falsely representing that the individual or entity, or the individual or entity assisted, is a minority-owned business or a woman-owned business, is guilty of a misdemeanor, punishable by incarceration in the county jail for a period not to exceed six months or a fine of not less than \$5,000.00 and not more than \$10,000, or both.

Your firm's name will be listed in the City's Directory of Minority and Women-Owned Business Enterprises in the specialty area(s) of:

**NAICS 238210 – ELECTRICAL CONTRACTOR AND ELECTRICAL MAINTENANCE**

Your firm's participation on City contracts will be credited only toward MBE goals in your area(s) of specialty. While your participation on City contracts is not limited to your specialty, credit toward goals will be given only for work done in the specialty category.

Thank you for your continued interest in doing business with the City of Chicago.

Sincerely,



Jamie L. Rhee  
Chief Procurement Officer



**COOK COUNTY GOVERNMENT LETTER OF INTENT (SECTION 2)**

M/WBE Firm: Comprehensive Construction Consulting, Inc Certifying Agency: City of Chicago  
Address: 53 West Jackson Blvd., Suite 801 Certification Expiration Date: November 1, 2013  
City/State: Chicago, IL Zip: 60606 FEIN #: 20-8717661  
Phone: (312) 353-3003 Fax: (312) 353-3001 Contact Person: Lynn Dixon  
Email: ldixon@comprehensive.com Contract #: (312) 353-3003, ext 103

Participation:  Direct  Indirect

Will the M/WBE firm be subcontracting any of the performance of this contract to another firm?

No  Yes - Please attach explanation. Proposed Subcontractor: \_\_\_\_\_

The undersigned M/WBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

Project Management Services  
\_\_\_\_\_  
\_\_\_\_\_

Indicate the **Dollar Amount** or **Percentage** and the **Terms of Payment** for the above-described Commodities/ Services  
Dollar amount to be determined Payment within 30 days after receipt from County.

*(if more space is needed to fully describe M/WBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)*

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/Supply and Fee/Cost were completed.

*Lynn Dixon*  
Signature (M/WBE)

Lynn Dixon  
Print Name

COMPREHENSIVE CONSTRUCTION CONSULTING INC.  
Firm Name

Date July 5, 2012

*David G. Mannherz*  
Signature (Prime Bidder/Proposer)

David G. Mannherz  
Print Name  
**Executive Vice President**

NOBESCO, LLC  
Firm Name

Date 7.5.12

Subscribed and sworn before me

this 5 day of July, 2012

Notary Public *Paula J. Patrick*

SEAL

Subscribed and sworn before me

this 5<sup>th</sup> day of July, 2012

Notary Public *Kiersten P. Jester*

SEAL



**KIERSTEN P. JESTER**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
April 7, 2017



CITY OF CHICAGO  
**OFFICE OF COMPLIANCE**

---

September 30, 2011

Lynn Dixon  
Comprehensive Construction Consulting, Inc  
53 W. Jackson BLVD  
Suite 801  
Chicago, IL 60604-3495

**Annual Certificate Expires: November 1, 2012**

Dear Lynn Dixon:

Congratulations on your continued eligibility for certification as a **Minority Business Enterprise (MBE)** by the City of Chicago. This certification is valid until **November 1, 2013**.

As you know, your firm must also be re-validated annually. As such, your firm's next No Change Affidavit is due by **November 1, 2012**. Please remember, you have an affirmative duty to file your No-Change Affidavit **60 days prior to the date of expiration**.

It is important to note that you also have an ongoing affirmative duty to notify the City of Chicago of any changes in ownership or control of your firm, or any other fact affecting your firm's eligibility for certification within 10 days of such change. These changes may include but are not limited to a change of address, change of business structure, change in ownership or ownership structure, change of business operations, and/or gross receipts that exceed the program threshold.

Please note – you shall be deemed to have had your certification lapse and will be ineligible to participate as a MBE/WBE/BEPD if you fail to:

- o file your No Change Affidavit within the required time period;
- o provide financial or other records requested pursuant to an audit within the required time period; or
- o notify the City of any changes affecting your firm's certification within 10 days of such change.

*Further, if you or your firm is found to be involved in certification, bidding and/or contractual fraud or abuse, the City will pursue decertification and debarment. And in addition to any other penalty imposed by law, any person who knowingly obtains, or knowingly assists another in obtaining, a contract with the city by falsely representing that the individual or entity, or the individual or entity assisted, is a minority-owned business or a woman-owned business, is guilty of a misdemeanor, punishable by incarceration in the county jail for a period not to exceed six months or a fine of not less than \$5,000.00 and not more than \$10,000, or both.*

Your firm is listed in the City's Directory of Minority Business Enterprises and Women Business Enterprises in the specialty area(s) of:

**NAICS-236220: CONSTRUCTION MANAGEMENT, COMMERCIAL AND  
INSTITUTIONAL BUILDING  
NAICS-236220: PROJECT MANAGEMENT**

Your firm's participation on City contracts will be credited only toward Minority Business Enterprise (MBE) goals in your area(s) of specialty. While your participation on City contracts is not limited to your specialty, credit toward Minority Business Enterprise (MBE) goal will be given only for work done in a specialty category.

Thank you for your continued participation in the City's Supplier Diversity Program.

Sincerely,



**Michael Chambers  
Senior Compliance Officer**

**COOK COUNTY GOVERNMENT LETTER OF INTENT (SECTION 2)**

M/WBE Firm: Cable Communications, Inc. Certifying Agency: Cook County  
Address: 6200 South Oakley Avenue Certification Expiration Date: Jan. 11, 2013  
City/State: Chicago, IL Zip: 60636 FEIN #: 36-3508831  
Phone: (773) 925-1344 Fax: (773) 925-9225 Contact Person: Susan L. Hurley  
Email: SUSAN@CCKC.COM Contract #: (773) 925-1344

Participation:  Direct  Indirect

Will the M/WBE firm be subcontracting any of the performance of this contract to another firm?

No  Yes - Please attach explanation. Proposed Subcontractor: \_\_\_\_\_

The undersigned M/WBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

Submeter installation, EMS upgrade wiring, control end device repair, install/replace VFDs, CAV to VAV air handler modifications and misc. electrical services.

Indicate the **Dollar Amount** or **Percentage** and the **Terms of Payment** for the above-described Commodities/ Services:  
Dollar amount to be determined. Payment within 30 days after receipt from County.

*(If more space is needed to fully describe M/WBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)*

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/Supply and Fee/Cost were completed.

*Susan L. Hurley*  
Signature (M/WBE)  
Susan L. Hurley  
Print Name  
Cable Communications, Inc.  
Firm Name

Date July 5, 2012

Susan L. Hurley  
Subscribed and sworn before me  
this 5th day of July 2012  
Notary Public: *Robert P. Jester*  
SEAL

*David G. Mannherz*  
Signature (Prime Bidder/Proposer)  
David G. Mannherz  
Print Name  
Executive Vice President  
NOHESCO, LLC  
Firm Name

Date 7.5.12

*Robert P. Jester*  
Subscribed and sworn before me  
this 5th day of July 2012  
Notary Public: *Kiersten P. Jester*  
SEAL



**KIERSTEN P. JESTER**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
April 7, 2017

THE BOARD OF COMMISSIONERS

TONI PRECKWINKLE

PRESIDENT

EARLEAN COLLINS	1st Dist.	PETER N. SILVESTRI	9th Dist.
ROBERT STEELE	2nd Dist.	BIDGET GARNER	10th Dist.
JERRY BUTLER	3rd Dist.	JOHN P. DALEY	11th Dist.
WILLIAM M. BEAVERS	4th Dist.	JOHN A. FRITCHEY	12th Dist.
DEBORAH SIMS	5th Dist.	LARRY SUFFREDIN	13th Dist.
JOAN PATRICIA MURPHY	6th Dist.	GREGG GOSLIN	14th Dist.
JESUS G. GARCIA	7th Dist.	TIMOTHY B. SCHWEIDER	15th Dist.
EDWIN REYES	8th Dist.	JEFFREY R. TOROLSKI	16th Dist.
		ELIZABETH ANN DOODY GORMAN	17th Dist.



COOK COUNTY  
OFFICE OF CONTRACT COMPLIA

LAVERNE HALL  
DIRECTOR

118 North Clark Street, Room 1020  
Chicago, Illinois 60602-1304  
TEL (312) 603-5502  
FAX (312) 603-4547

RGVD NOV 16 '11

November 9, 2011

Ms. Susan L. Hurley, President  
Cable Communications, Inc.  
6200 South Oakley  
Chicago, IL 60636

Annual Certification Expires: January 11, 2013

Dear Ms. Hurley:

Congratulations on your continued eligibility for Certification as a WBE by Cook County Government. This WBE Certification is valid until January 11, 2014; however your firm must be revalidated annually. Your firm's next annual validation is required by January 11, 2013.

As a condition of continued Certification during this three (3) year period, you must file a "No Change Affidavit" within sixty (60) business days prior to the date of annual expiration. Please include the non-refundable fee of \$50.00, payable to Cook County Department of Revenue. Failure to file this Affidavit shall result in the termination of your Certification. You must notify Cook County Government's Office of Contract Compliance, of any change in ownership or control of your firm or any other matters or facts affecting your firm's eligibility for Certification.

Cook County Government may commence action to remove your firm as a WBE vendor if you fail to notify us of any changes of facts affecting your firm's Certification, or if your firm otherwise fails to cooperate with the County in any inquiry or investigation. Removal of your status may also be commended if your firm is found to be involved in bidding or contractual irregularities.

Your firm's name will be listed in Cook County's Directory of Minority Business Enterprises and Women Business Enterprises in the area(s) of specialty:

**CONSTRUCTION: ELECTRICAL AND TELECOMMUNICATIONS**

Your participation on County contracts will be credited toward WBE goals only in your area of specialty. While your participation on Cook County contracts is not limited to your specialty, credit toward WBE goals will be given only for work done in the specialty category.

Thank you for your continued interest in Cook County Government's Minority and Women Business Enterprise Programs.

Sincerely,

LaVerne Hall  
Contract Compliance Director  
LH/ehw

**MBE/WBE UTILIZATION PLAN (SECTION 1)**

BIDDER/PROPOSER HEREBY STATES that all MBE/WBE firms included in this Plan are certified MBEs/WBEs by at least one of the entities listed in the General Conditions.

- I. **BIDDER/PROPOSER MBE/WBE STATUS:** (check the appropriate line) Bidder/Proposer is a certified MBE  
 \_\_\_\_\_ or WBE firm. (If so, attach copy of appropriate Letter of Certification)
- \_\_\_\_\_ Bidder/Proposer is a Joint Venture and one or more Joint Venture partners are certified MBEs or WBEs. (If so, attach copies of Letter(s) of Certification, a copy of Joint Venture Agreement clearly describing the role of the MBE/WBE firm(s) and its ownership interest in the Joint Venture and a completed Joint Venture Affidavit - available from the Office of Contract Compliance)
- X  Bidder/Proposer is not a certified MBE or WBE firm, nor a Joint Venture with MBE/WBE partners, but will utilize MBE and WBE firms either directly or indirectly in the performance of the Contract. (If so, complete Sections II and III).

- II.  **Direct Participation of MBE/WBE Firms** **Indirect Participation of MBE/WBE Firms**

Where goals have not been achieved through direct participation, Bidder/Proposer shall include documentation outlining efforts to achieve Direct Participation at the time of Bid/Proposal submission. Indirect Participation will only be considered after all efforts to achieve Direct Participation have been exhausted. Only after written documentation of Good Faith Efforts is received will Indirect Participation be considered.

MBEs/WBEs that will perform as subcontractors/suppliers/consultants include the following:

MBE/WBE Firm: Everlights, Inc.

Address: 9901 South Torrence Avenue, Chicago, IL 60617

E-mail: kaaron@everlights.com

Contact Person: Kelly Aaron Phone: (773) 734-9873 ext. 121

Dollar Amount Participation: \$ To be Determined

Percent Amount of Participation: To be Determined %

\*Letter of Intent attached? Yes  X  No \_\_\_\_\_

\*Letter of Certification attached? Yes  X  No \_\_\_\_\_

MBE/WBE Firm: ECO Lighting Services and Technology

Address: 724 W. Racquet Club Drive, Addison, IL 60101

E-mail: tduffy@ecolightingservices.com

Contact Person: Tim Duffy Phone: (630) 774-8748

Dollar Amount Participation: \$ To be Determined

Percent Amount of Participation: To be Determined %

\*Letter of Intent attached? Yes  X  No \_\_\_\_\_

\*Letter of Certification attached? Yes  X  No \_\_\_\_\_

Attach additional sheets as needed

**\*Additionally, all Letters of Intent, Letters of Certification and documentation of Good Faith Efforts omitted from this bid/proposal must be submitted to the Office of Contract Compliance so as to assure receipt by the Contract Compliance Administrator not later than three (3) business days after the Bid Opening date.**

**COOK COUNTY GOVERNMENT LETTER OF INTENT (SECTION 2)**

M/WBE Firm: Everlights Certifying Agency: City of Chicago Office of Compliance  
Address: 9901 South Torrence Avenue Certification Expiration Date: June 30, 2014  
City/State: Chicago, IL Zip: 60617 FEIN #: 38-4032921  
Phone: (773) 734-9873 Fax: (773) 734-9874 Contact Person: Kelly Gallagher  
Email: kgallagher@everlights.com Contact #: (708) 878-9030

Participation:  Direct  Indirect

Will the M/WBE firm be subcontracting any of the performance of this contract to another firm?

No  Yes - Please attach explanation. Proposed Subcontractor: \_\_\_\_\_

The undersigned M/WBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

Lamp and ballast recycling, lighting retrofits and supplies

Indicate the **Dollar Amount** or **Percentage** and the **Terms of Payment** for the above-described Commodities/ Services:  
Dollar amount to be determined. Payment within 30 days after receipt from County.

*(If more space is needed to fully describe M/WBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)*

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/Supply and Fee/Cost were completed.

Signature (M/WBE)

KELLY GALLAGHER

Firm Name  
EVERLIGHTS

Date  
JULY 5, 2012

Signature (Prime Bidder/Proposer)

David G. Mannherz  
Executive Vice President

Print Name

Firm Name  
NOMESCO, LLC

Date  
7.5.12

Subscribed and sworn before me

this 5 day of July, 2012.

Notary Public [Signature]

SEAL

Subscribed and sworn before me

this 5<sup>th</sup> day of July, 2012.

Notary Public [Signature]

SEAL



**KIERSTEN P. JESTER**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
April 7, 2017



CITY OF CHICAGO  
OFFICE OF COMPLIANCE

July 27, 2011

Kelly Aaron  
Everlights, Inc.  
9901 South Torrence Avenue  
Chicago, IL 60617-5369

Annual Certificate Expires: June 30, 2014

Dear Kelly Aaron:

Congratulations on your continued eligibility for certification as a Women Business Enterprise (WBE) by the City of Chicago. This certification is valid until June 30, 2014.

As you know, your firm must also be re-validated annually. As such, your firm's next No Change Affidavit is due by June 30, 2012. Please remember, you have an affirmative duty to file your No-Change Affidavit 60 days prior to the date of expiration.

It is important to note that you also have an ongoing affirmative duty to notify the City of Chicago of any changes in ownership or control of your firm, or any other fact affecting your firm's eligibility for certification within 10 days of such change. These changes may include but are not limited to a change of address, change of business structure, change in ownership or ownership structure, change of business operations, and/or gross receipts that exceed the program threshold.

Please note -- you shall be deemed to have had your certification lapse and will be ineligible to participate as a MBE/WBE/BE/PD if you fall to:

- o file your No Change Affidavit within the required time period;
- o provide financial or other records requested pursuant to an audit within the required time period; or
- o notify the City of any changes affecting your firm's certification within 10 days of such change.

*Further, if you or your firm is found to be involved in certification, bidding and/or contractual fraud or abuse, the City will pursue decertification and debarment. And in addition to any other penalty imposed by law, any person who knowingly obtains, or knowingly assists another in obtaining, a contract with the city by falsely representing that the individual or entity, or the individual or entity assisted, is a minority-owned business or a woman-owned business, is guilty of a misdemeanor, punishable by incarceration in the county jail for a period not to exceed six months or a fine of not less than \$5,000.00 and not more than \$10,000, or both.*

Your firm is listed in the City's Directory of Minority Business Enterprises and Women Business Enterprises in the specialty area(s) of:

NAICS-423220: LAMPS (I.E., LIGHTING FIXTURES) MERCHANT WHOLESALERS  
NAICS-444190: ELECTRICAL SUPPLY STORES  
NAICS-562111: RECYCLABLE MATERIAL COLLECTION SERVICES  
NAICS-562112: HAZARDOUS WASTE COLLECTION SERVICES  
NAICS-562119: OTHER WASTE COLLECTION

Your firm's participation on City contracts will be credited only toward Women Business Enterprise (WBE) goals in your area(s) of specialty. While your participation on City contracts is not limited to your specialty, credit toward Women Business Enterprise (WBE) goal will be given only for work done in a specialty category.

Thank you for your continued participation in the City's Supplier Diversity Program.

Sincerely,

  
Karen Patterson  
Deputy Director

333 S. State St., Suite 320, Chicago, IL 60604 • (312) 747-7778

[www.cityofchicago.org/compliance](http://www.cityofchicago.org/compliance)

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**COOK COUNTY GOVERNMENT LETTER OF INTENT (SECTION 2)**

MWBE Firm: ECO Lighting Services & Technology Certifying Agency: WBENC  
 Address: 724 Racquet Club Drive Certification Expiration Date: February 28, 2012  
 City/State: Addison, IL Zip: 60101 FEIN #: 26-2753578  
 Phone: (630) 774-8748 Fax: (630) 543-3075 Contact Person: Tim Duffy  
 Email: tduffy@ecolighting.com Contract #: (630) 774-8748

Participation:  Direct  Indirect

Will the MWBE firm be subcontracting any of the performance of this contract to another firm?

No  Yes - Please attach explanation Proposed Subcontractor: \_\_\_\_\_

The undersigned MWBE is prepared to provide the following Commodities/Services for the above named Project/Contract:

Lighting Retrofits, Installation of Tamper Proof Fixtures, LED Lighting Replacement

Indicate the Dollar Amount or Percentage and the Terms of Payment for the above-described Commodities/ Services:  
Dollar amount to be determined, Payment within 30 days after receipt from County

*(If more space is needed to fully describe MWBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)*

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signature to this document until all areas under Description of Service/Supply and Fee/Cost were completed.

*Debra Noybar*  
 Signature (MWBE)  
 Debra Noybar, President  
 Print Name  
 ECO Lighting Services and Technology  
 Firm Name

*David G. Mannherz*  
 Signature (Prime Bidder/Proposer)  
 David G. Mannherz  
 Executive Vice President  
 Print Name  
 NORESCO, LLC  
 Firm Name

Date July 5, 2012

Date 7.5.12

Subscribed and sworn before me by Debra L. Noybar, presenting IL DL  
 this 5<sup>th</sup> day of July, 2012

Subscribed and sworn before me  
 this 5<sup>th</sup> day of July, 2012

Notary Public *Fallon Elizabeth Long*

Notary Public *Kiersten P. Jester*

SEAL



SEAL



**KIERSTEN P. JESTER**  
 Notary Public  
 Commonwealth of Massachusetts  
 My Commission Expires  
 April 7, 2017



hereby grants

# National Women's Business Enterprise Certification

## Eco Lighting Services and Technology LLC

who has successfully met WBENC's standards as a Women's Business Enterprise (WBE).  
This certification affirms the business is woman-owned, operated and controlled; and is valid through the date herein.

WBENC National WBE Certification was processed and validated by Women's Business Development Center - Chicago, a WBENC Regional Partner Organization.

*Hedy M. Retner* *S. Caro Dougal*

Authorized by Hedy M. Retner, Co-President, S. Caro Dougal, Co-President  
Women's Business Development Center - Chicago

Expiration Date: 02/28/2013  
WBENC National Certificate Number: 2005115011

NAICS Codes: 238210

UNSPSC Codes: 39000000



**MBE/WBE UTILIZATION PLAN (SECTION 1)**

BIDDER/PROPOSER HEREBY STATES that all MBE/WBE firms included in this Plan are certified MBEs/WBEs by at least one of the entities listed in the General Conditions.

**I. BIDDER/PROPOSER MBE/WBE STATUS:** (check the appropriate line) Bidder/Proposer is a certified MBE

\_\_\_\_\_ or WBE firm. (If so, attach copy of appropriate Letter of Certification)

\_\_\_\_\_ Bidder/Proposer is a Joint Venture and one or more Joint Venture partners are certified MBEs or WBEs. (If so, attach copies of Letter(s) of Certification, a copy of Joint Venture Agreement clearly describing the role of the MBE/WBE firm(s) and its ownership interest in the Joint Venture and a completed Joint Venture Affidavit - available from the Office of Contract Compliance)

X  Bidder/Proposer is not a certified MBE or WBE firm, nor a Joint Venture with MBE/WBE partners, but will utilize MBE and WBE firms either directly or indirectly in the performance of the Contract. (If so, complete Sections II and III).

**II.  Direct Participation of MBE/WBE Firms  Indirect Participation of MBE/WBE Firms**

Where goals have not been achieved through direct participation, Bidder/Proposer shall include documentation outlining efforts to achieve Direct Participation at the time of Bid/Proposal submission. Indirect Participation will only be considered after all efforts to achieve Direct Participation have been exhausted. Only after written documentation of Good Faith Efforts is received will Indirect Participation be considered.

MBEs/WBEs that will perform as subcontractors/suppliers/consultants include the following:

MBE/WBE Firm: MZI Group

Address: 2251 W. Grand Avenue, Chicago, IL 60612

E-mail: kimn@mzigroup.com

Contact Person: Kim Nelson Phone: (312) 492-8740

Dollar Amount Participation: \$ To be Determined

Percent Amount of Participation: To be Determined %

\*Letter of Intent attached? Yes  X  No \_\_\_\_\_

\*Letter of Certification attached? Yes  X  No \_\_\_\_\_

MBE/WBE Firm: Primera

Address: 100 South Wacker, Suite 700, Chicago, IL 60606

E-mail: acase@primerachicago.com

Contact Person: Allyson Case Phone: (312) 242-8440

Dollar Amount Participation: \$ To be Determined

Percent Amount of Participation: To be Determined %

\*Letter of Intent attached? Yes  X  No \_\_\_\_\_

\*Letter of Certification attached? Yes  X  No \_\_\_\_\_

Attach additional sheets as needed

**\*Additionally, all Letters of Intent, Letters of Certification and documentation of Good Faith Efforts omitted from this bid/proposal must be submitted to the Office of Contract Compliance so as to assure receipt by the Contract Compliance Administrator not later than three (3) business days after the Bid Opening date.**

**COOK COUNTY GOVERNMENT LETTER OF INTENT (SECTION 2)**

MWBE Firm: MZI Building Services, Inc. Certifying Agency: City of Chicago  
Address: 2251 W. Grand Avenue Certification Expiration Date: 8/1/2013  
City/State: Chicago, IL Zip 60612 FEIN #: 36-4308632  
Phone: (312) 492-8740 Fax: (312) 492-8741 Contact Person: Kim Nelson  
Email: kim@MZI-BUILDING.COM Contract #: (847) 474-8740 - (312) 492-8740

Participation:  Direct  Indirect

Will the MWBE firm be subcontracting any of the performance of this contract to another firm?

No  Yes - Please attach explanation. Proposed Subcontractor: \_\_\_\_\_

The undersigned MWBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

Lighting retrofits, tamper proof fixtures installation.

Indicate the **Dollar Amount or Percentage** and the **Terms of Payment** for the above-described Commodities/ Services:  
Dollar amount to be determined. Payment within 30 days after receipt from County.

*(If more space is needed to fully describe MWBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)*

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/Supply and Fee/Cost were completed.

Arthur Miller  
Signature (MWBE)  
Arthur Miller  
Print Name  
mzi Building Services, Inc.  
Firm Name

David G. Mannherz  
Signature (Prime Bidder/Proposer)  
David G. Mannherz  
Print Name  
NOHESCO, LLC  
Firm Name

Date 7/5/2012

Date 7.5.12

Subscribed and sworn before me  
Arthur Miller  
this 5 day of July, 2012

Subscribed and sworn before me  
this 5<sup>th</sup> day of July, 2012

Notary Public Kim Nelson

Notary Public Kiersten P. Jester

SEAL

SEAL



**KIERSTEN P. JESTER**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
April 7, 2017



CITY OF CHICAGO  
**OFFICE OF COMPLIANCE**

August 24, 2010

Arthur Miller  
MZI Building Services, Inc.  
2251 W. Grand Avenue  
Chicago, IL 60612

**Annual No Change Affidavit Due:**

**August 1, 2011**

Dear: Arthur Miller

Congratulations on your continued eligibility for certification as a **Minority Business Enterprise (MBE)** by the City of Chicago. This certification is valid until August 1, 2013.

As you know, your firm must also be re-validated annually. We extended the deadline for submitting the No-Change Affidavit to September 1<sup>st</sup> so that we might review the program for ways to streamline the process. As a result, while you will still be required to submit an annual No-Change Affidavit, we will no longer require firms to submit financial records with the Affidavit, and we will allow the Affidavit to be submitted on-line. This should improve the process for businesses and make it easier to comply with annual validation requirements. However, as part of our program improvements, we will also increase auditing activities, and you may at any time be required to submit financial records and other documents needed to support your continued eligibility.

This new process will begin in 2011. As such, your firm's next No Change Affidavit is due by **August 1, 2011**. Please remember, you have an affirmative duty to file your No-Change Affidavit 60 days prior to the date of expiration. Therefore, you must file your No-Change Affidavit by **June 2, 2011**.

It is important to note that you also have an ongoing affirmative duty to notify the City of Chicago of any changes in ownership or control of your firm, or any other fact affecting your firm's eligibility for certification within 10 days of such change. These changes may include but are not limited to a change of address, change of business structure, change in ownership or ownership structure, change of business operations, and/or gross receipts that exceed the program threshold.

Please note – you shall be deemed to have had your certification lapse and will be ineligible to participate as a **MBE if you fail to**

- file your No Change Affidavit within the required time period;
- provide financial or other records requested pursuant to an audit within the required time period; or
- notify the City of any changes affecting your firm's certification within 10 days of such change.

*Further, if you or your firm is found to be involved in certification, bidding and/or contractual fraud or abuse, the City will pursue decertification and debarment. And in addition to any other penalty imposed by law, any person who knowingly obtains, or knowingly assists another in obtaining, a contract with the city by falsely*

*representing that the individual or entity, or the individual or entity assisted, is a minority-owned business or a woman-owned business, is guilty of a misdemeanor, punishable by incarceration in the county jail for a period not to exceed six months or a fine of not less than \$5,000.00 and not more than \$10,000, or both.*

MZI Building Services, Inc. is listed in the City's Directory of Minority Business Enterprises and Women Business Enterprises in the specialty area(s) of:

**20868 Project Management**  
**20969 Project Management**  
**91052 Maintenance Services, Building (Not Otherwise Classified)**  
**95826 Construction Management Services**  
**95877 Project Management Services**  
**238210 Electrical contractors**

Your firm's participation on City contracts will be credited only toward MBE goals in your area(s) of specialty. While your participation on City contracts is not limited to your specialty, credit toward MBE goals will be given only for work done in a specialty category.

Thank you for your continued participation in the City's Supplier Diversity Program.

Sincerely,

A handwritten signature in black ink, appearing to read "Mary E", with a stylized flourish at the end.

Mary Elliott  
Acting Managing Deputy

**COOK COUNTY GOVERNMENT LETTER OF INTENT (SECTION 2)**

MWBE Firm: Primera Engineers Certifying Agency: City of Chicago  
Address: 100 South Wacker Drive, Suite 700 Certification Expiration Date: August 1, 2012  
City/State: Chicago, IL Zip: 60606 FEIN #: 36-3520747  
Phone: (312) 242-6440 Fax: (312) 608-0416 Contact Person: Allyson Case  
Email: acase@primerachicago.com Contract #: (312) 242-6440

Participation:  Direct  Indirect

Will the MWBE firm be subcontracting any of the performance of this contract to another firm?

No  Yes -- Please attach explanation. Proposed Subcontractor: \_\_\_\_\_

The undersigned MWBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

Engineering Services relating to Boiler, Chiller and Mechanical design work.

Indicate the Dollar Amount or Percentage, and the Terms of Payment for the above-described Commodities/ Services:  
Dollar amount to be determined. Payment within 30 days after receipt from County.

*(If more space is needed to fully describe MWBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)*

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/Supply and Fee/Cost were completed.

Michael F. DeSantiago  
Signature (MWBE)

Michael F. DeSantiago, President  
Print Name

Primera Engineers, Ltd.  
Firm Name

Date 7/5/2012

Michael F. DeSantiago  
Subscribed and sworn before me

this 5th day of July, 20 12

Notary Public Maribel Medina

SEAL

David G. Mannherz  
Signature (Prime Bidder/Proposer)

David G. Mannherz  
Print Name

NOMESCO, LLC  
Firm Name

Date 7.5.12

David G. Mannherz  
Subscribed and sworn before me

this 5th day of July, 20 12

Notary Public Kiersten P. Jester

SEAL



**KIERSTEN P. JESTER**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
April 7, 2017



**DEPARTMENT OF PROCUREMENT SERVICES  
CITY OF CHICAGO**

---

**Michael DeSantiago  
Primera Engineers, Limited  
100 S. Wacker Drive  
Chicago, IL 60606**

**Dear Michael DeSantiago:**

**This letter is to inform you that the City of Chicago has extended your status as a Minority Business Enterprise (MBE) until August 1, 2012. We are providing this extension to allow enough time to provide any additional documentation that your application may be missing and for our office to complete our review of all of the submitted documents.**

**This extension does not guarantee eligibility in the program but will act as a courtesy extension until we receive all of the required documentation and complete a review of that documentation.**

**Please present this letter as evidence of your certification to be included with bid document submittals as needed.**

**If you have any questions, please feel free to call our office at 312-744-1929.**

**Sincerely,**

**Monica Jimenez  
Deputy Procurement Officer**

**FH**



CITY OF CHICAGO  
**OFFICE OF COMPLIANCE**

August 25, 2010

Michael DeSantiago  
Primera Engineering  
100 S. Wacker Drive  
Chicago, IL 60606

Certification Expires: 11/1/2011

Dear Michael DeSantiago:

Congratulations on your continued eligibility for certification as a Minority Business Enterprise (MBE) by the City of Chicago. This certification is valid until 11/1/2011.

You have an affirmative duty to file for recertification 60 days prior to the date of expiration. Therefore, you must file for recertification by 9/2/2011. In the coming months, the Office of Compliance will be sending you notice detailing the procedures for filing a request for recertification.

While you will not need to file a No Change Affidavit in 2010 or 2011, it is important to note that you have an ongoing affirmative duty to notify the City of Chicago of any changes in ownership or control of your firm, or any other fact affecting your firm's eligibility for certification within 10 days of such change. These changes may include but are not limited to a change of address, change of business structure, change in ownership or ownership structure, change of business operations, and/or gross receipts that exceed the program threshold.

Please also note – you shall be deemed to have had your certification lapse and will be ineligible to participate as a MBE if you fail to

- ♦ file your request for recertification within the required time period;
- ♦ provide financial or other records requested pursuant to an audit within the required time period; or
- ♦ notify the City of any changes affecting your firm's certification within 10 days of such change.

*Further, if you or your firm is found to be involved in certification, bidding and/or contractual fraud or abuse, the City will pursue decertification and debarment. And in addition to any other penalty imposed by law, any person who knowingly obtains, or knowingly assists another in obtaining, a contract with the city by falsely representing that the individual or entity, or the individual or entity assisted, is a minority-owned business or a woman-owned business, is guilty of a misdemeanor, punishable by incarceration in the county jail for a period not to exceed six months or a fine of not less than \$5,000.00 and not more than \$10,000, or both.*

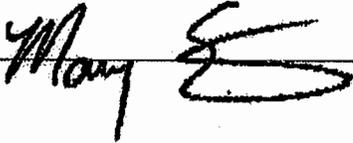
Primera Engineering is listed in the City's Directory of Minority Business Enterprises and Women Business Enterprises in the specialty area(s) of:

91815 Architectural Consulting  
95826 Construction Management Services

Your firm's participation on City contracts will be credited only toward MBE goals in your area(s) of specialty. While your participation on City contracts is not limited to your specialty, credit toward MBE goals will be given only for work done in a specialty category.

Thank you for your continued participation in the City's Supplier Diversity Program.

Sincerely,

A handwritten signature in black ink, appearing to read "Mary E", written over a horizontal line.

Mary Elliott  
Acting Managing Deputy

**MBE/WBE UTILIZATION PLAN (SECTION 1)**

BIDDER/PROPOSER HEREBY STATES that all MBE/WBE firms included in this Plan are certified MBEs/WBEs by at least one of the entities listed in the General Conditions.

**I. BIDDER/PROPOSER MBE/WBE STATUS:** (check the appropriate line) Bidder/Proposer is a certified MBE

\_\_\_\_\_ or WBE firm. (If so, attach copy of appropriate Letter of Certification)

\_\_\_\_\_ Bidder/Proposer is a Joint Venture and one or more Joint Venture partners are certified MBEs or WBEs. (If so, attach copies of Letter(s) of Certification, a copy of Joint Venture Agreement clearly describing the role of the MBE/WBE firm(s) and its ownership interest in the Joint Venture and a completed Joint Venture Affidavit - available from the Office of Contract Compliance)

X  Bidder/Proposer is not a certified MBE or WBE firm, nor a Joint Venture with MBE/WBE partners, but will utilize MBE and WBE firms either directly or indirectly in the performance of the Contract. (If so, complete Sections II and III).

**II.  Direct Participation of MBE/WBE Firms**

**Indirect Participation of MBE/WBE Firms**

Where goals have not been achieved through direct participation, Bidder/Proposer shall include documentation outlining efforts to achieve Direct Participation at the time of Bid/Proposal submission. Indirect Participation will only be considered after all efforts to achieve Direct Participation have been exhausted. Only after written documentation of Good Faith Efforts is received will Indirect Participation be considered.

MBEs/WBEs that will perform as subcontractors/suppliers/consultants include the following:

MBE/WBE Firm: Quantum Crossings LLC

Address: 111 E. Wacker Drive, Suite 990 Chicago, IL 60601

E-mail: rmartinez@quantumcrossings.com

Contact Person: Roger Martinez

Phone: (312) 467-0374

Dollar Amount Participation: \$ To be Determined

Percent Amount of Participation: To be Determined %

\*Letter of Intent attached?

Yes X

No \_\_\_\_\_

\*Letter of Certification attached?

Yes X

No \_\_\_\_\_

MBE/WBE Firm: Power and Communication Services

Address: 279 East Helen Road, Palatine, IL 80067

E-mail: perlsin@pcssolutions.com

Contact Person: Jeffrey Perisin

Phone: (847) 818-8100 ext. 19

Dollar Amount Participation: \$ To be Determined

Percent Amount of Participation: To be Determined %

\*Letter of Intent attached?

Yes X

No \_\_\_\_\_

\*Letter of Certification attached?

Yes X

No \_\_\_\_\_

Attach additional sheets as needed

**\*Additionally, all Letters of Intent, Letters of Certification and documentation of Good Faith Efforts omitted from this bid/proposal must be submitted to the Office of Contract Compliance so as to assure receipt by the Contract Compliance Administrator not later than three (3) business days after the Bid Opening date.**

**COOK COUNTY GOVERNMENT LETTER OF INTENT (SECTION 2)**

MWBE Firm: Quantum Crossings LLC Certifying Agency: Cook County  
Address: 111 E. Wacker Drive, Suite 990 Certification Expiration Date: April 29, 2013  
City/State: Chicago, IL Zip 60601 FEIN #: 36-4456428  
Phone: (312) 467-0374 Fax: (312) 467-0381 Contact Person: Roger Martinez  
Email: rmarlnez@quantumcrossings.com Contract #: (312) 467-0374

Participation:  Direct  Indirect

Will the MWBE firm be subcontracting any of the performance of this contract to another firm?

No  Yes -- Please attach explanation. Proposed Subcontractor: \_\_\_\_\_

The undersigned MWBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

Lighting retrofits, installation of tamper proof lighting fixtures, installation of LED fixtures.

Indicate the Dollar Amount or Percentage and the Terms of Payment for the above-described Commodities/ Services:

Dollar amount to be determined. Payment within 30 days after receipt from County.

*(If more space is needed to fully describe MWBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)*

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/Supply and Fee/Cost were completed.

Roger J. Martinez  
Signature (MWBE)

Roger J. Martinez  
Print Name

Quantum Crossings, LLC  
Firm Name

Date 7/5/2012

Subscribed and sworn before me

this 5th day of July, 20 12.

Notary Public Patricia F Hartwig

SEAL



David G. Mannherz  
Signature (Prime Bidder/Proposer)

David G. Mannherz  
Print Name  
**Executive Vice President**

NOMESCO, LLC  
Firm Name

Date 7.5.12

Subscribed and sworn before me

this 5th day of July, 20 12.

Notary Public Kiersten P. Jester

SEAL



**KIERSTEN P. JESTER**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
April 7, 2017

# Cook County Government

## Office of Contract Compliance

certifies that the criteria for certification as a

**Minority Business Enterprise**  
has been met by  
**Quantum Crossing, LLC**

Technology: Video Security Systems; Telecommunications & Technology; Cabling & Wiring; Telecommunications Management Services; Wireless Network Installations

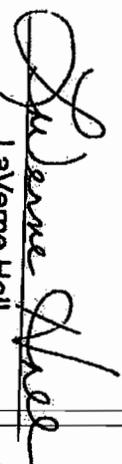
Issued Date: April 29, 2012

Re-Certification Affidavit Due: April 29, 2013

NIGP Code(s): 91579

Ethnicity Code: 9

County: Cook

  
LaVerne Hall  
Contract Compliance Director

**COOK COUNTY GOVERNMENT LETTER OF INTENT (SECTION 2)**

MWBE Firm: Power & Communication Services Certifying Agency: County of Cook  
Address: 279 East Helen Road Certification Expiration Date: 6-5-2013  
City/State: Palatine, IL Zip: 60067 FEIN #: 04-376-3137  
Phone: (847) 818-8100 Fax: \_\_\_\_\_ Contact Person: Jeff Perisin  
Email: perisin@pcssolutions.com Contract #: (847) 818-8100, ext.19

Participation:  Direct  Indirect

Will the MWBE firm be subcontracting any of the performance of this contract to another firm?

No  Yes - Please attach explanation. Proposed Subcontractor: \_\_\_\_\_

The undersigned MWBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

Submeter installation, EMS upgrade and expansion wiring, temperature control end device repair, install/replace VFDs and CAC to VAV AHU modifications.

Indicate the Dollar Amount or Percentage and the Terms of Payment for the above-described Commodities/ Services:  
Dollar amount to be determined. Payment within 30 days after receipt from County.

*(If more space is needed to fully describe MWBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)*

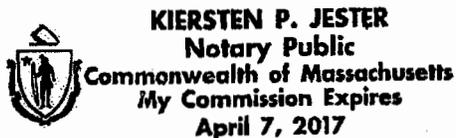
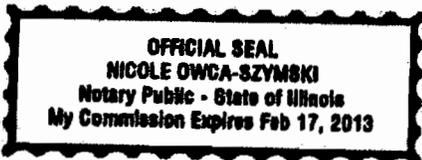
THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/Supply and Fee/Cost were completed.

Signature (MWBE): [Signature]  
Print Name: Fel del Castillo  
Firm Name: PCS Power & Communications Sol.  
Date: 7-5-12

Signature (Prime Bidder/Proposer): [Signature]  
Print Name: David G. Mannherz  
Firm Name: NOBESCO, LLC  
Date: 7.5.12  
Executive Vice President

Subscribed and sworn before me  
this 5th day of July, 2012  
Notary Public: [Signature]  
SEAL

Subscribed and sworn before me  
this 5th day of July, 2012  
Notary Public: [Signature]  
SEAL



THE BOARD OF COMMISSIONERS

TONI PRECKWINKLE

PRESIDENT

EARLEAN COLLINS	1st Dist	PETER N SILVESTRI	9th Dist
ROBERT STEELE	2nd Dist	BRIDGET GAINER	10th Dist
JERRY OUTLER	3rd Dist	JOHN P. DALEY	11th Dist
WILLIAM M. BEAVERS	4th Dist	JOHN A. FRITCHEY	12th Dist
DEBORAH SIMS	5th Dist	LARRY SUFFREDIN	13th Dist
JOAN PATRICIA MURPHY	6th Dist	GREGG BOSLIN	14th Dist
JESUS G. GARCIA	7th Dist	TIMOTHY O. SCHNEIDER	15th Dist
EDWIN REYES	8th Dist	JEFFREY R. TODOLSKI	16th Dist
		ELIZABETH ANN DOODY BORMAN	17th Dist



COOK COUNTY  
OFFICE OF CONTRACT COMPLIANCE

LAVERNE HALL  
DIRECTOR

118 North Clark Street, Room 1020  
Chicago, Illinois 60602-1304  
TEL (312) 603-5502  
FAX (312) 603-4547

June 5, 2012

Mr. Edward del Castillo, President  
PCS Power & Communications, Inc.  
d/b/a Kel-Tech Electric Company  
279 E. Helen Road  
Palatine, IL 60067

Dear Mr. del Castillo:

Congratulations. We are pleased to inform you that PCS Power & Communications, Inc. d/b/a Kel-Tech Electric Company will maintain its certification as an MBE (9) by Cook County Government. This MBE Certification must be revalidated annually.

Please use the enclosed Certificate of Certification as validation of your Cook County MBE status and area of specialty.

As a condition of continued Certification during this three (3) year period, you must file a "No-Change Affidavit" within sixty (60) business days prior to the date of annual expiration. A processing fee of \$50.00, payable to Cook County Department of Revenue is required with the No-Change Affidavit. Failure to file this Affidavit shall result in the termination of your Certification. You must notify Cook County Government's Office of Contract Compliance within ten (10) days of any change in ownership or control or any other matters or facts affecting your firm's eligibility for Certification.

Your firm's participation on Cook County contracts will be credited toward MBE goals in your area(s) of specialty. While your participation on Cook County contracts is not limited to your area of specialty, credit toward MBE goals will only be recognized for work done in the specialty category.

Thank you for your continued interest in Cook County Government's Minority and Women Business Enterprise Programs.

Sincerely,

LaVerne Hall  
Director  
LH/ek



# Cook County Government

## Office of Contract Compliance

certifies that the criteria for certification as a

**Priority Business Enterprise**

has been met by

**PCS Power & Communications Inc.  
d/b/a Kel-Tech Electric Company**

Communications: Wireless and Cable Communications Design, Installation and Coordination Services  
Network, Voice and Fiber Optic Cable.

Issued Date: June 5, 2012

No Change Affidavit Due: June 5, 2013

NIGP Code(s): 83829, 83833, 83896, 91895, 96218

Ethnicity Code: 9

County: Cook



LaVeme Hall

Contract Compliance Director

**MBE/WBE UTILIZATION PLAN (SECTION 1)**

BIDDER/PROPOSER HEREBY STATES that all MBE/WBE firms included in this Plan are certified MBEs/WBEs by at least one of the entities listed in the General Conditions.

- I. **BIDDER/PROPOSER MBE/WBE STATUS:** (check the appropriate line) Bidder/Proposer is a certified MBE  
\_\_\_\_\_ or WBE firm. (If so, attach copy of appropriate Letter of Certification)
- \_\_\_\_\_ Bidder/Proposer is a Joint Venture and one or more Joint Venture partners are certified MBEs or WBEs. (If so, attach copies of Letter(s) of Certification, a copy of Joint Venture Agreement clearly describing the role of the MBE/WBE firm(s) and its ownership interest in the Joint Venture and a completed Joint Venture Affidavit - available from the Office of Contract Compliance)
- X  Bidder/Proposer is not a certified MBE or WBE firm, nor a Joint Venture with MBE/WBE partners, but will utilize MBE and WBE firms either directly or indirectly in the performance of the Contract. (If so, complete Sections II and III).

- II.  **Direct Participation of MBE/WBE Firms**  **Indirect Participation of MBE/WBE Firms**

Where goals have not been achieved through direct participation, Bidder/Proposer shall include documentation outlining efforts to achieve Direct Participation at the time of Bid/Proposal submission. Indirect Participation will only be considered after all efforts to achieve Direct Participation have been exhausted. Only after written documentation of Good Faith Efforts is received will Indirect Participation be considered.

MBEs/WBEs that will perform as subcontractors/suppliers/consultants include the following:

MBE/WBE Firm: Taylor Electric Company

Address: 7811 S. Stony Island Avenue, Chicago, IL 60649

E-mail: mtaylor@taylorelectrcco.com

Contact Person: Martha Taylor Phone: (773) 346-5658

Dollar Amount Participation: \$ To be Determined

Percent Amount of Participation: To be Determined %

\*Letter of Intent attached? Yes  X  No \_\_\_\_\_

\*Letter of Certification attached? Yes  X  No \_\_\_\_\_

MBE/WBE Firm: Universal Insulation, Inc.

Address: 1385 101 Street, Suite D, Lemont, IL 60439-9674

E-mail: aarmjlo@universalco.net

Contact Person: Anthony Armijo Phone: (630) 653-4848

Dollar Amount Participation: \$ To be Determined

Percent Amount of Participation: To be Determined %

\*Letter of Intent attached? Yes  X  No \_\_\_\_\_

\*Letter of Certification attached? Yes  X  No \_\_\_\_\_

Attach additional sheets as needed

**\*Additionally, all Letters of Intent, Letters of Certification and documentation of Good Faith Efforts omitted from this bid/proposal must be submitted to the Office of Contract Compliance so as to assure receipt by the Contract Compliance Administrator not later than three (3) business days after the Bid Opening date.**

COOK COUNTY GOVERNMENT LETTER OF INTENT (SECTION 2)

M/WBE Firm Taylor Electric Company Certifying Agency: City of Chicago
Address: 7811 S. Stony Island Avenue Certification Expiration Date: 7/1/2013
City/State Chicago, IL Zip 60649 FEIN # 36-2791520
Phone: (773) 346-5658 Fax: (773) 346-5659 Contact Person: Reginald Harston
Email: rharston@taylortelectricco.com Contract #:

Participation: [X] Direct [ ] Indirect

Will the M/WBE firm be subcontracting any of the performance of this contract to another firm?

[X] No [ ] Yes - Please attach explanation Proposed Subcontractor:

The undersigned M/WBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

Replacement of CHW pumps, CAV to VAV AHU modifications, install/replace VFDs, other electrical contracting services as required

Indicate the Dollar Amount or Percentage and the Terms of Payment for the above-described Commodities/ Services:

Dollar amount to be determined Payment within 15 days after receipt from County.

(If more space is needed to fully describe M/WBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/Supply and Fee/Cost were complete.

Signature of M/WBE: [Handwritten Signature]
Print Name: Matthew Taylor
Firm Name: Taylor Electric Co.
Date: 7/5/12

Signature (Prints Bidder/Proposer): [Handwritten Signature]
Print Name: David G. Mannherz
Firm Name: NOMESCO, LLC
Date: 7.5.12

Subscribed and sworn before me
this 5th day of July, 2012.
Notary Public: [Handwritten Signature]
SEAL

Subscribed and sworn before me
this 5th day of July, 2012.
Notary Public: Kiersten P. Jester
SEAL



KIERSTEN P. JESTER
Notary Public
Commonwealth of Massachusetts
My Commission Expires
April 7, 2017



CITY OF CHICAGO  
**OFFICE OF COMPLIANCE**

August 24, 2010

Martha Taylor  
Taylor Electric Company  
7811 S. Stony Isl.  
Chicago, IL 60649

**Annual No Change Affidavit Due:**

**July 1, 2011**

Dear Martha Taylor:

Congratulations on your continued eligibility for certification as a **Minority Business Enterprise (MBE)** by the City of Chicago. This certification is valid until July 1, 2013.

As you know, your firm must also be re-validated annually. We extended the deadline for submitting the No-Change Affidavit to September 1<sup>st</sup> so that we might review the program for ways to streamline the process. As a result, while you will still be required to submit an annual No-Change Affidavit, we will no longer require firms to submit financial records with the Affidavit, and we will allow the Affidavit to be submitted on-line. This should improve the process for businesses and make it easier to comply with annual validation requirements. However, as part of our program improvements, we will also increase auditing activities and you may at any time be required to submit financial records and other documents needed to support your continued eligibility.

This new process will begin in 2011. As such, your firm's next No Change Affidavit is due by July 1, 2011. Please remember, you have an affirmative duty to file your No-Change Affidavit 60 days prior to the date of expiration. Therefore, you must file your No-Change Affidavit by **May 2, 2011.**

It is important to note that you also have an ongoing affirmative duty to notify the City of Chicago of any changes in ownership or control of your firm, or any other fact affecting your firm's eligibility for certification within 10 days of such change. These changes may include but are not limited to a change of address, change of business structure, change in ownership or ownership structure, change of business operations, and/or gross receipts that exceed the program threshold.

Please note – you shall be deemed to have had your certification lapse and will be ineligible to participate as a MBE if you fail to

- file your No Change Affidavit within the required time period;
- provide financial or other records requested pursuant to an audit within the required time period; or
- notify the City of any changes affecting your firm's certification within 10 days of such change.

*Further, if you or your firm is found to be involved in certification, bidding and/or contractual fraud or abuse, the City will pursue decertification and debarment. And in addition to any other penalty imposed by law, any person who knowingly obtains, or knowingly assists another in obtaining, a contract with the city by falsely*

*representing that the individual or entity, or the individual or entity assisted, is a minority-owned business or a woman-owned business, is guilty of a misdemeanor, punishable by incarceration in the county jail for a period not to exceed six months or a fine of not less than \$5,000.00 and not more than \$10,000, or both.*

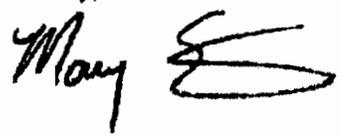
Taylor Electric Company is listed in the City's Directory of Minority Business Enterprises and Women Business Enterprises in the specialty area(s) of:

**91438 Electrical**

Your firm's participation on City contracts will be credited only toward **MBE** goals in your area(s) of specialty. While your participation on City contracts is not limited to your specialty, credit toward **MBE** goals will be given only for work done in a specialty category.

Thank you for your continued participation in the City's Supplier Diversity Program.

Sincerely,



Mary Elliott  
Acting Managing Deputy

**COOK COUNTY GOVERNMENT LETTER OF INTENT (SECTION 2)**

M/WBE Firm: Universal Insulation, Inc. Certifying Agency: City of Chicago  
Address: 1385 101 Street, Suite D Certification Expiration Date: April 6 2013  
City/State: Lemont, IL Zip 60439 FEIN #: 36-3251112  
Phone: (630) 653-4848 Fax: (630) 972-1065 Contact Person: Anthony Armijo  
Email: aarmijo@universalco.net Contract #: (630) 653-4848

Participation:  Direct  Indirect

Will the M/WBE firm be subcontracting any of the performance of this contract to another firm?

No  Yes - Please attach explanation. Proposed Subcontractor: \_\_\_\_\_

The undersigned M/WBE is prepared to provide the following Commodities/Services for the above named Project/ Contract:

Insulation services for new Fire Tube Boilers and Electric Chillers # 8 and #5; misc. insulation and mechanical services.

Indicate the **Dollar Amount** or **Percentage** and the **Terms of Payment** for the above-described Commodities/ Services:  
Dollar amount to be determined. Payment within 30 days after receipt from County.

*(If more space is needed to fully describe M/WBE Firm's proposed scope of work and/or payment schedule, attach additional sheets)*

THE UNDERSIGNED PARTIES AGREE that this Letter of Intent will become binding Subcontract Agreement conditioned upon the Bidder/Proposer's receipt of a signed contract from the County of Cook. The Undersigned Parties do also certify that they did not affix their signatures to this document until all areas under Description of Service/Supply and Fee/Cost were completed.

Signature (M/WBE) \_\_\_\_\_  
Print Name ANTHONY ARMIJO, PRESIDENT  
Firm Name UNIVERSAL INSULATION, INC.

Signature (Prime Bidder/Proposer) \_\_\_\_\_  
Print Name David G. Mannherz  
Firm Name NOMESCO, LLC

David G. Mannherz  
Executive Vice President

Date 7-5-12

Date 7.5.12

Subscribed and sworn before me \_\_\_\_\_

Subscribed and sworn before me \_\_\_\_\_

this 5<sup>th</sup> day of JULY, 2012.

this 5<sup>th</sup> day of July, 2012.

Notary Public Frances Nuel

Notary Public Kiersten P. Jester

SEAL

SEAL

**"OFFICIAL SEAL"**  
**FRANCES NUEL**  
Notary Public, State of Illinois  
My Commission Expires 03/12/2016



**KIERSTEN P. JESTER**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
April 7, 2017



DEPARTMENT OF PROCUREMENT SERVICES

MAR 14 2012

CITY OF CHICAGO

Anthony Armijo  
Universal Insulation, Inc.  
1385 101 Street  
Suite D  
Lemont, IL 60439-9674

**Annual Certificate Expires: April 1, 2013**

Dear Anthony Armijo:

Congratulations on your continued eligibility for certification as a **Minority Business Enterprise (MBE)** by the City of Chicago. This certification is valid until **April 1, 2013**.

You have an affirmative duty to file for recertification 60 days prior to the date of expiration. Therefore, you must file for recertification by **2/1/2013**.

It is important to note that you also have an ongoing affirmative duty to notify the City of Chicago of any changes in ownership or control of your firm, or any other fact affecting your firm's eligibility for certification within 10 days of such change. These changes may include but are not limited to a change of address, change of business structure, change in ownership or ownership structure, change of business operations, and/or gross receipts that exceed the program threshold.

Please note – you shall be deemed to have had your certification lapse and will be ineligible to participate as a MBE/WBE/BEPD if you fail to:

- o file your No Change Affidavit within the required time period;
- o provide financial or other records requested pursuant to an audit within the required time period; or
- o notify the City of any changes affecting your firm's certification within 10 days of such change.

*Further, if you or your firm is found to be involved in certification, bidding and/or contractual fraud or abuse, the City will pursue decertification and debarment. And in addition to any other penalty imposed by law, any person who knowingly obtains, or knowingly assists another in obtaining, a contract with the city by falsely representing that the individual or entity, or the individual or entity assisted, is a minority-owned business or a woman-owned business, is guilty of*

Universal Insulation, Inc.

MAR 14 2012

Page 2

*a misdemeanor, punishable by incarceration in the county jail for a period not to exceed six months or a fine of not less than \$5,000.00 and not more than \$10,000, or both.*

Your firm is listed in the City's Directory of Minority Business Enterprises and Women Business Enterprises in the specialty area(s) of:

**HVAC MECHANICAL INSULATION CONTRACTOR**

Your firm's participation on City contracts will be credited only toward Minority Business Enterprise (MBE) goals in your area(s) of specialty. While your participation on City contracts is not limited to your specialty, credit toward Minority Business Enterprise (MBE) goal will be given only for work done in a specialty category.

Thank you for your continued participation in the City's Supplier Diversity Program.

Sincerely,



Jamie L. Rhee  
Chief Procurement Officer

FH

**ECONOMIC DISCLOSURE STATEMENT  
AND EXECUTION DOCUMENT  
INDEX**

<b>Section</b>	<b>Description</b>	<b>Pages</b>
Instructions	Instructions for Completion of EDS	EDS i - ii
1	MBE/WBE Utilization Plan	EDS 1
2	Letter of Intent	EDS 2
3	Petition for Reduction/Waiver of MBE/WBE Participation Goals	EDS 3
4	Certifications	EDS 4, 5
5	Economic and Other Disclosures, Affidavit of Child Support Obligations and Disclosure of Ownership Interest	EDS 6 - 12
6	Sole Proprietor Signature Page	EDS 13a/b/c
7	Partnership Signature Page	EDS 14/a/b/c
8	Limited Liability Corporation Signature Page	EDS 15a/b/c
9	Corporation Signature Page	EDS 16a/b/c
10	Cook County Signature Page	EDS 17

**INSTRUCTIONS FOR COMPLETION OF  
ECONOMIC DISCLOSURE STATEMENT AND EXECUTION DOCUMENT**

This Economic Disclosure Statement and Execution Document ("EDS") is to be completed and executed by every Bidder on a County contract, every party responding to a Request for Proposals or Request for Qualifications ("Proposer"), and others as required by the Chief Procurement Officer. If the Undersigned is awarded a contract pursuant to the procurement process for which this EDS was submitted (the "Contract"), this Economic Disclosure Statement and Execution Document shall stand as the Undersigned's execution of the Contract.

**Definitions.** Capitalized terms used in this EDS and not otherwise defined herein shall have the meanings given to such terms in the Instructions to Bidders, General Conditions, Request for Proposals, Request for Qualifications, or other documents, as applicable.

**"Affiliated Entity"** means a person or entity that, directly or indirectly: controls the Bidder, is controlled by the Bidder, or is, with the Bidder, under common control of another person or entity. Indicia of control include, without limitation, interlocking management or ownership; identity of interests among family members; shared facilities and equipment; common use of employees; and organization of a business entity following the ineligibility of a business entity to do business with the County under the standards set forth in the Certifications included in this EDS, using substantially the same management, ownership or principals as the ineligible entity.

**"Bidder," "Proposer," "Undersigned," or "Applicant,"** is the person or entity executing this EDS. Upon award and execution of a Contract by the County, the Bidder, Proposer, Undersigned or Applicant, as the case may be, shall become the Contractor or Contracting Party.

**"Proposal,"** for purposes of this EDS, is the Undersigned's complete response to an RFP/RFQ, or if no RFQ/RFP was issued by the County, the "Proposal" is such other proposal, quote or offer submitted by the Undersigned, and in any event a "Proposal" includes this EDS .

**"Code"** means the Code of Ordinances, Cook County, Illinois available through the Cook County Clerk's Office website (<http://www.cookctyclerk.com/sub/ordinances.asp>). This page can also be accessed by going to [www.cookctyclerk.com](http://www.cookctyclerk.com), clicking on the tab labeled "County Board Proceedings," and then clicking on the link to "Cook County Ordinances."

**"Contractor" or "Contracting Party"** means the Bidder, Proposer or Applicant with whom the County has entered into a Contract.

**"EDS"** means this complete Economic Disclosure Statement and Execution Document, including all sections listed in the Index and any attachments.

**"Lobby" or "lobbying"** means to, for compensation, attempt to influence a County official or County employee with respect to any County matter.

**"Lobbyist"** means any person or entity who lobbies.

**"Prohibited Acts"** means any of the actions or occurrences which form the basis for disqualification under the Code, or under the Certifications hereinafter set forth.

**Sections 1 through 3: MBE/WBE Documentation.** Sections 1 and 2 must be completed in order to satisfy the requirements of the County's MBE/WBE Ordinance, as set forth in the Contract Documents, if applicable. If the Undersigned believes a waiver is appropriate and necessary, Section 3, the Petition for Waiver of MBE/WBE Participation must be completed.

**Section 4: Certifications.** Section 4 sets forth certifications that are required for contracting parties under the Code. Execution of this EDS constitutes a warranty that all the statements and certifications contained, and all the facts stated, in the Certifications are true, correct and complete as of the date of execution.

**Section 5: Economic and Other Disclosures Statement.** Section 5 is the County's required Economic and Other Disclosures Statement form. Execution of this EDS constitutes a warranty that all the information provided in the EDS is true, correct and complete as of the date of execution, and binds the Undersigned to the warranties, representations, agreements and acknowledgements contained therein.

**INSTRUCTIONS FOR COMPLETION OF  
ECONOMIC DISCLOSURE STATEMENT AND EXECUTION DOCUMENT**

**Sections 6, 7, 8, 9: Execution Forms.** The Bidder executes this EDS, and the Contract, by completing and signing three copies of the appropriate Signature Page. Section 6 is the form for a sole proprietor; Section 7 is the form for a partnership or joint venture; Section 8 is the form for a Limited Liability Corporation, and Section 9 is the form for a corporation. Proper execution requires **THREE ORIGINALS**; therefore, the appropriate Signature Page must be filled in, three copies made, and all three copies must be properly signed, notarized and submitted. The forms may be printed and completed by typing or hand writing the information required.

**Required Updates.** The information provided in this EDS will be kept current. In the event of any change in any information provided, including but not limited to any change which would render inaccurate or incomplete any certification or statement made in this EDS, the Undersigned will supplement this EDS up to the time the County takes action, by filing an amended EDS or such other documentation as is requested.

**Additional Information.** The County's Governmental Ethics and Campaign Financing Ordinances, impose certain duties and obligations on persons or entities seeking County contracts, work, business, or transactions. For further information please contact the Director of Ethics at (312) 603-4304 (69 W. Washington St. Suite 3040, Chicago, IL 60602) or visit our web-site at [www.cookcountygov.com](http://www.cookcountygov.com) and go to the Ethics Department link. The Bidder must comply fully with the applicable ordinances.

**CERTIFICATIONS (SECTION 4)**

THE FOLLOWING CERTIFICATIONS ARE MADE PURSUANT TO STATE LAW AND THE CODE. THE UNDERSIGNED IS CAUTIONED TO CAREFULLY READ THESE CERTIFICATIONS PRIOR TO SIGNING THE SIGNATURE PAGE. SIGNING THE SIGNATURE PAGE SHALL CONSTITUTE A WARRANTY BY THE UNDERSIGNED THAT ALL THE STATEMENTS, CERTIFICATIONS AND INFORMATION SET FORTH WITHIN THESE CERTIFICATIONS ARE TRUE, COMPLETE AND CORRECT AS OF THE DATE THE SIGNATURE PAGE IS SIGNED. THE UNDERSIGNED IS NOTIFIED THAT IF THE COUNTY LEARNS THAT ANY OF THE FOLLOWING CERTIFICATIONS WERE FALSELY MADE, THAT ANY CONTRACT ENTERED INTO WITH THE UNDERSIGNED SHALL BE SUBJECT TO TERMINATION.

**A. PERSONS AND ENTITIES SUBJECT TO DISQUALIFICATION**

No person or business entity shall be awarded a contract or sub-contract, for a period of five (5) years from the date of conviction or entry of a plea or admission of guilt, civil or criminal, if that person or business entity:

- 1) Has been convicted of an act committed, within the State of Illinois, of bribery or attempting to bribe an officer or employee of a unit of state, federal or local government or school district in the State of Illinois in that officer's or employee's official capacity;
- 2) Has been convicted by federal, state or local government of an act of bid-rigging or attempting to rig bids as defined in the Sherman Anti-Trust Act and Clayton Act. Act. 15 U.S.C. Section 1 *et seq.*;
- 3) Has been convicted of bid-rigging or attempting to rig bids under the laws of federal, state or local government;
- 4) Has been convicted of an act committed, within the State, of price-fixing or attempting to fix prices as defined by the Sherman Anti-Trust Act and the Clayton Act. 15 U.S.C. Section 1, *et seq.*;
- 5) Has been convicted of price-fixing or attempting to fix prices under the laws the State;
- 6) Has been convicted of defrauding or attempting to defraud any unit of state or local government or school district within the State of Illinois;
- 7) Has made an admission of guilt of such conduct as set forth in subsections (1) through (6) above which admission is a matter of record, whether or not such person or business entity was subject to prosecution for the offense or offenses admitted to; or
- 8) Has entered a plea of *nolo contendere* to charge of bribery, price-fixing, bid-rigging, or fraud, as set forth in sub-paragraphs (1) through (6) above.

In the case of bribery or attempting to bribe, a business entity may not be awarded a contract if an official, agent or employee of such business entity committed the Prohibited Act on behalf of the business entity and pursuant to the direction or authorization of an officer, director or other responsible official of the business entity, and such Prohibited Act occurred within three years prior to the award of the contract. In addition, a business entity shall be disqualified if an owner, partner or shareholder controlling, directly or indirectly, 20 % or more of the business entity, or an officer of the business entity has performed any Prohibited Act within five years prior to the award of the Contract.

**THE UNDERSIGNED HEREBY CERTIFIES THAT:** The Undersigned has read the provisions of Section A, Persons and Entities Subject to Disqualification, that the Undersigned has not committed any Prohibited Act set forth in Section A, and that award of the Contract to the Undersigned would not violate the provisions of such Section or of the Code.

**B. BID-RIGGING OR BID ROTATING**

**THE UNDERSIGNED HEREBY CERTIFIES THAT:** *In accordance with 720 ILCS 5/33 E-11, neither the Undersigned nor any Affiliated Entity is barred from award of this Contract as a result of a conviction for the violation of State laws prohibiting bid-rigging or bid rotating.*

**C. DRUG FREE WORKPLACE ACT**

**THE UNDERSIGNED HEREBY CERTIFIES THAT:** The Undersigned will provide a drug free workplace, as required by Public Act 86-1459 (30 ILCS 580/2-11).

**D. DELINQUENCY IN PAYMENT OF TAXES**

**THE UNDERSIGNED HEREBY CERTIFIES THAT:** *The Undersigned is not an owner or a party responsible for the payment of any tax or fee administered by Cook County, by a local municipality, or by the Illinois Department of Revenue, which such tax or fee is delinquent, such as bar award of a contract or subcontract pursuant to the Code, Chapter 34, Section 34-129.*

**E. HUMAN RIGHTS ORDINANCE**

No person who is a party to a contract with Cook County ("County") shall engage in unlawful discrimination or sexual harassment against any individual in the terms or conditions of employment, credit, public accommodations, housing, or provision of County facilities, services or programs (Code Chapter 42, Section 42-30 *et seq.*).

**F. ILLINOIS HUMAN RIGHTS ACT**

**THE UNDERSIGNED HEREBY CERTIFIES THAT:** *It is in compliance with the the Illinois Human Rights Act (775 ILCS 5/2-105), and agrees to abide by the requirements of the Act as part of its contractual obligations.*

**G. MACBRIDE PRINCIPLES, CODE CHAPTER 34, SECTION 34-132**

If the primary contractor currently conducts business operations in Northern Ireland, or will conduct business during the projected duration of a County contract, the primary contractor shall make all reasonable and good faith efforts to conduct any such business operations in Northern Ireland in accordance with the MacBride Principles for Northern Ireland as defined in Illinois Public Act 85-1390.

**H. LIVING WAGE ORDINANCE PREFERENCE (COOK COUNTY CODE, CHAPTER 34, SECTION 34-127;**

The Code requires that a living wage must be paid to individuals employed by a Contractor which has a County Contract and by all subcontractors of such Contractor under a County Contract, throughout the duration of such County Contract. The amount of such living wage is determined from time to time by, and is available from, the Chief Financial Officer of the County.

For purposes of this EDS Section 4, H, "Contract" means any written agreement whereby the County is committed to or does expend funds in connection with the agreement or subcontract thereof. The term "Contract" as used in this EDS, Section 4, I, specifically excludes contracts with the following:

- 1) Not-For Profit Organizations (defined as a corporation having tax exempt status under Section 501(C)(3) of the United State Internal Revenue Code and recognized under the Illinois State not-for -profit law);
- 2) Community Development Block Grants;
- 3) Cook County Works Department;
- 4) Sheriff's Work Alternative Program; and
- 5) Department of Correction inmates.

**REQUIRED DISCLOSURES (SECTION 5)**

**1. DISCLOSURE OF LOBBYIST CONTACTS**

List all persons or entities that have made lobbying contacts on your behalf with respect to this contract:

Name	Address
John Kelly, All - Circo, Inc.,	670 North Clark Street, Chicago, IL 60654
Paul King, Produce Consulting, Inc.,	9112 S. Constance, Chicago, IL 60617 (Paul King is NORESCO's economic conclusion consultant assisting with MBE/WBE development and is not lobbying on NORESCO's behalf).

**2. LOCAL BUSINESS PREFERENCE DISCLOSURE; CODE, CHAPTER 34, SECTION 34-151(p);**

"Local Business" shall mean a person authorized to transact business in this State and having a bona fide establishment for transacting business located within Cook County at which it was actually transacting business on the date when any competitive solicitation for a public contract is first advertised or announced and further which employs the majority of its regular, full time work force within Cook County, including a foreign corporation duly authorized to transact business in this State and which has a bona fide establishment for transacting business located within Cook County at which it was actually transacting business on the date when any competitive solicitation for a public contract is first advertised or announced and further which employs the majority of its regular, full time work force within Cook County.

a) Is Bidder a "Local Business" as defined above?  
Yes:  X  No: \_\_\_\_\_

b) If yes, list business addresses within Cook County:  
\_\_\_\_\_  
 2800 River Road, Suite 290, Des Plaines, IL 60018   
\_\_\_\_\_

c) Does Bidder employ the majority of its regular full-time workforce within Cook County?  
Yes:  (see paragraph 5)  No: \_\_\_\_\_

**3. THE CHILD SUPPORT ENFORCEMENT ORDINANCE (PREFERENCE (CODE, CHAPTER 34, SECTION 34-366)**

Every Applicant for a County Privilege shall be in full compliance with any child support order before such Applicant is entitled to receive or renew a County Privilege. When delinquent child support exists, the County shall not issue or renew any County Privilege, and may revoke any County Privilege.

**All Applicants are required to review the Cook County Affidavit of Child Support Obligations attached to this EDS (EDS-8) and complete the following, based upon the definitions and other information included in such Affidavit.**

**4. REAL ESTATE OWNERSHIP DISCLOSURES.**

The Undersigned must indicate by checking the appropriate provision below and providing all required information that either:

- a) The following is a complete list of all real estate owned by the Undersigned in Cook County:

PERMANENT INDEX NUMBER(S): \_\_\_\_\_  
\_\_\_\_\_

(ATTACH SHEET IF NECESSARY TO LIST ADDITIONAL INDEX NUMBERS)

OR:

- b)  The Undersigned owns no real estate in Cook County.

**5. EXCEPTIONS TO CERTIFICATIONS OR DISCLOSURES.**

If the Undersigned is unable to certify to any of the Certifications or any other statements contained in this EDS and not explained elsewhere in this EDS, the Undersigned must explain below:

(See below).

\_\_\_\_\_  
\_\_\_\_\_

If the letters, "NA", the word "None" or "No Response" appears above, or if the space is left blank, it will be conclusively presumed that the Undersigned certified to all Certifications and other statements contained in this EDS.

To clarify the response to Section 2, Paragraph 2 (c), NORESKO employs the majority of its regular, full-time Des Plaines office-based work force within Cook County. However, NORESKO is a national company with offices across the country, and the majority of its overall work force is not based within Cook County.

# COOK COUNTY DISCLOSURE OF OWNERSHIP INTEREST STATEMENT

The Cook County Code of Ordinances (§2-610 *et seq.*) requires that any Applicant for any County Action must disclose information concerning ownership interests in the Applicant. This Disclosure of Ownership Interest Statement must be completed with all information current as of the date this Statement is signed. Furthermore, this Statement must be kept current, by filing an amended Statement, until such time as the County Board or County Agency shall take action on the application. The information contained in this Statement will be maintained in a database and made available for public viewing.

If you are asked to list names, but there are no applicable names to list, you must state NONE. An incomplete Statement will be returned and any action regarding this contract will be delayed. A failure to fully comply with the ordinance may result in the action taken by the County Board or County Agency being voided.

"Applicant" means any Entity or person making an application to the County for any County Action.

"County Action" means any action by a County Agency, a County Department, or the County Board regarding an ordinance or ordinance amendment, a County Board approval, or other County agency approval, with respect to contracts, leases, or sale or purchase of real estate.

"Entity" or "Legal Entity" means a sole proprietorship, corporation, partnership, association, business trust, estate, two or more persons having a joint or common interest, trustee of a land trust, other commercial or legal entity or any beneficiary or beneficiaries thereof.

This Disclosure of Ownership Interest Statement must be submitted by :

1. An Applicant for County Action and
2. An individual or Legal Entity that holds stock or a beneficial interest in the Applicant and is listed on the Applicant's Statement (a "Holder") must file a Statement and complete #1 only under **Ownership Interest Declaration**.

Please print or type responses clearly and legibly. Add additional pages if needed, being careful to identify each portion of the form to which each additional page refers.

This Statement is being made by the  Applicant or  Stock/Beneficial Interest Holder

This Statement is an:  Original Statement or  Amended Statement

### Identifying Information:

Name NORESCO, LLC D/B/A: \_\_\_\_\_ EIN NO.: 90-0453168

Street Address: 1 Research Drive, Suite 400C

City: Westborough State: MA Zip Code: 01581

Phone No.: (508) 614-1000

### Form of Legal Entity:

Sole Proprietor  Partnership  Corporation  Trustee of Land Trust

Business Trust  Estate  Association  Joint Venture

Other (describe) Limited Liability Company

**Ownership Interest Declaration:**

1. List the name(s), address, and percent ownership of each individual and each Entity having a legal or beneficial interest (including ownership) of more than five percent (5%) in the Applicant/Holder.

Name	Address	Percentage Interest in Applicant/Holder
NORESKO Holdings, Inc.,	1 Research Drive, Suite 400C, Westborough, MA 01581	98.5% interest in Applicant
Carrier Corporation,	1 Carrier Place, Farmington, CT 06034	100% beneficial interest in Applicant
United Technologies Corporation,	1 Financial Plaza, Hartford, CT 06101	UTC owns 100% of Carrier Corporation

2. If the interest of any individual or any Entity listed in (1) above is held as an agent or agents, or a nominee or nominees, list the name and address of the principal on whose behalf the interest is held.

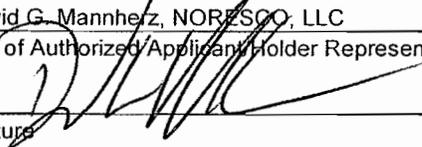
Name of Agent/Nominee	Name of Principal	Principal's Address

3. Is the Applicant constructively controlled by another person or Legal Entity?  Yes  No  
 If yes, state the name, address and percentage of beneficial interest of such person or legal entity, and the relationship under which such control is being or may be exercised.

Name	Address	Percentage of Beneficial Interest	Relationship
United Technologies Corporation,	1 Financial Plaza, Hartford, CT 06101	UTC owns 100% of Carrier Corporation	
Carrier Corporation,	1 Carrier Place, Farmington, CT 06034	100% beneficial interest in Applicant	

**Declaration (check the applicable box):**

- I state under oath that the Applicant has withheld no disclosure as to ownership interest in the Applicant nor reserved any information, data or plan as to the intended use or purpose for which the Applicant seeks County Board or other County Agency action.
- I state under oath that the Holder has withheld no disclosure as to ownership interest nor reserved any information required to be disclosed.

David G. Mannherz, NORESKO, LLC  
 Name of Authorized Applicant/Holder Representative (please print or type)  
  
 Signature  
 dmannherz@noresko.com  
 E-mail address

Executive Vice President  
 Title  
 7/17/12  
 Date  
 (508) 614-1000  
 Phone Number

Subscribed to and sworn before me this 17<sup>th</sup> day of July, 2012

My commission expires:

x   
 Notary Public Signature

Notary Seal





## COOK COUNTY BOARD OF ETHICS

69 W. WASHINGTON STREET, SUITE 3040

CHICAGO, ILLINOIS 60602

312/603-4304

312/603-9988 FAX 312/603-1011 TT/TDD

### FAMILIAL RELATIONSHIP DISCLOSURE PROVISION:

Section 2-582 of the Cook County Ethics Ordinance requires any person or persons doing business with Cook County, upon execution of a contract with Cook County, to disclose to the Cook County Board of Ethics the existence of familial relationships they may have with all persons holding elective office in the State of Illinois, the County of Cook, or in any municipality within the County of Cook.

The disclosure required by this section shall be filed by January 1 of each calendar year or within thirty (30) days of the execution of any contract or lease. Any person filing a late disclosure statement after January 31 shall be assessed a late filing fee of \$100.00 per day that the disclosure is late. Any person found guilty of violating any provision of this section or knowingly filing a false, misleading, or incomplete disclosure to the Cook County Board of Ethics shall be prohibited, for a period of three (3) years, from engaging, directly or indirectly, in any business with Cook County. *Note:* Please see Chapter 2 Administration, Article VII Ethics, Section 2-582 of the Cook County Code to view the full provisions of this section.

If you have questions concerning this disclosure requirement, please call the Cook County Board of Ethics at (312) 603-4304.

*Note:* A current list of contractors doing business with Cook County is available via the Cook County Board of Ethics' website at: [http://www.cookcountygov.com/taxonomy/ethics/Listings/cc\\_ethics\\_VendorList\\_.pdf](http://www.cookcountygov.com/taxonomy/ethics/Listings/cc_ethics_VendorList_.pdf)

### DEFINITIONS:

"*Calendar year*" means January 1 to December 31 of each year.

"*Doing business*" for this Ordinance provision means any one or any combination of leases, contracts, or purchases to or with Cook County or any Cook County agency in excess of \$25,000 in any calendar year.

"*Familial relationship*" means a person who is related to an official or employee as spouse or any of the following, whether by blood, marriage or adoption:

- |           |                   |                |
|-----------|-------------------|----------------|
| ▪ Parent  | ▪ Grandparent     | ▪ Stepfather   |
| ▪ Child   | ▪ Grandchild      | ▪ Stepmother   |
| ▪ Brother | ▪ Father-in-law   | ▪ Stepson      |
| ▪ Sister  | ▪ Mother-in-law   | ▪ Stepdaughter |
| ▪ Aunt    | ▪ Son-in-law      | ▪ Stepbrother  |
| ▪ Uncle   | ▪ Daughter-in-law | ▪ Stepsister   |
| ▪ Niece   | ▪ Brother-in-law  | ▪ Half-brother |
| ▪ Nephew  | ▪ Sister-in-law   | ▪ Half-sister  |

"*Person*" means any individual, entity, corporation, partnership, firm, association, union, trust, estate, as well as any parent or subsidiary of any of the foregoing, and whether or not operated for profit.

**SWORN FAMILIAL RELATIONSHIP DISCLOSURE FORM**

Pursuant to Section 2-582 of the Cook County Ethics Ordinance, any *person\* doing business\** with Cook County must disclose, to the Cook County Board of Ethics, the existence of *familial relationships\** to any person holding elective office in the State of Illinois, Cook County, or in any municipality within Cook County. Please print your responses.

Name of Owner/Employee: David G. Mannherz Title: Executive Vice President

Business Entity Name: NORESCO, LLC Phone: (508) 614-1000

Business Entity Address: 1 Research Drive, Suite 400C, Westborough, MA 01581

       The following familial relationship exists between the owner or any employee of the business entity contracted to do business with Cook County *and* any person holding elective office in the State of Illinois, Cook County, or in any municipality within Cook County.

Owner/Employee Name:	Related to:	Relationship:
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____
4. _____	_____	_____
5. _____	_____	_____

If more space is needed, attach an additional sheet following the above format.

There is *no* familial relationship that exists between the owner or any employee of the business entity contracted to do business with Cook County and any person holding elective office in the State of Illinois, Cook County, or in any municipality within Cook County.

To the best of my knowledge and belief, the information provided above is true and complete.

*[Signature]* 7/17/12  
Owner/Employee's Signature Date

Subscribe and sworn before me this 17th Day of July, 2012

a Notary Public in and for Worcester County

*Kiersten P. Jester*  
(Signature)

**KIERSTEN P. JESTER**  
**Notary Public**  
Commonwealth of Massachusetts  
My Commission Expires  
**April 7, 2017**

NOTARY PUBLIC  
SEAL

My Commission expires \_\_\_\_\_

Completed forms must be filed within 30 days of the execution of any contract or lease with Cook County and should be mailed to:

Cook County Board of Ethics  
69 West Washington Street,  
Suite 3040  
Chicago, Illinois 60602

**SIGNATURE BY A LIMITED LIABILITY CORPORATION  
(SECTION 8)**

The Undersigned hereby certifies and warrants: that all of the statements, certifications, and representations set forth in this EDS are true, complete and correct; that the Undersigned is in full compliance and will continue to be in compliance throughout the term of the Contract or County Privilege issued to the Undersigned with all the policies and requirements set forth in this EDS; and that all of the facts and information provided by the Undersigned in this EDS are true, complete and correct. The Undersigned agrees to inform the Procurement Director in writing if any of such statements, certifications, representations, facts or information becomes or is found to be untrue, incomplete or incorrect during the term of the Contract or County Privilege.

BUSINESS NAME: NORESCO, LLC

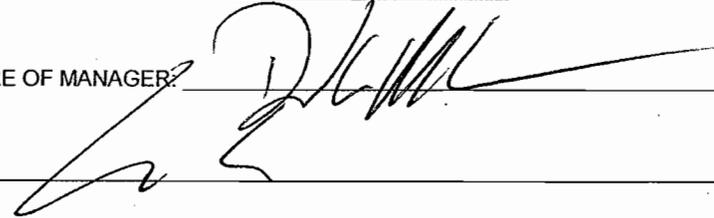
BUSINESS ADDRESS: 1 Research Drive, Suite 400C, Westborough, MA 01581

BUSINESS TELEPHONE: (508) 614-1000 FAX NUMBER: (508) 836-9988

CONTACT PERSON: David G. Mannherz

FEIN: 90-0453168 \* CORPORATE FILE NUMBER: 00538698

MANAGING MEMBER: David G. Mannherz MANAGING MEMBER: \_\_\_\_\_

\*\*SIGNATURE OF MANAGER: 

ATTEST: \_\_\_\_\_

Subscribed and sworn to before me this  
17<sup>th</sup> day of July, 20 12

x   
Notary Public Signature



**KIERSTEN P. JESTER**  
**Notary Public**  
**Commonwealth of Massachusetts**  
**My Commission Expires**  
**April 7, 2017**

Notary Seal

- \* If the LLC is not registered in the State of Illinois, a copy of a current Certificate of Good Standing from the state of incorporation must be submitted with this Signature Page.
- \*\* Attach either a certified copy of the by-laws, articles, resolution or other authorization demonstrating such persons to sign the Signature Page on behalf of the LLC.

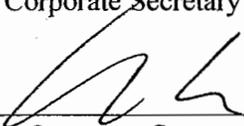
CERTIFICATE OF AUTHORITY

I, Adam M. Nee, Corporate Secretary of NORESKO, LLC, (NORESKO), a Delaware limited liability company, (hereinafter the "Company"), hereby certify that: (1) I am the duly acting and appointed Corporate Secretary of the Company; (2) I am familiar with the minute books of the Company; (3) I am duly authorized to issue certificates with respect to the contents of such books; (4) that the Managing Member of the Company has authorized, in the NORESKO, LLC, Limited Liability Company Agreement, that the Company President may delegate certain authority and has in fact delegated to the person(s) holding the below listed position(s) the authority to execute and deliver on behalf of the Company contracts or other instruments for the sale of products and services:

David G. Mannherz

Executive Vice President

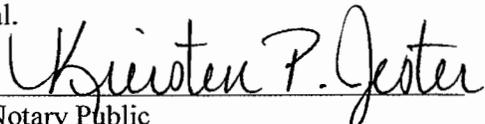
IN WITNESS WHEREOF, I have hereunto set my hand as the Corporate Secretary of the Company this 17th day of July, 2012.

  
\_\_\_\_\_  
Corporate Secretary

COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF WORCESTER

On this the 17th day of July, 2012, before me, Kiersten Jester, the undersigned Officer, personally appeared Adam M. Nee who acknowledged herself to be the Corporate Secretary of NORESKO, LLC, a limited liability company, and that he as such Corporate Secretary being authorized to do so, executed the foregoing instrument for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

  
\_\_\_\_\_  
Notary Public  
My Commission expires:



**KIERSTEN P. JESTER**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
April 7, 2017



*To all to whom these Presents Shall Come, Greeting:*

*I, Jesse White, Secretary of State of the State of Illinois, do hereby certify that*

NORESCO, LLC, A DELAWARE LIMITED LIABILITY COMPANY HAVING OBTAINED ADMISSION TO TRANSACT BUSINESS IN ILLINOIS ON APRIL 05, 2001, APPEARS TO HAVE COMPLIED WITH ALL PROVISIONS OF THE LIMITED LIABILITY COMPANY ACT OF THIS STATE, AND AS OF THIS DATE IS IN GOOD STANDING AS A FOREIGN LIMITED LIABILITY COMPANY ADMITTED TO TRANSACT BUSINESS IN THE STATE OF ILLINOIS.



*In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of the State of Illinois, this 17TH day of JULY A.D. 2012*

*Jesse White*

**SIGNATURE BY A LIMITED LIABILITY CORPORATION  
(SECTION 8)**

The Undersigned hereby certifies and warrants: that all of the statements, certifications, and representations set forth in this EDS are true, complete and correct; that the Undersigned is in full compliance and will continue to be in compliance throughout the term of the Contract or County Privilege issued to the Undersigned with all the policies and requirements set forth in this EDS; and that all of the facts and information provided by the Undersigned in this EDS are true, complete and correct. The Undersigned agrees to inform the Procurement Director in writing if any of such statements, certifications, representations, facts or information becomes or is found to be untrue, incomplete or incorrect during the term of the Contract or County Privilege.

BUSINESS NAME: NORESKO, LLC

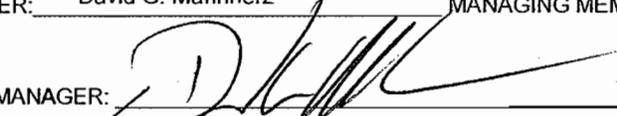
BUSINESS ADDRESS: 1 Research Drive, Suite 400C, Westborough, MA 01581

BUSINESS TELEPHONE: (508) 614-1000 FAX NUMBER: (508) 836-9988

CONTACT PERSON: David G. Mannherz

FEIN: 90-0453168 \* CORPORATE FILE NUMBER: 00538698

MANAGING MEMBER: David G. Mannherz MANAGING MEMBER: \_\_\_\_\_

\*\*SIGNATURE OF MANAGER: 

ATTEST: 

Subscribed and sworn to before me this  
17<sup>th</sup> day of July, 2012

x   
Notary Public Signature



**KIERSTEN P. JESTER**  
**Notary Public**  
Commonwealth of Massachusetts  
My Commission Expires  
April 7, 2017

Notary Seal

- \* If the LLC is not registered in the State of Illinois, a copy of a current Certificate of Good Standing from the state of incorporation must be submitted with this Signature Page.
- \*\* Attach either a certified copy of the by-laws, articles, resolution or other authorization demonstrating such persons to sign the Signature Page on behalf of the LLC.

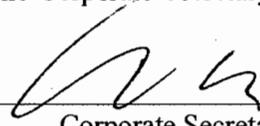
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David G. Mannherz

Executive Vice President

IN WITNESS WHEREOF, I have hereunto set my hand as the Corporate Secretary of the Company this 17th day of July, 2012.

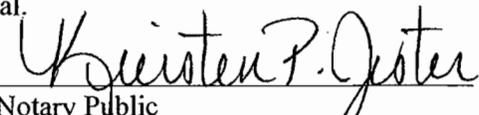


Corporate Secretary

COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF WORCESTER

On this the 17th day of July, 2012, before me, Kiersten Jester, the undersigned Officer, personally appeared Adam M. Nee who acknowledged herself to be the Corporate Secretary of NORESKO, LLC, a limited liability company, and that he as such Corporate Secretary being authorized to do so, executed the foregoing instrument for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.



Notary Public

My Commission expires:



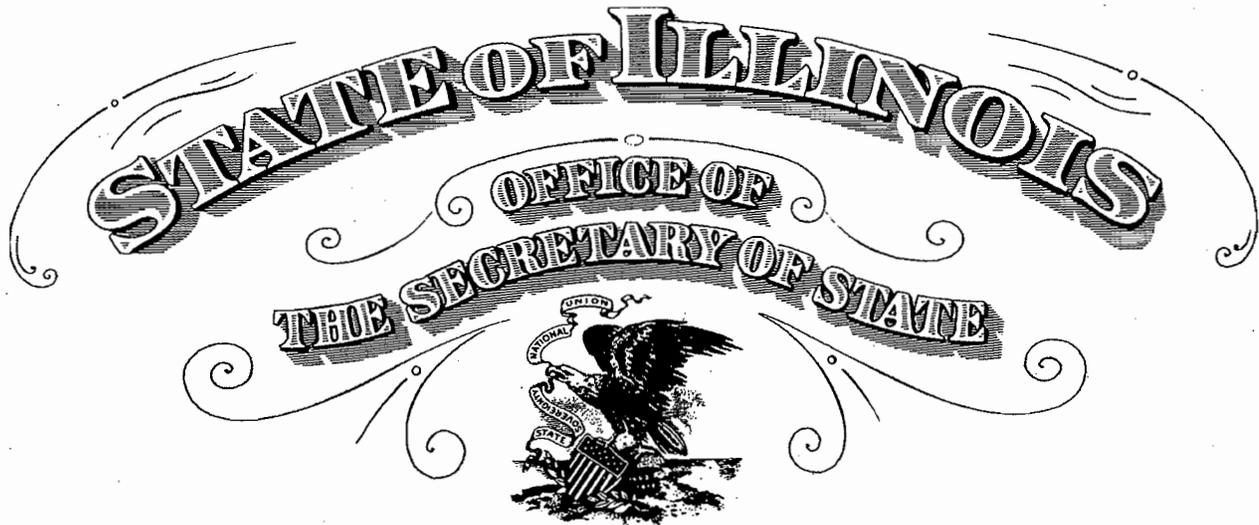
**KIERSTEN P. JESTER**

**Notary Public**

**Commonwealth of Massachusetts**

**My Commission Expires**

**April 7, 2017**



*To all to whom these Presents Shall Come, Greeting:*

*I, Jesse White, Secretary of State of the State of Illinois, do hereby certify that*

NORESKO, LLC, A DELAWARE LIMITED LIABILITY COMPANY HAVING OBTAINED ADMISSION TO TRANSACT BUSINESS IN ILLINOIS ON APRIL 05, 2001, APPEARS TO HAVE COMPLIED WITH ALL PROVISIONS OF THE LIMITED LIABILITY COMPANY ACT OF THIS STATE, AND AS OF THIS DATE IS IN GOOD STANDING AS A FOREIGN LIMITED LIABILITY COMPANY ADMITTED TO TRANSACT BUSINESS IN THE STATE OF ILLINOIS.



*In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of the State of Illinois, this 17TH day of JULY A.D. 2012 .*

*Jesse White*

**SIGNATURE BY A LIMITED LIABILITY CORPORATION  
(SECTION 8)**

The Undersigned hereby certifies and warrants: that all of the statements, certifications, and representations set forth in this EDS are true, complete and correct; that the Undersigned is in full compliance and will continue to be in compliance throughout the term of the Contract or County Privilege issued to the Undersigned with all the policies and requirements set forth in this EDS; and that all of the facts and information provided by the Undersigned in this EDS are true, complete and correct. The Undersigned agrees to inform the Procurement Director in writing if any of such statements, certifications, representations, facts or information becomes or is found to be untrue, incomplete or incorrect during the term of the Contract or County Privilege.

BUSINESS NAME: NORESKO, LLC

BUSINESS ADDRESS: 1 Research Drive, Suite 400C, Westborough, MA 01581

BUSINESS TELEPHONE: (508) 614-1000 FAX NUMBER: (508) 836-9988

CONTACT PERSON: David G. Mannherz

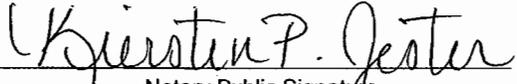
FEIN: 90-0453168 \* CORPORATE FILE NUMBER: 00538698

MANAGING MEMBER: David G. Mannherz MANAGING MEMBER: \_\_\_\_\_

\*\*SIGNATURE OF MANAGER: 

ATTEST: 

Subscribed and sworn to before me this  
17th day of July, 20 12

x   
Notary Public Signature



**KIERSTEN P. JESTER**  
**Notary Public**  
**Commonwealth of Massachusetts**  
**My Commission Expires**  
**April 7, 2017**

Notary Seal

\* If the LLC is not registered in the State of Illinois, a copy of a current Certificate of Good Standing from the state of incorporation must be submitted with this Signature Page.

\*\* Attach either a certified copy of the by-laws, articles, resolution or other authorization demonstrating such persons to sign the Signature Page on behalf of the LLC.

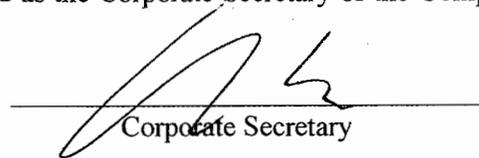
**CERTIFICATE OF AUTHORITY**

I, Adam M. Nee, Corporate Secretary of NORESKO, LLC, (NORESKO), a Delaware limited liability company, (hereinafter the "Company"), hereby certify that: (1) I am the duly acting and appointed Corporate Secretary of the Company; (2) I am familiar with the minute books of the Company; (3) I am duly authorized to issue certificates with respect to the contents of such books; (4) that the Managing Member of the Company has authorized, in the NORESKO, LLC, Limited Liability Company Agreement, that the Company President may delegate certain authority and has in fact delegated to the person(s) holding the below listed position(s) the authority to execute and deliver on behalf of the Company contracts or other instruments for the sale of products and services:

David G. Mannherz

Executive Vice President

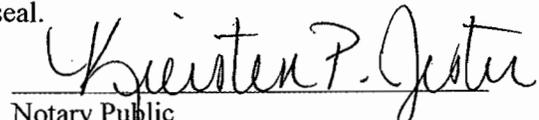
IN WITNESS WHEREOF, I have hereunto set my hand as the Corporate Secretary of the Company this 17th day of July, 2012.

  
Corporate Secretary

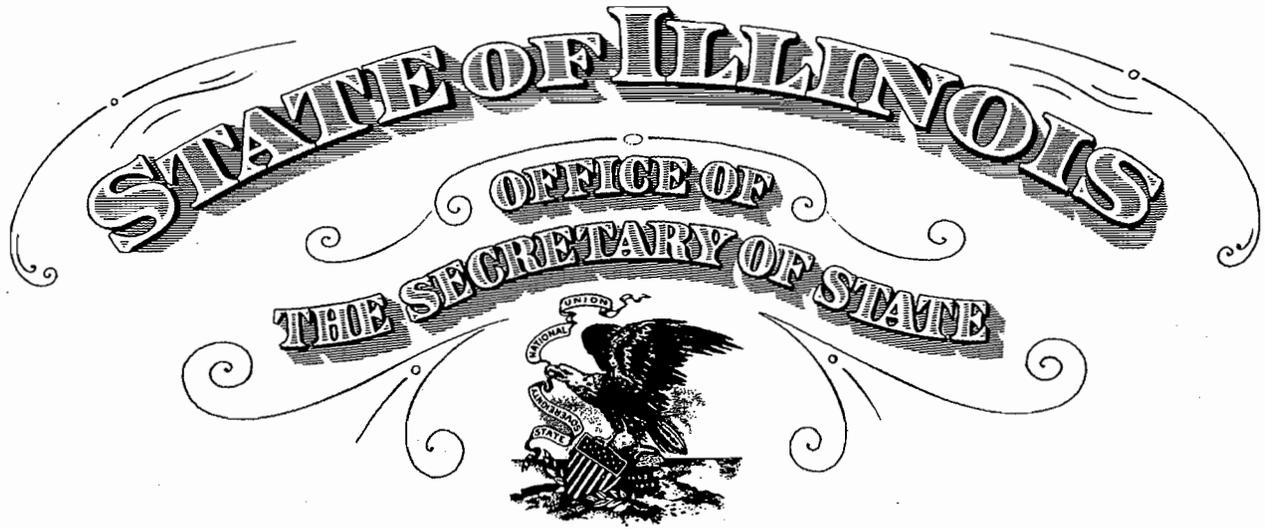
COMMONWEALTH OF MASSACHUSETTS  
COUNTY OF WORCESTER

On this the 17th day of July, 2012, before me, Kiersten Jester, the undersigned Officer, personally appeared Adam M. Nee who acknowledged herself to be the Corporate Secretary of NORESKO, LLC, a limited liability company, and that he as such Corporate Secretary being authorized to do so, executed the foregoing instrument for the purposes therein contained.

IN WITNESS WHEREOF, I hereunto set my hand and official seal.

  
Notary Public  
My Commission expires:

 **KIERSTEN P. JESTER**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
April 7, 2017



*To all to whom these Presents Shall Come, Greeting:*

*I, Jesse White, Secretary of State of the State of Illinois, do hereby certify that*

NORESCO, LLC, A DELAWARE LIMITED LIABILITY COMPANY HAVING OBTAINED ADMISSION TO TRANSACT BUSINESS IN ILLINOIS ON APRIL 05, 2001, APPEARS TO HAVE COMPLIED WITH ALL PROVISIONS OF THE LIMITED LIABILITY COMPANY ACT OF THIS STATE, AND AS OF THIS DATE IS IN GOOD STANDING AS A FOREIGN LIMITED LIABILITY COMPANY ADMITTED TO TRANSACT BUSINESS IN THE STATE OF ILLINOIS.



*In Testimony Whereof, I hereto set my hand and cause to be affixed the Great Seal of the State of Illinois, this 17TH day of JULY A.D. 2012 .*

*Jesse White*

Authentication #: 1219901654

Authenticate at: <http://www.cyberdriveillinois.com>

SECRETARY OF STATE

COOK COUNTY SIGNATURE PAGE  
(SECTION 10)

ON BEHALF OF THE COUNTY OF COOK, A BODY POLITIC AND CORPORATE OF THE STATE OF ILLINOIS, THIS CONTRACT IS HEREBY EXECUTED BY:

*Joni Proctor*

\_\_\_\_\_  
PRESIDENT, COOK COUNTY BOARD OF COMMISSIONERS

*Maria de Lourdes Cox*

\_\_\_\_\_  
COOK COUNTY CHIEF PROCUREMENT OFFICER

DATED AT CHICAGO, ILLINOIS THIS 24<sup>th</sup> DAY OF July, 2012

IN THE CASE OF A BID PROPOSAL, THE COUNTY HEREBY ACCEPTS:

THE FOREGOING BID/PROPOSAL AS IDENTIFIED IN THE CONTRACT DOCUMENTS FOR CONTRACT NUMBER

\_\_\_\_\_  
OR

ITEM(S), SECTION(S), PART(S): \_\_\_\_\_  
\_\_\_\_\_

TOTAL AMOUNT OF CONTRACT: \$ 34,228,000.00  
(DOLLARS AND CENTS)

FUND CHARGEABLE: \_\_\_\_\_

APPROVED AS TO FORM:

*Robert J. McKee*  
\_\_\_\_\_  
ASSISTANT STATE'S ATTORNEY  
(Required on contracts over \$1,000,000.00)

APPROVED BY BOARD OF  
COOK COUNTY COMMISSIONERS

JUL 24 2012

COM \_\_\_\_\_

**EXHIBIT P.1  
SUPPLEMENTAL COUNTY CONDITIONS**

**I) PREVAILING WAGE RATE AND DAVIS BACON PROVISIONS**

**General Decision Number: IL120009 07/06/2012 IL9**

**Superseded General Decision Number: IL20100009**

**State: Illinois**

**Construction Types: Building, Heavy, Highway and Residential**

**County: Cook County in Illinois.**

**BUILDING, RESIDENTIAL, HEAVY, AND HIGHWAY PROJECTS (does not include landscape projects).**

<b>Modification Number</b>	<b>Publication Date</b>
0	01/06/2012
1	01/13/2012
2	02/03/2012
3	03/02/2012
4	04/06/2012
5	05/04/2012
6	06/01/2012
7	06/15/2012
8	07/06/2012

**ASBE0017-001 06/01/2011**

**Rates Fringes**

**ASBESTOS WORKER/INSULATOR**

**Includes the application  
of all insulating  
materials, protective  
coverings, coatings, and**

finishes to all types of  
 mechanical systems.....\$ 43.80      23.40  
 Fire Stop Technician.....\$ 35.04      22.10

**HAZARDOUS MATERIAL HANDLER**

includes preparation,  
 wetting, stripping removal  
 scrapping, vacuuming,  
 bagging and disposal of  
 all insulation materials,  
 whether they contain  
 asbestos or not, from  
 mechanical systems.....\$ 32.85      22.20

**BOIL0001-001 01/01/2012**

	Rates	Fringes
<b>BOILERMAKER.....</b>	<b>\$ 41.38</b>	<b>23.90</b>

**BRIL0021-001 06/01/2011**

	Rates	Fringes
<b>BRICKLAYER.....</b>	<b>\$ 39.78</b>	<b>20.80</b>

**BRIL0021-004 06/01/2010**

	Rates	Fringes
<b>Marble Mason.....</b>	<b>\$ 39.03</b>	<b>19.90</b>

**\* BRIL0021-006 06/01/2012**

	Rates	Fringes
<b>TERRAZZO WORKER/SETTER.....</b>	<b>\$ 39.37</b>	<b>20.51</b>
<b>TILE FINISHER.....</b>	<b>\$ 33.60</b>	<b>15.22</b>
<b>TILE SETTER.....</b>	<b>\$ 40.49</b>	<b>16.93</b>

**BRIL0021-009 06/01/2009**

	Rates	Fringes
MARBLE FINISHER.....	\$ 29.10	19.90

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**BRIL0021-012 06/01/2009**

	Rates	Fringes
Pointer, cleaner and caulker.....	\$ 39.20	18.51

-----  
**CARP0555-001 06/01/2012**

	Rates	Fringes
<b>CARPENTER</b> Carpenter, Lather, Millwright, Piledriver, and Soft Floor Layer.....	\$ 41.52	25.47

-----  
**CARP0555-002 10/01/2011**

	Rates	Fringes
<b>CARPENTER (Excluding structures with elevators and structures over 3 1/2 stories)...</b>	\$ 31.37	24.12

-----  
**ELEC0009-003 05/29/2011**

	Rates	Fringes
<b>Line Construction</b> Groundman.....	\$ 32.64	19.76
Lineman and Equipment Operator.....	\$ 41.85	25.36

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**ELEC0134-001 06/07/2010**

	Rates	Fringes
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ELECTRICIAN.....\$ 40.40      26.75

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ELEC0134-002 04/01/1998

Rates      Fringes

ELECTRICIAN

CLASS "B".....\$ 20.71      2.975+a+b

**CLASS B SCOPE OF WORK:**

Install magnetic or electronic replacement ballasts either singly or in groups including necessary wiring within fixture; Install replacement lamp holders and/or sockets including necessary wiring within fixture including relocating sockets within fixture; Install replacement lighting circuit breakers where necessary; Install replacement lighting switches where necessary; Repair lighting fixtures other than ballast or socket replacements; Rewire chandeliers or incandescent fixtures only within fixtures themselves.

**FOOTNOTES:**

**a-Paid Vacation-** Employees who have been employed for one year but less than three years receive 1 week of paid vacation; employees who have been employed three years but less than ten years receive 2 weeks of paid vacation; Employees who have been employed ten years but less than twenty years receive 3 weeks of paid vacation; and employees who have worked twenty or more years receive 4 weeks of paid vacation.

**b-Funeral Leave-**In the instance of the death of a mother, other-in-law-; father, father-in-law, sister, brother, husband, wife, or a child of an employee shall receive up to three days of paid funeral leave.

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ELEC0134-003 06/07/2004

Rates      Fringes

**ELECTRICIAN**

**ELECTRICAL TECHNICIAN.....\$ 30.89      12.59**

**The work shall consist of the installation, operation, inspection, maintenance, repair and service of radio, television, recording, voice sound vision production and reproduction, telephone and telephone interconnect, facsimile, data apparatus, coaxial, fibre optic and wireless equipment, appliances and systems used for the transmission and reception of signals of any nature, business, domestic, commercial, education, entertainment and residential purposes, including but not limited to communication and telephone, electronic and sound equipment, fibre optic and data communication systems, and the performance of any task directly related to such installation or service whether at new or existing sites, such tasks to include the placing of wire and cable and electrical power conduit or other raceway work within the equipment room and pulling wire and/or cable through conduit and the installation of any incidental conduit.**

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**ELEV0002-003 01/01/2012**

	<b>Rates</b>	<b>Fringes</b>
<b>ELEVATOR MECHANIC.....</b>	<b>\$ 48.56</b>	<b>23.535+a+b</b>

**FOOTNOTES:**

**A. Eight paid holidays: New Year's Day; Memorial Day; Independence Day; Labor Day; Thanksgiving Day; Day after Thanksgiving; Veterans' Day and Christmas Day.**

**B. Employer contributes 8% of regular basic hourly rate as vacation pay credit for employees with more than 5 years of service; and 6% for 6 months to 5 years of service.**

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**\* ENGI0150-006 06/01/2011**

## Building and Residential Construction

	Rates	Fringes
<b>OPERATOR: Power Equipment</b>		
GROUP 1.....	\$ 45.10	27.10
GROUP 2.....	\$ 43.80	27.10
GROUP 3.....	\$ 41.25	27.10
GROUP 4.....	\$ 39.50	27.10

## POWER EQUIPMENT OPERATORS CLASSIFICATIONS

**GROUP 1: Mechanic; Asphalt Plant\*; Asphalt Spreader; Autograde\*; Backhoes with Caisson attachment\*; Batch Plant\*; Benoto(Requires two Engineers); Boiler and Throttle Valve; Caisson Rigs\*; Central Redi-Mix Plant\*; Combination Backhoe Front Endloader Machine; Compressor and Throttle Valve; Concrete Breaker (Truck Mounted)\*; Concrete Conveyor; Concrete Conveyor, Truck Mounted; Concrete Paver over 27E cu. ft.\*; Concrete Paver 27E cu ft and Under\*; Concrete Placer\*; Concrete Placing Boom; Concrete Pump (Truck Mounted); Concrete Tower; Cranes\*; Cranes, Hammerhead\*; Cranes, (GCI and similar type Requires two operators only); Creter Crane; Crusher, Stone, etc; Derricks; Derricks, Traveling\*; Formless Curb and Gutter Machine\*; Grader, Elevating; Grouting Machines; Highlift Shovels or Front Endloader 2 1/4 yd. and over; Hoists, Elevators, Outside Type Rack and pinion and similar Machines; Hoists, One, Two, and Three Drum; Hoists, Two Tugger One Floor; Hydraulic Backhoes\*; Hydraulic Boom Trucks; Hydraulic Vac (and similar equipment); Locomotives; Motor Patrol\*; Pile Drivers amd Skid Rig\*; Post Hole Digger; Pre- Stress Machine; Pump Cretes Dual Ram(Requiring frequent Lubrication and Water); Pump Cretes; Squeeze Cretes-Screw Type Pumps Gypsum Bulker and Pump; Raised and Blind Hole Drill\*; Roto Mill Grinder (36" and Over)\*; Roto Mill Grinder (Less Than 36")\*; Scoops-Tractor Drawn; Slip-Form Paver\*; Straddle Buggies; Tournapull; Tractor with Boom, and Side Boom; and Trenching Machines\*.**

**GROUP 2: Bobcat (over 3/4 cu yd); Boilers; Broom, Power Propelled; Bulldozers; Concrete Mixer (Two Bag and over); Conveyor, Portable; Forklift Trucks; Greaser Engineer; Highlift Shovels or Front End loaders under 2 1/4 cu yd; Aotomatic Hoists, Hoists, Inside Elevators; Hoists, Sewer Dragging Machine; Hoists, Tugger Single Drum; Laser Screed; Rock Drill (Self-Propelled); Rock Drill (Truck Mounted)\*; Rollers; Steam Generators; Tractors; Tractor Drawn Vibratory Roller (Receives an additional \$.50 per hour); Winch Trucks with "A" Frame.**

**GROUP 3: Air Compressor-Small 250 and Under (1 to 5 not to exceed a total of 300 ft); Air Compressor-Large over 250; Combination-Small Equipment Operator; Generator- Small 50 kw and under; Generator-Large over 50 kw; Heaters, Mechanical; Hoists, Inside Elevators (Remodeling or Renovatin work); Hydrualic Power Units (Pile Driving, Extracting, and Drilling); Low Boys; Pumps Over 3" (1 To 3 not to exceed a total of 300 ft); Pumps, Well Points; Welding Machines (2 through 5); Winches, 4 Small Electric Drill Winches; Bobcat (up to and including 3/4 cu yd)**

**GROUP 4 - Bobcats and/or other Skid Steer Loaders; Brick Forklifts; Oilers**

**\*-Requires Oiler**

**\* ENGI0150-025 06/01/2011**

**Heavy and Highway Construction**

	<b>Rates</b>	<b>Fringes</b>
<b>OPERATOR: Power Equipment</b>		
GROUP 1.....	\$ 43.30	27.10
GROUP 2.....	\$ 42.75	27.10
GROUP 3.....	\$ 40.70	27.10
GROUP 4.....	\$ 39.30	27.10
GROUP 5.....	\$ 38.10	27.10

## **POWER EQUIPMENT OPERATOR CLASSIFICATIONS**

**GROUP 1: Asphalt Plant\*; Asphalt Heater and Planer combination; Asphalt Heater Scarfire\*, Asphalt Spreader; Autograder/ GOMACO or similar; ABG Paver\*, Backhoes with Caisson attachment\*, Ballast Regulator, Belt Loader\*; Caisson Rigs\*Car Dumper, Central Redi-Mix Plant\*, Combination Backhoe; Front End Loader Machine (1 cu yd or over Backhoe bucket or with attachments); Concrete Breaker (truck mounted); Concrete Conveyor; Concrete Paver over 27E cu ft\*; Concrete Placer\*; Concrete Tube Float; Cranes, all attachments\*; Cranes, Hammerhead, Linden, Peco and machines of a like nature\*; Creter Crane; Crusher, stone; All Derricks; Derrick Boats; Derricks, traveling\*; Dowell Machine with Air Compressor (\$1.00 above Class 1); Dredges\*; Field Mechanic Welder; Formless Curb and Gutter Machine\*; Gradall and machines of a like nature\*; Grader, Elevating; Grader, Motor Grader, Motor Patrol, Auto Patrol, Form Grader, Pull Grader, Subgrader; Guard Rail Post Driver mounted\*; Hoists, one, two, and three Drum; Hydraulic Backhoes\*; Backhoes with Shear attachments\*; Mucking Machine; Pile Drivers and Skid Rig\*; Pre-Stress Machine; Pump Cretes Dual Ram (requires frequent lubrication and water)\*; Rock Drill- Crawler or Skid Rig\*; Rock Drill truck mounted\*; Rock/ Track Tamper; Roto Mill Grinder, (36" and over)\*; Slip-Form Paver\*; Soil Test Drill Rig, truck mounted\*; Straddle Buggies; Hydraulic Telescoping Form (tunnel); Tractor Drawn Belt Loader\*; Tractor Drawn Belt Loader with attached Pusher (two engineers); Tractor with boom; Tractaire with attachment; Traffic Barrier Transfer Machine\*; Trenching Machine; Truck Mounted Concrete Pump with boom\*; Underground Boring and/or Mining Machines 5 ft in diameter and over tunnel, etc.\*; Wheel Excavator\* & Widener (Apsco); Raised or Blind Hoe Drill, Tunnel & Shaft\***

**GROUP 2: Batch Plant\*; Bituminous Mixer; Boiler and Throttle Valve; Bulldozer; Car Loader Trailing Conveyors; Combination Backhoe Front End Loader Machine, (less than 1 cu yd Backhoe Bucket with attachments); Compressor and Throttle Valve; Compressor, common receiver (3); Concrete**

**Breaker or Hydro Hammer; Concrete Grinding Machine; Concrete Mixer or Paver 7S series to and including 27 cu ft; Concrete Spreader; Concrete Curing Machine; Burlap Machine; Belting Machine and Sealing Machine; Concrete Wheel Saw; Conveyor Muck Cars (Haglund or similar type); Drills (all); Finishing Machine-Concrete; Greaser Engineer; Highlift Shovels or Front End Loader; Hoist- Sewer Dragging Machine; Hydraulic Boom Trucks, all attachments; Hydro-Blaster (requires two operators); Laser Screed\*; Locomotives, Dinky; Off-Road Hauling Units (including articulating); Pump Cretes; Squeeze Cretes-Screw Type pumps, Gypsum Bulker and Pump; Roller Asphalt; Rotary Snow Plows; Rototiller, Seaman, self-Propelled; Scoops-Tractor Drawn; Self-propelled Compactor; Spreader-Chip-Stone; Scraper; Scraper-Prime Mover in Tandem regardless of size (add \$1.00 to Group 2 hourly rate for each hour and for each machine attached thereto add \$1.00 to Group 2 hourly rate for each hour); Tank Car Heater; Tractors, Push, pulling Sheeps Foot, Disc, or Compactor, etc; Tug Boats**

**GROUP 3: Boilers; Brooms, all power propelled; Cement Supply Tender; Compressor, Common Receiver (2); Concrete Mixer, two bag and over; Conveyor, Portable; Farm type Tractors used for mowing, seeding, etc; Fireman on Boilers; Forklift Trucks; Grouting Machines; Hoists, Automatic; Hoists, all Elevators; Hoists, Tugger single Drum; Jeep Diggers; Low Boys; Pipe Jacking Machines; Post-hole Digger; Power Saw, Concrete, Power Driven; Pug Mills; Rollers, other than asphalt; Seed and Straw Blower; Steam Generators; Stump Machine; Winch Trucks with A-Frame; Work Boats; Tamper-Form motor driven**

**GROUP 4: Air compressor - Small 250 and under (1 to 5 not to exceed a total of 300 ft); Air Compressor - Large over 250; Combination - Small Equipment Operator; Directional Boring Machine; Generators - Small 50 kw and under; Generators - Large, over 50 kw; Heaters, Mechanical; Hydraulic power unit (Pile Driving, Extracting or Drilling); Light Plants (1 to 5); Pumps, over 3" (1 to 3, not to exceed a total of 300 ft); Pumps, Well Points; Tractaire; Welding Machines (2**

through 5); Winches, 4 small electric drill winches;

**GROUP 5: Bobcats (All); Brick Forklifts; Oilers; Directional Boring**

\*Requires Oiler

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IRON0001-026 06/01/2011

	Rates	Fringes
<b>IRONWORKER</b>		
Sheeter.....	\$ 41.00	32.94
Structural and Reinforcing..	\$ 40.75	32.94

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IRON0063-001 06/01/2011

	Rates	Fringes
<b>IRONWORKER, ORNAMENTAL.....</b>	<b>\$ 40.20</b>	<b>28.78</b>

-----  
IRON0063-002 06/01/2011.

	Rates	Fringes
<b>IRONWORKER</b>		
Fence Erector.....	\$ 32.66	21.35

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IRON0136-001 07/01/2011

	Rates	Fringes
<b>IRONWORKER</b>		
Machinery Movers; Riggers;		
Macinery Erectors.....	\$ 35.44	27.67
Master Riggers.....	\$ 37.94	27.67

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LABO0002-006 06/01/2011

	Rates	Fringes
<b>LABORER (BUILDING &amp; RESIDENTIAL)</b>		
GROUP 1.....	\$ 35.20	21.45
GROUP 2.....	\$ 35.20	21.45
GROUP 3.....	\$ 35.275	21.45
GROUP 4.....	\$ 35.30	21.45
GROUP 5.....	\$ 35.35	21.45
GROUP 6.....	\$ 35.40	21.45
GROUP 7.....	\$ 34.425	21.45
GROUP 8.....	\$ 34.425	21.45
GROUP 9.....	\$ 35.525	21.45
GROUP 10.....	\$ 35.65	21.45
GROUP 11.....	\$ 35.475	21.45
GROUP 12.....	\$ 36.20	21.45

**LABORER CLASSIFICATIONS**

**GROUP 1: Building Laborers; Plasterer Tenders; Pumps for Dewatering; and other unclassified laborers.**

**GROUP 2: Fireproofing and Fire Shop laborers.**

**GROUP 3: Cement Gun.**

**GROUP 4: Chimney over 40 ft.; Scaffold Laborers.**

**GROUP 5: Cement Gun Nozzle Laborers (Gunite); Windlass and capstan person.**

**GROUP 6: Stone Derrickmen & Handlers.**

**GROUP 7: Jackhammermen; Power driven concrete saws; and other power tools.**

**GROUP 8: Firebrick & Boiler Laborers.**

**GROUP 9: Chimney on fire brick; Caisson diggers; & Well Point System men.**

**GROUP 10: Boiler Setter Plastic Laborers.**

**GROUP 11: Jackhammermen on fire brick work only.**

**GROUP 12: Dosimeter use (any device) monitoring nuclear exposure); Asbestos Abatement Laborer; Toxic and Hazardous Waste Removal Laborers.**

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LABO0002-007 06/01/2011

**Rates      Fringes**

**LABORER (HEAVY & HIGHWAY)**

<b>GROUP 1.....</b>	<b>\$ 35.20</b>	<b>21.45</b>
<b>GROUP 2.....</b>	<b>\$ 35.475</b>	<b>21.45</b>
<b>GROUP 3.....</b>	<b>\$ 35.35</b>	<b>21.45</b>
<b>GROUP 4.....</b>	<b>\$ 35.475</b>	<b>21.45</b>
<b>GROUP 5.....</b>	<b>\$ 36.20</b>	<b>21.45</b>

**LABORER CLASSIFICATIONS**

**GROUP 1: Common laborer; Tenders; Material expeditor (asphalt plant); Street paving, Grade separation, sidewalk, curb & gutter, strippers & All laborers not otherwise mentioned**

**GROUP 2: Asphalt tampers & smoothers; Cement gun laborers**

**GROUP 3: Cement Gun Nozzle (laborers), Gunite**

**GROUP 4: Rakers, Lutemen; Machine-Screwmen; Kettlemen; Mixermen; Drun-men; Jackhammermen (asphalt); Paintmen; Mitre box spreaders; Laborers on birch, overman and similar spreader equipment; Laborers on APSCO; Laborers on air compressor; Paving Form Setter; Jackhammermen (concrete); Power drive concrete saws; other power tools.**

**GROUP 5: Asbestos Abatement Laborers; Toxic and Hazardous Waste Removal Laborers, Dosimeter (any device) monitoring nuclear exposure**

LABO0002-008 06/01/2011

	Rates	Fringes
<b>LABORER (Compressed Air)</b>		
0 - 15 POUNDS.....	\$ 36.20	21.45
16 - 20 POUNDS.....	\$ 36.70	21.45
21 - 26 POUNDS.....	\$ 37.20	21.45
27 - 33 POUNDS.....	\$ 38.20	21.45
34 - AND OVER.....	\$ 39.20	21.45
<b>LABORER (Tunnel and Sewer)</b>		
GROUP 1.....	\$ 35.20	21.45
GROUP 2.....	\$ 35.325	21.45
GROUP 3.....	\$ 34.425	21.45
GROUP 4.....	\$ 25.20	21.45
GROUP 5.....	\$ 30.20	21.45

**LABORER CLASSIFICATIONS (TUNNEL)**

**GROUP 1: Cage tenders; Dumpmen; Flagmen; Signalmen; Top laborers**

**GROUP 2: Air hoist operator; Key board operator; concrete laborer; Grout; Lock tenders (Free Air Side); Steel setters; Tuggers; Switchmen; Car pusher**

**GROUP 3: Concrete repairmen; Lock tenders (pressure side); Mortar men; Muckers; Grout machine operators; Track layers**

**GROUP 4: Air trac drill operator; Miner; Bricklayer tenders; Concrete blower operator; Drillers; Dynamiters; Erector operator; Form men; Jackhammermen; Powerpac; Mining machine operators; Mucking machine operator; Laser beam operator; Liner plate and ring setters; Shield drivers; Power knife operator; Welder- burners; Pipe jacking machine operator;**

skimmers; Maintenance technician

**GROUP 5: Asbestos abatement laborer; Toxic and hazardous waste removal laborer; Dosimeter (any device) monitoring nuclear exposure**

**LABORER CLASSIFICATIONS (SEWER)**

**GROUP 1: Signalmen; Top laborers and All other laborers**

**GROUP 2: Concrete laborers and Steel setters**

**GROUP 3: Cement carriers; Cement mixers; Concrete repairmen; Mortar men; Scaffold men; Second Bottom men**

**GROUP 4: Air trac drill operator; Bottom men; Bracers-bracing; Bricklayer tenders; Catch basin diggers; Drainlayers; dynamiters; Form men; Jackhammermen; Powerpac; Pipelayers; Rodders; Welder-burners; Well point systems men**

**GROUP 5: Asbestos abatement laborer, Toxic and hazardous waste removal laborer; Dosimeter (any device) monitoring nuclear exposure**

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**LABO0225-001 06/01/2011**

	<b>Rates</b>	<b>Fringes</b>
<b>LABORER (DEMOLITION/WRECKING)</b>		
<b>GROUP 1.....</b>	<b>\$ 30.00</b>	<b>21.45</b>
<b>GROUP 2.....</b>	<b>\$ 35.20</b>	<b>21.45</b>
<b>GROUP 3.....</b>	<b>\$ 35.20</b>	<b>21.45</b>

**LABORER CLASSIFICATIONS**

**GROUP 1 - Complete Demolition**

**GROUP 2 - Interior Wrecking and Strip Out Work**

**GROUP 3 - Asbestos Work with Complete Demolition/Wrecking or**

**Strip Out Work**

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**PAIN0014-001 06/01/2012**

	<b>Rates</b>	<b>Fringes</b>
<b>PAINTER (including taper).....</b>	<b>\$ 40.00</b>	<b>21.62</b>

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**\* PAIN0027-001 06/01/2012**

	<b>Rates</b>	<b>Fringes</b>
<b>GLAZIER.....</b>	<b>\$ 39.50</b>	<b>27.97</b>

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**PLAS0005-002 07/01/2011**

	<b>Rates</b>	<b>Fringes</b>
<b>PLASTERER.....</b>	<b>\$ 39.25</b>	<b>21.84</b>

-----  
**\* PLAS0502-001 06/01/2012**

	<b>Rates</b>	<b>Fringes</b>
<b>CEMENT MASON/CONCRETE FINISHER...</b>	<b>\$ 42.35</b>	<b>22.93</b>

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**\* PLUM0130-001 06/01/2012**

	<b>Rates</b>	<b>Fringes</b>
<b>PLUMBER.....</b>	<b>\$ 45.00</b>	<b>24.11</b>

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**PLUM0597-002 06/01/2012**

	<b>Rates</b>	<b>Fringes</b>
<b>PIPEFITTER.....</b>	<b>\$ 45.05</b>	<b>25.09</b>

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**ROOF0011-001 06/01/2012**

	Rates	Fringes
ROOFER.....	\$ 38.35	16.96

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 \* SFIL0281-001 06/01/2012

	Rates	Fringes
SPRINKLER FITTER.....	\$ 47.80	19.00

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 SHEE0073-001 06/01/2011

	Rates	Fringes
Sheet Metal Worker.....	\$ 40.56	27.23

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 SHEE0073-002 06/01/2011

	Rates	Fringes
Sheet Metal Worker ALUMINUM GUTTER WORK.....	\$ 27.63	27.23

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 TEAM0731-001 06/01/2011

**COOK COUNTY - HEAVY AND HIGHWAY**

	Rates	Fringes
<b>TRUCK DRIVER</b>		
2 or 3 Axles.....	\$ 33.85	16.85
4 Axles.....	\$ 34.10	16.85
5 Axles.....	\$ 34.30	16.85
6 Axles.....	\$ 34.50	16.85

**FOOTNOTES:**

**A. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.**

**B. 900 straight time hours or more in 1 calendar year for the same employer shall receive 1 week paid vacation; 3 years - 2 weeks paid vacation; 10 years - 3 weeks paid vacation; 20 years - 4 weeks paid vacation.**

**C. An additional \$.20 per axle shall be paid for all vehicles with more than six (6) axles.**

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**TEAM0731-002 03/01/2012**

**Rates      Fringes**

**Traffic Control Device Monitor**

**TRAFFIC SAFETY WORKER:**

**Primary duties include but are not limited to the delivery, maintenance and pick-up of traffic control devices, the set-up and installation of traffic signs, pavement markings, barricades, crash barrels and glare screens, traffic control surveillance, the repair and maintenance trucks, cars, arrow boards, message signs, barricade and sign fabrication equipment.....\$ 28.25      9.08**

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**TEAM0786-001 06/01/2008**

**COOK COUNTY - BUILDING AND RESIDENTIAL**

	Rates	Fringes
<b>TRUCK DRIVER</b>		
2 & 3 Axles.....	\$ 31.33	.10+a
4 Axles.....	\$ 31.58	.10+a
5 Axles.....	\$ 31.78	.10+a
6 Axles.....	\$ 31.98	.10+a

**FOOTNOTES:**

a. \$463.00 per week.

An additional \$.20 per axle shall be paid for all vehicles with more than six (6) axles.

**Paid Holidays:** New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.

900 straight time hours or more in 1 calendar year for the same employer shall receive 1 week paid vacation; 3 years - 2 weeks paid vacation; 10 years - 3 weeks paid vacation; 20 years - 4 weeks paid vacation.

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**WELDERS** - Receive rate prescribed for craft performing operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is union or non-union.

#### **Union Identifiers**

An identifier enclosed in dotted lines beginning with characters other than "SU" denotes that the union classification and rate have found to be prevailing for that classification. Example: PLUM0198-005 07/01/2011. The first four letters, PLUM, indicate the international union and the four-digit number, 0198, that follows indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2011, following these characters is the effective date of the most current negotiated rate/collective bargaining agreement which would be July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rate.

#### **Non-Union Identifiers**

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

**Survey wage rates will remain in effect and will not change until a new survey is conducted.**

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**WAGE DETERMINATION APPEALS PROCESS**

**1.) Has there been an initial decision in the matter? This can be:**

- \* an existing published wage determination**
- \* a survey underlying a wage determination**
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter**
- \* a conformance (additional classification and rate) ruling**

**On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.**

**With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:**

**Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210**

**2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:**

**Wage and Hour Administrator  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210**

**The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.**

**3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:**

**Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210**

**4.) All decisions by the Administrative Review Board are final.**

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**END OF GENERAL DECISION**

**OR**

**SPECIAL CONDITIONS**

**EXHIBIT B**

**FEDERALLY REQUIRED CONTRACT PROVISIONS APPLICABLE TO PROJECTS  
FINANCED**

**IN WHOLE OR IN PART WITH RECOVERY ZONE ECONOMIC DEVELOPMENT  
BONDS**

**FEDERALLY AIDED CONSTRUCTION CONTRACTS**

These contract provisions ("Required Contract Provisions") shall apply to all work performed on the Contract by the Contractor's own organization and with the assistance of workers under the Contractor's immediate superintendence and to all work performed on the Contract by piecework, station work or by subcontract. If the Department of Labor revises the prevailing rate of hourly wages to be paid for the Work before completion of the Project, the revised rate will apply to this Contract from the effective date of the revision, but the revision will not entitle the Contractor to any increased compensation under the terms of this Contract. Current rates are found at

<http://www.wdol.gov/wdol/scafiles/davisbacon/IL9.dvb>.

**I. FEDERALLY REQUIRED CONTRACT PROVISIONS.**

a) **Payment of Predetermined Minimum Wage.** This provision is required for any Federally-aided construction contract exceeding \$2,000 and to all related subcontracts under such construction contract.

1) **Minimum wages.** (i) All laborers and mechanics employed or working upon the site of the work will be paid unconditionally and not less often than once a week, and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment, computed at rates not less than those contained in the wage determination of the Secretary of Labor (found at <http://www.wdol.gov/wdol/scafiles/davisbacon/IL9.dvb>), regardless of any contractual relationship which may be alleged to exist between the Contractor or its subcontractors and such laborers and mechanics.

Contributions made or costs reasonably anticipated for bona fide fringe benefits under section 1(b)(2) of the Davis-Bacon Act [40 U.S.C. 276a] on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of paragraph (a)(1)(iv) of this section; also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in §I.(a)(4).

Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; *provided, however*, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determination (including any additional classification and wage rates conformed under paragraph (a)(1)(ii) of this section) and the Davis-Bacon poster (WH-1321) shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(ii)(A) The contracting officer shall require that any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the Contract shall be classified in conformance with the wage determination. The contracting officer shall approve an additional classification and wage rate and fringe benefits therefore only when the following criteria have been met:

- ( 1 ) The work to be performed by the classification requested is not performed by a classification in the wage determination; and
- ( 2 ) The classification is utilized in the area by the construction industry; and
- ( 3 ) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination.

(B) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the Administrator of the Wage and Hour Division, Employment Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(C) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Administrator for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

(D) The wage rate (including fringe benefits where appropriate) determined pursuant to paragraphs (a)(1)(ii) (B) or (C) of this section, shall be paid to all workers performing work in the classification under this Contract from the first day on which work is performed in the classification.

(iii) Whenever the minimum wage rate prescribed in the Contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(iv) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; *provided*, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(2) **Withholding.** The County shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld from the Contractor under this Contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the Contract. In the event of failure to pay any laborer or mechanic, including any apprentice,

trainee, or helper, employed or working on the site of the work all or part of the wages required by the Contract, the County may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

**(3) Payrolls and basic records.** (i) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working at the site of the work. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made and actual wages paid. Whenever the Secretary of Labor has found under 29 CFR 5.5(a)(1)(iv) that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(ii)(A) The Contractor shall submit weekly for each week in which any Contract work is performed a copy of all payrolls to the County, for transmission to the appropriate Federal agency. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under 29 CFR 5.5(a)(3)(i), except that full social security numbers and home addresses shall not be included on weekly transmittals. Instead the payrolls shall only need to include an individually identifying number for each employee (e.g., the last four digits of the employee's social security number). The required weekly payroll information may be submitted in any form desired. Optional Form WH-347 is available for this purpose from the Wage and Hour Division Web site at <http://www.dol.gov/esa/whd/forms/wh347instr.htm> or its successor site. The prime Contractor is responsible for the submission of copies of payrolls by all subcontractors. Contractors and subcontractors shall maintain the full social security number and current address of each covered worker, and shall provide them upon request to the County, for transmission to the appropriate Federal agency, the Contractor, or the Wage and Hour Division of the Department of Labor for purposes of an investigation or audit of compliance with prevailing wage requirements. It is not a violation of this section for a prime Contractor to require a subcontractor to provide addresses and social security numbers to the prime Contractor for its own records, without weekly submission to the sponsoring government agency (or the applicant, sponsor, or owner).

(B) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the Contract and shall certify the following:

(1) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;

(2) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the Contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;

(3) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the Contract.

(C) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph (a)(3)(ii)(B) of this section.

(D) The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under section 1001 of title 18 and section 231 of title 31 of the United States Code.

(iii) The Contractor or subcontractor shall make the records required under paragraph (a)(3)(i) of this section available for inspection, copying, or transcription by authorized representatives of the appropriate Federal agency or the Department of Labor, and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the Federal agency may, after written notice to the Contractor, sponsor, applicant, or owner, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(4) **Apprentices and trainees** —(i) *Apprentices*. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship Training, Employer and Labor Services, or with a State Apprenticeship Agency recognized by the Office, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Office of Apprenticeship Training, Employer and Labor Services or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on

the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a Contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeymen hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event the Office of Apprenticeship Training, Employer and Labor Services, or a State Apprenticeship Agency recognized by the Office, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(ii) **Trainees.** Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate on the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage

rate on the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(iii) **Equal employment opportunity.** The utilization of apprentices, trainees and journeymen under this part shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR part 30.

(5) **Compliance with Copeland Act requirements.** The Contractor shall comply with the requirements of 29 CFR part 3, which are incorporated by reference in this Contract.

(6) **Subcontracts.** The Contractor or subcontractor shall insert in any subcontracts the clauses contained in 29 CFR 5.5(a)(1) through (10) and such other clauses as the appropriate Federal agency may by appropriate instructions require, and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all the contract clauses in 29 CFR 5.5.

(7) **Contract termination: debarment.** A breach of the contract clauses in 29 CFR 5.5 may be grounds for termination of the Contract, and for debarment as a contractor and a subcontractor as provided in 29 CFR 5.12.

(8) **Compliance with Davis-Bacon and Related Act requirements.** All rulings and interpretations of the Davis-Bacon and Related Acts contained in 29 CFR parts 1, 3, and 5 are herein incorporated by reference in this Contract.

(9) **Disputes concerning labor standards.** Disputes arising out of the labor standards provisions of this Contract shall not be subject to the general disputes clause of this Contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR parts 5, 6, and 7. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the contracting agency, the U.S. Department of Labor, or the employees or their representatives.

(10) **Certification of eligibility.** (i) By entering into this Contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded Government contracts by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(ii) No part of this Contract shall be subcontracted to any person or firm ineligible for award of a Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1).

(iii) The penalty for making false statements is prescribed in the U.S. Criminal Code, 18 U.S.C. 1001.

The following provisions do not apply to contracts of \$100,000 or less, and do not apply to contracts not utilizing laborers or mechanics.

(b) **Contract Work Hours and Safety Standards Act.** The following clauses set forth in paragraphs (b)(1), (2), (3), and (4) of this section shall be set forth in full in any contract in an amount in excess of \$100,000 and subject to the overtime provisions of the Contract Work Hours

and Safety Standards Act. These clauses shall be inserted in addition to the clauses required by §5.5(a) or 4.6 of part 4 of this title. As used in this paragraph, the terms laborers and mechanics include watchmen and guards.

(1) **Overtime requirements.** No contractor or subcontractor contracting for any part of the Contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.

(2) **Violation; liability for unpaid wages; liquidated damages.** In the event of any violation of the clause set forth in paragraph (b)(1) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory), for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (b)(1) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (b)(1) of this section.

(3) **Withholding for unpaid wages and liquidated damages.** The County shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such Contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b)(2) of this section.

(4) **Subcontracts.** The Contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraph (b)(1) through (4) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime Contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (b)(1) through (4) of this section.

(c) In addition to the clauses contained in paragraph (b), in any contract subject only to the Contract Work Hours and Safety Standards Act and not to any of the other statutes cited in 29 CFR §5.1, the following clause shall be inserted: The contractor or subcontractor shall maintain payrolls and basic payroll records during the course of the work and shall preserve them for a period of three years from the completion of the Contract for all laborers and mechanics, including guards and watchmen, working on the contract. Such records shall contain the name and address of each such employee, social security number, correct classifications, hourly rates

of wages paid, daily and weekly number of hours worked, deductions made, and actual wages paid. Further, the records to be maintained under this paragraph shall be made available by the Contractor or subcontractor for inspection, copying, or transcription by authorized representatives of the (write the name of agency) and the Department of Labor, and the contractor or subcontractor will permit such representatives to interview employees during working hours on the job.

**EXHIBIT P2**

**REQUIREMENTS FOR WORK AT THE COOK COUNTY DEPARTMENT OF CORRECTIONS**

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## EXHIBIT P2

### REQUIREMENTS FOR WORK AT THE COOK COUNTY DEPARTMENT OF CORRECTIONS

#### I. SUMMARY

The Cook County Department of Corrections (DOC) is a detention facility. It includes high-security and low security detention buildings. This Exhibit specifies minimum security and life safety requirements for Work being performed at the Cook County Department of Corrections (DOC) by General Contractors. The County reserves the right to revise these requirements at any time. The classification of a situation as an emergency is the prerogative of the DOC administration.

Note: The term General Contractor as used in this Exhibit shall mean the General Contractor for the Work, its employees, its subcontractors and their employees, suppliers and all others retained by the General Contractor for this Work.

#### II. POLICY

##### A. COMPLIANCE WITH REGULATIONS AND PROCEDURES

1. The General Contractor shall comply with all requirements specified in this section and any other security regulations and procedures implemented by the DOC for any Work to be performed at the DOC.
2. If requirements in this Exhibit come into conflict with any other security and life safety requirements specified in the Contract Documents, the strictest of requirements shall apply at the County's option.
3. The General Contractor shall attend any security and life safety seminars required by the DOC prior to working on site.
4. Emergency shutdowns, transports of detainees, security breeches and other DOC security operations take precedence over all work.
5. The General Contractor shall immediately comply with any directive issued by the DOC in an emergency situation.

##### B. NONCOMPLIANCE

1. Failure of the General Contractor to comply with any of the requirements set forth in this Exhibit is immediate grounds for removal and denial of future access to the job site.
2. Violators will be subject to arrest and prosecution for any violation of applicable Sections of the Illinois State Penal Law, and the Rules and Regulation of the Department of Corrections.
3. The County reserves the right to impose such contract sanctions as may be determined appropriate, including, but not limited to withholding of payments to the General Contractor until compliance is achieved; and/or cancellation, termination, or suspension of the Contract, in whole or in part is implemented.
4. The costs of sanctions and / or other remedies imposed by the County shall be the responsibility of the General Contractor.

#### III. SECURITY

##### A. CONSTRUCTION, TOOL & EQUIPMENT PROGRAMS

1. At least three weeks prior to commencing work on the DOC campus, the General Contractor shall submit:
  - a. A written program delineating its work logistics for review for approval by the County.

## EXHIBIT P2

### SPECIAL REQUIREMENTS FOR WORK AT THE COOK COUNTY DEPARTMENT OF CORRECTIONS

- b. A written program defining a control program to be monitored by the General Contractor for tools, supplies, materials, and equipment brought onto the DOC Campus.
  - c. A written list of medical supplies and equipment that the Contractor will obtain on site per OSHA guidelines.
2. The General Contractor shall modify its programs as required by the County to conform to security and life safety requirements of the DOC.
  3. Additional requirements for tools

#### B. CONSTRUCTION BARRIERS

1. The Contractor shall provide construction barriers around any Work area accessible to detainees.
  - a. Construction barriers exposed to the weather may be chain-link fencing. Fencing shall be heavy welded wire mesh and secured to avoid unauthorized access or toppling. The Contractor shall provide razor wire at the top if require by the DOC.
  - b. Construction barriers inside shall be either chain-link fencing or solid plywood (1" thick minimum) supported with two by fours and secured with detention grade screws / bolts. The plywood shall be fire rated and painted dark grey. The interior barriers shall be secured to avoid unauthorized access or toppling. The Contractor shall provide razor wire at the top if require by the DOC.
2. The Contractor shall provide a shop drawing(s) showing all types of construction barriers to be used and details for the review for approval of the County.
3. The General Contractor shall provide detention grade locks for the construction barriers and shall provide the County with an extra key for the locks in the event of an emergency.

#### C. PROHIBITIONS

1. The General Contractor shall not wear khaki or blue colored clothing on the Cook County Jail complex grounds.
2. The General Contractor shall not contact, speak with, give to or trade anything with detainees (inmates).
3. The General Contractor shall not take-off, or bring into the DOC, any article for any detainee.
4. The General Contractor shall not to take any spices or alcohols into the DOC at any time or give or sell any spices or alcohol to detainees.
5. The General Contractor shall not take any drugs or medicines on or off the DOC or give sell any drugs or medicines to detainees
6. The General Contractor shall not bring any canteen, or food service, inside the Security perimeter of the DOC campus.
7. The General Contractor shall not remove any materials, equipment, etc., from the DOC Campus without permission.
8. The General Contractor's supervisor(s) shall sign their name on a form "Authorization to take DOC material off DOC Campus"; to certify that the property being taken from the Campus is their property only, and not the County's. When partial deliveries are made to the Contractor on Campus, the Supervisor shall arrange for an inventory of articles to remain on the delivery vehicle to clear the remainder of the load leaving the site.

## EXHIBIT P2

### SPECIAL REQUIREMENTS FOR WORK AT THE COOK COUNTY DEPARTMENT OF CORRECTIONS

#### D. INSPECTIONS AND SEARCHES

1. The General Contractor shall be subject to inspection and searches by the Department of Corrections personnel. The County is not obligated to give advance notice to the General Contractor for inspections and searches.
2. The General Contractor shall present all tools and equipment brought onto the site for inspection immediately upon request.
3. The General Contractor will cooperate in having the tools inventoried, and accounted for upon entering and leaving the site.

#### IV. VEHICLES, PARKING, MOTORIZED CONSTRUCTION EQUIPMENT

##### A. PARKING: VEHICLES, TRAILERS, STORAGE CONTAINERS

1. All traffic control is subject to Owner approval
2. The General Contractor shall not obstruct any drive or other means of vehicular entry or exiting at the DOC.
3. The General Contractor shall park only in paved parking lots and parking garages designated by the County.
4. The General Contractor shall not park vehicles on any unpaved surface.
5. The Contractor shall pay for any off site parking required due to lack of space.
6. The Contractor shall place trailers and storage containers and construction equipment only in areas designated by the Owner.
7. The Contractor shall provide its own fencing and security for all trailers and storage containers and construction equipment. Owner will not be responsible for damaged, lost, or stolen trailers and storage containers and construction equipment or contents thereof.

##### B. MOTORIZED VEHICLES CONSTRUCTION EQUIPMENT

1. The General Contractor shall not under any circumstance, for any period of time, leave any vehicle or motorized piece of equipment unattended with engine or motor running or with ignition key in place.
2. The Contractor shall keep all vehicles, trailers, storage containers, and other equipment locked at all times when parked and unattended on Owner's premises. Owner will not be responsible for damaged, lost, or stolen vehicles or contents thereof.

#### V. TRANSPORTATION AND DELIVERIES TO THE JOB SITE

##### A. CHECKPOINTS

1. A Checkpoint(s) for entry and exiting of the General Contractor, its equipment, deliveries and transportation of employees to and from the job site will be designated by the DOC.
2. Checkpoint(s) shall be at the sole discretion of the DOC.

##### B. DELIVERIES

1. In general deliveries can be made during the hours of 7:00 a.m. and 2:30 p.m with advance notice to the DOC. The County reserves the right to change these times.
2. All deliveries of materials shall be through a checkpoint(s) designated by the DOC. The Contractors Superintendent shall clear by telephone or by messenger, all deliveries of materials through the assigned checkpoint.

## EXHIBIT P2

### SPECIAL REQUIREMENTS FOR WORK AT THE COOK COUNTY DEPARTMENT OF CORRECTIONS

3. For truck drivers, suppliers and other delivery people who do not have a permanent employee identification card the General Contractors Superintendent shall be present to vouch for such individuals. The County may perform any security and ID checks it deems appropriate.
4. After the individuals have been approved for entry, temporary badges and passes will be issued at the assigned checkpoint for individuals who do not have a permanent identification card. These temporary badges shall be surrendered at the checkpoint as individuals leave the DOC Campus.

## II. WORK AREA ACCESS/CONDITIONS

### A. WORK AREA ACCESS

1. The General Contractor shall not to have access to any building; any area of a building; any tunnel or exterior space that has not been approved in advance by the DOC.
2. The General Contractor shall remain within the assigned limits of any work site throughout the work day.
3. The General Contractor shall, if requested by the DOC, assemble at the end of the work day to be escorted from the work site.
4. The General Contractor shall provide portable sanitation facilities within the security limits.

### B. COMMUNICATION

1. The General Contractor and the County shall provide each other with emergency contact numbers.
2. The Contractor shall provide a Superintendent on-site at all times during the course of the Work, equipped with a cellular phone.

### C. CONDITIONS

1. The General Contractor shall keep waste material and containers within secured staging areas. All debris, waste, etc., is to be cleaned up entirely at the end of each working day and deposited in containers within the security area.
2. The General Contractor shall maintain the work site clear of debris caused by the performance of its work and provide enough secured dumpsters to avoid accumulation of debris on the ground, floors, or other surfaces of the facility.
3. The General Contractor shall not allow debris to accumulate such that it causes obstruction to vehicle and pedestrian traffic, emergency entrances, exits, and traffic lanes, or causes potential safety issues.
4. The General Contractor shall provide its own dumpsters and service for the removal of debris. The General Contractor shall not use the dumpsters at the facilities.

## VI. IDENTIFICATION BADGES

### A. GENERAL REQUIREMENTS

1. The General Contractor shall display ID badges at all times they are on the DOC Campus.
2. The General Contractor shall coordinate with the County to obtain ID badges for all their workers. The General Contractor shall designate one individual to administer and coordinate the ID requirements. No subcontractor, supplier, or other employee of the General Contractor may contact the County to obtain an ID or security clearance.

## EXHIBIT P2

### SPECIAL REQUIREMENTS FOR WORK AT THE COOK COUNTY DEPARTMENT OF CORRECTIONS

3. The costs for all time, coordination and materials related to the ID requirements, is the responsibility of the General Contractor. No time extension will be provided to the General Contractor for failure to coordinate and secure access and IDs in a timely manner.
4. The General Contractor shall compile a list of workers who will require ID badges for the project.
5. The General Contractor shall furnish each worker with an identification card in addition to any identification badge that will be provided by the County. The General Contractors identification cards shall be at least two and one half inches high by one and one half inches wide, laminated with an alligator clip. It shall contain a) General Contractors name; b) identification number; c) a recognizable (passport size) photograph of the employee; c) employee's name.
6. The General Contractor shall compile a list of workers who will require ID badges for the project. The General Contractor shall have each individual fill out request and disclosure forms (to be provided by the County) and provide the following information for each individual to include but not be limited to: a) full name; b) current address and telephone number; c) copy of up-to-date driver's license, d) two color photos measuring one and one-quarter inches high by one inch wide.
7. The General Contractor shall immediately report the loss of any identification badge while on or off the DOC property to the designated representative at the DOC. The duty officer in charge will record this information.
8. The General Contractor shall immediately report any worker who is removed from the job site or whose employment is terminated before the close of a work day to the designated representative at the DOC and surrender the ID badge for that employee.

#### B. HIGH SECURITY AREA ID REQUIREMENTS

1. The requirements in this section are in addition to all other requirements specified in this Exhibit.
2. The Contractor shall maintain an accurate listing of each and every employee working on the site. This listing is to be updated in the form of a typed report on a daily basis and shall be submitted to the Department of Corrections by 2:00 p.m. each day. Employees no longer on the job site shall be removed from this list. Information included on the list shall include: a) name, b) trade, c) badge number, d) home address, e) social security number; and f) driver's license number. The Contractor shall provide copies of the list immediately upon request to the Office of Capital Planning and Policy.
3. The General Contractor with authorized business in a high security area shall report with all of its workers at the designated checkpoint for identification and approval to access the site. The General Contractor will be escorted to the site.
4. Workers will surrender their driver's license or other approved form of ID to the duty officer in charge at the checkpoint and their DOC Construction ID badge will be issued. The DOC Construction ID badge will be displayed at all times. Personal identification shall be produced upon demand of DOC personnel assigned to various checkpoints, as well as security patrols.
5. Security clearances for new workers being added to the General Contractor's work force shall be arranged for by the General Contractor at least 48 hours in advance of a new workers start date.

## EXHIBIT P2

### SPECIAL REQUIREMENTS FOR WORK AT THE COOK COUNTY DEPARTMENT OF CORRECTIONS

#### VII. TOOLS

##### A. GENERAL REQUIREMENTS

The purpose of this requirement is to maintain the security and safety of the General Contractor, detainees, County employees and facility users by preventing tools and equipment from falling into unauthorized hands. The Contractor shall strictly adhere to all requirements concerning tools and their usage as implemented by the DOC. Uncovered Situations

Instructions, procedures and regulations as set forth in this policy and procedure are not totally encompassing of all situations that may arise. In questionable situations concerning tools, the Assistant Director of Security shall be contacted immediately for instructions and clarification.

##### B. DEFINITIONS

1. As used in this Exhibit, the following definitions shall apply:
  - a. Restricted Tools, Class A are defined to be tools that can be used by detainees (inmates) in effecting an escape, causing death, a serious injuries or in any manner incompatible with their confinement. The tools noted as follows are typical examples of Class A tools. They include but are not limited to" Crow Bars, Bolt Cutters, Drills, Files, Saws, Screwdrivers, Hammers, etc.
  - b. Less Restricted Tools, Class B are defined to be tools not listed as Class A tools and approved by the Chief of Security as Class B tools.

##### C. TOOL INVENTORY CONTROL & AUDITS

1. The General Contractor is responsible for enforcing tool control policies and shall designate an individual (Tool Coordinator) to coordinate the tool control policy on its behalf. The designated individual shall be responsible for the making and auditing of tool inventories, and overall tool accountability and use on the work site.
2. Tool Inventory Lists: The Tool Coordinator shall prepare and maintain a master inventory list of tools for each area in which tools are stored and/or used. The tool inventory lists shall be typewritten, signed by the Tool Coordinator and posted in the General Contractors Office with a copy provided to the Chief of Security.
3. Tool inventories shall be checked on a daily basis, filed and readily available for review for daily tool accountability by the DOC. The updated tool inventory shall be submitted to the Chief of Security once a week. The Chief of Security may implement a tool audit at any time. The General Contractor shall cooperate with all tool audits conducted by the DOC.

##### D. STORAGE OF TOOLS & LOSS OF TOOLS

1. STORAGE: The General Contractor shall obtain approval from the County for tool storage methods for tools to be stored on the work site. All tools shall be kept secure and out of the reach of detainees at all times.
2. LOST TOOLS: The General Contractor shall immediately report any tools that are lost on the work site to the Chief of Security by telephone or other expedient means and shall follow all directives issued by the Chief of Security as relates to the tool loss and fully cooperate with any investigations.

##### E. FLAMMABLE, POISONOUS, HAZARDOUS MATERIALS

1. The General Contractor shall maintain an inventory of all flammable, hazardous, poisonous and toxic materials used in the Work. Examples include but are not limited to: acids, glues, insecticides, gasoline, and diesel fuel. These items may not be stored in any of the work areas. Any questions regarding the use and/or storage of flammable or toxic material shall be addressed to the Assistant Director of Security.

**INSTRUCTIONS TO OBTAIN ID BADGES**  
**FOR WORK AT THE COOK COUNTY DEPARTMENT OF CORRECTIONS:**  
**COORDINATION, COMPLETION OF / SUBMITTAL OF FORMS, PROCESSING & RETURN OF IDs**

**A. COORDINATION AND APPOINTMENTS**

1. For the ID process, the vendor will assign a coordinator (ID Coordinator) from its team. The ID Coordinator will coordinate with the County of Cook Criminal Intelligence Unit (C.I.U.) to obtain IDs (identification badges) for any of its team members who will work at the Department of Corrections (DOC) for this project.
2. Applications for IDs are accepted by appointment only. Unless otherwise directed, all appointments are to be made and confirmed for the vendor's employees and its subs through the vendor's designated ID coordinator.
3. When making an appointment with the ID coordinator provide at least two different days and times in case the first appointment option is not available.
4. Each individual should expect to spend approximately 1½ hours at an ID appointment. The appointment will include fingerprinting.
5. At the end of the appointment a Temporary ID will be issued. The applicant must return and personally pick up their IDs when they are ready.

**B. SUBMITTING COMPLETED FORMS**

1. Each individual requesting an ID will submit the form in person at their appointment, to the County of Cook Criminal Intelligence Unit (C.I.U.) located at 2854 W. 31<sup>st</sup> Street, Building 5, Chicago, IL 60608.
2. Applications are accepted Monday through Friday between the hours of 9:00 AM to 12:00 Noon and 1:30 PM to 2:30 PM. The C.I.U. is closed for ID processing on holidays. Appointments are made for individuals by the vendor's ID Coordinator.

**C. COMPLETING THE FORMS - GENERAL**

1. Each applicant is to fully complete the attached forms: Do not leave any blanks. Incomplete and illegible forms will be returned without comment.
2. Use BLACK INK ONLY to fill out and sign the form. Clearly and neatly print all information.
3. **DO NOT USE WHITE OUT** on any portion of the form.
4. Submit ORIGINALS only. Copies will be rejected.
5. See the information below for instructions on how to complete each form.

**D. FORM: Request for Issuance of Departmental Identification**

1. Complete the form titled "Request for Issuance of Departmental Identification".
2. Do write on lines marked with an 'X'.
3. Provide all information requested no exceptions.
4. Provide the following items with this form:
  - a. One (1) - clear photo copy each of the FRONT and BACK of VALID DRIVER'S LICENSE
  - b. Two (2) - 2" x 2" full profile passport photo. Personal and digital photos are not accepted and will cause the application to be returned. (Passport photos may be obtained from most Walgreen's and CVS stores, most U.S. Post Office branches.)
5. On the form complete the items noted below with
  - a. **AGENCY:** Provide the vendor's name. If applicant is a sub to the vendor, provide the vendor's name, a dash, and then the sub's name.
  - b. **Divisional Access:** List only the Division(s) or(s) in the DOC where work will be performed.
  - c. **Anticipated dates of employment:** List the expected start and end date. 1-year is the maximum duration allowed. IDs can be renewed yearly as required.
  - d. **Agency Supervisor that you report directly to:** Print the name of the Vendor's Project Manger

(CONTINUED ON NEXT PAGE)

**INSTRUCTIONS TO OBTAIN ID BADGES  
FOR WORK AT THE COOK COUNTY DEPARTMENT OF CORRECTIONS:  
COORDINATION, COMPLETION OF / SUBMITTAL OF FORMS, PROCESSING & RETURN OF IDs**

**E. FORM: Cook County Department of Corrections Code of Conduct Agreement**

1. *Read each of the twelve rules and initial each one* on the line provided.
2. Clearly print name, sign and date.
3. DO NOT fill in the "Witness" lines.

**F. FORM: Request for Issuance of Department Identification Fingerprinting Procedure**

1. Read. Sign and date the "Request for Issuance of Department Identification Fingerprinting Procedure"
2. Fingerprinting can be done at the ID badge appointments noted above.

**G. FORM: Cook County Department of Corrections Equipment Authorization**

1. If equipment/tools are required for this project, complete this form. Equipment includes laptops, flash-drives, and similar items in addition to testing equipment and tools.
2. Do not sign the line designated for the "Requesting Department /Unit".
3. **CAMERAS:** If cameras are required, a separate letter addressed to the Assistant Executive Director of the DOC is required listing the equipment

**H. COUNTY SIGNATURES**

1. When the forms are complete, the "Agency Supervisor" or their authorized designee shall take them in person to the County Project Director (or to whom they designate) to be signed by the "Requesting Department". This might be a location other than the DOC.
2. The Requesting Department will sign the "Request for Issuance of Departmental Identification", the Witness section of the "Code of Conduct Agreement" and the "Equipment Authorization Form".
3. The signature of the Requesting Department does not guarantee that an application will be approved. This is solely the domain of the DOC.
4. When all necessary signatures have been obtained, the applicant will personally take the paperwork to their reserved appointment.

**I. ID PROCESSING TIMES & TEMPORARY IDs.**

1. It takes approximately 30 days from the ID appointment for the DOC to process an ID.
2. The applicant will be issued a Temporary ID at their appointment. The temporary ID is valid for duration of 30 days. The DOC reserves the right to revise this duration.
3. Three (3) days before the expiration of the temporary IDs, the ID Coordinator should call the telephone number on the back of the temporary IDs to confirm that the IDs will be ready and can be picked up.
4. IDs must be picked up in person by the applicant.
5. If there is a delay in processing the ID, another temporary ID will be issued. The number of days that the second temporary ID will be valid is at the discretion of the DOC.

**J. DISPLAYING IDs**

1. IDS must be prominently displayed at all times an individual is on the Department of Corrections campus. There are no exceptions to this rule.

**K. RETURNING THE IDs**

1. All IDs issued by the Department of Corrections (DOC) are the property of the DOC.
2. Anyone in possession of an ID issued by the DOC will, without fail, return it immediately to the DOC C.I.U. if any of the following conditions occur: a) at the time the ID expires; b) they are no longer required to provide services on the DOC campus; c) if they resign, quit or are terminated by their employer or d) upon request by the DOC.
3. If it is not possible for an individual to return an ID to the C.I.U. they may give it to their "Agency Supervisor" to be forwarded to the County.

# Request for Issuance of Department Identification Fingerprinting Procedure

On the day of submitting a Department Identification application to the Executive Director's Office of the County Department of Corrections (CCDOC), you will be instructed to proceed to the Criminal Intelligence Unit (C.I.U.) to be fingerprinted. Failure to comply with the above will result in the suspension of your access into the facility and a delay in the processing of your application.

## YOU WILL NOT BE FINGERPRINTED WITHOUT A PICTURE ID

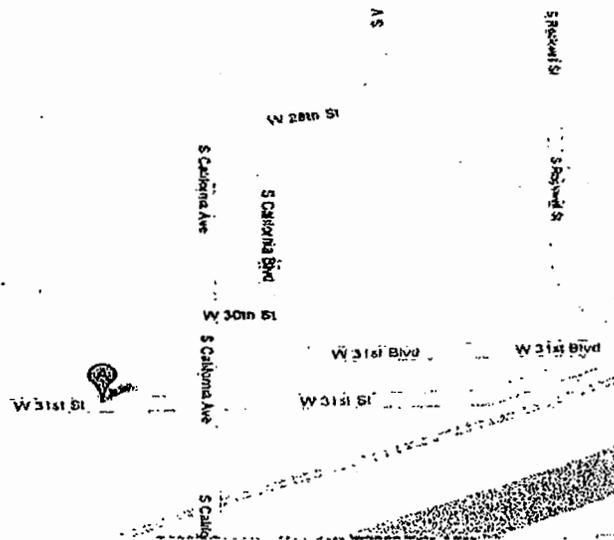
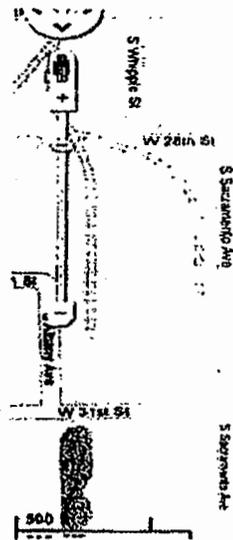
Fingerprinting is conducted Monday through Friday (CLOSED on HOLIDAYS) between the hours of:

9:00 a.m. until 12:00 p.m.

&

1:30 p.m. until 3:30 p.m.

**Criminal Intelligence Unit (C.I.U.)  
2854 W. 31<sup>st</sup> Street, Building 5  
Chicago, Illinois 60608**



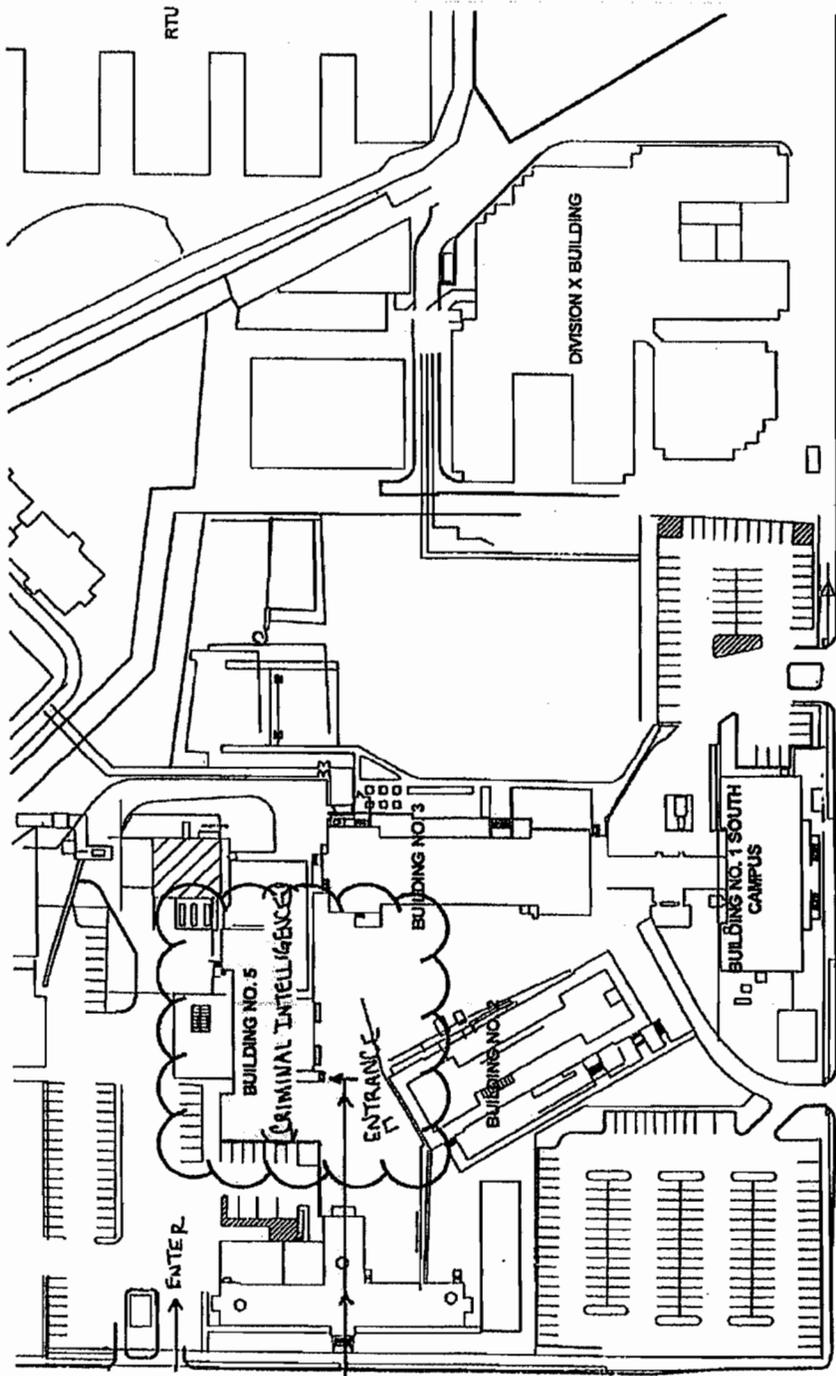
You are not permitted to park in the parking lots. There is street parking available for usage on 31<sup>st</sup> Street. You will then need to enter the post (guard shack) located on 31<sup>st</sup> Street just west of California. Inform the officer(s) you are here for fingerprinting and they will direct you in the right direction.

I have read the above and fully understand the requirements set forth for the scheduling of an appointment for the purpose of being fingerprinted.

\_\_\_\_\_  
Name of Applicant

\_\_\_\_\_  
Date

# BADGE / FINGERPRINT PROCESSING LOCATION



31ST STREET

BADGE PROCESSING CENTER - LOWER FLR AND FINGERPRINTING CENTER - FLR ABOVE

DO NOT PARK IN DOG LOTS. PARKING IS AVAILABLE ON 31ST STREET

CALIFORNIA AVE.





Ex F3

GC-17 Changes and Modifications (continued)

~~BASIS FOR CHANGE ORDERS:~~

For any changes in the Work, other than for additional Work ordered on the basis of unit prices stated in this Contract or subsequently agreed to, the Design-Builder shall be paid by the County, in addition to actual cost, certain percentages of the various costs incurred by the Design-Builder for added Work, all as set forth in clauses below. The Design-Builder agrees that these percentages are sufficient to fully compensate it and its subcontractors for both all additional overhead costs and a profit on any such changes in the Work. The cost or credit to the County resulting from a change in the Work shall be determined in one or more of the following ways:

1. By unit prices stated in the Contract or subsequently agreed upon.
2. By a lump sum properly itemized and supported by a detailed breakdown of the following:
  - a. **Labor.** For all labor, foremen and field supervisor in direct charge of the specific operation, the Design-Builder shall receive the rate of wage agreed upon in writing before beginning work for each and every hour that said labor, foremen and field supervisor are actually engaged in Work.

The Design-Builder shall receive the actual costs paid to, or on behalf of, workmen by reason or subsistence and travel allowances, health and welfare benefits, pension fund benefits or other benefits, when such amounts are required by collective bargaining agreement or other employment contract generally applicable to the classes of labor employed on the Work.

The Design-Builder shall submit payrolls or certified copies thereof, pertinent to the Work for which is requested. The payroll records shall contain the name, address and social security number or each employee, his correct classification, rate of pay, daily and weekly number or hours worked, itemized deductions made and actual wages paid.

An additional amount not to exceed fifteen percent (15%) of the sum of the above items will be paid the Design-Builder for profit and overhead.

**GC-17 Changes and Modifications (continued)**

- b. Insurance and Tax: For property damage, liability and workmen's compensation insurance premiums, unemployment insurance contributions and social security taxes on the force account Work, the Design-Builder shall receive the actual cost, to which not more than 10 percent (10%) will be added. The Design-Builder shall furnish satisfactory evidence of the rate or rates paid for such insurance and tax.
  - c. Materials: The Design-Builder will receive the cost for all materials, including freight charges as shown by original receipted bills which are an integral part of the finished Work, to which shall be added not more than fifteen percent (15%) of the sum thereof.  

The Design-Builder will be reimbursed for any materials used in the construction of the Work, such as sheeting, false work, form lumber, burlap or other materials for curing, etc., reimbursement shall be agreed upon in writing before such Work is begun and no percent shall be added. The salvage value of such materials shall be taken into consideration in the reimbursement agreed upon.
  - d. Equipment: Machinery and equipment which the Design-Builder has on the job for use on contract items shall be used as deemed necessary or desirable. The Design-Builder will be paid for all machinery and equipment (other than small tools) used on the Work in accordance with the latest revision of "SCHEDULE OF AVERAGE ANNUAL EQUIPMENT OWNERSHIP EXPENSE WITH OPERATING COST" as issued by the Department of Transportation of the State of Illinois, for the period that said machinery and equipment are in use on such Work, to which no percent shall be added. Where equipment and machinery are listed in this schedule, the rates will be determined by the Director after reviewing all available records of the Design-Builder or other information concerning the expense of operating that type of equipment.
  - e. Bond: The Design-Builder shall be paid for a reasonable actual increase in cost of his performance bond attributable to the change in the Work.
  - f. Subcontractors: For subcontractor Work, involving labor or labor and materials, for additional Work, the Design-Builder will be allowed no more than an additional five percent (5%) of the cost of the labor and materials to cover the Design-Builder's supervision, and related expense on such subcontract operations.
  - g. Subcontractor or sub-subcontractor: For additional Work involving labor or labor and materials, will be allowed no more than an additional fifteen percent (15%) of the cost of the labor and materials to cover overhead costs and profit.
  - h. For additional Work involving labor or labor and materials by a sub-subcontractor (2nd and 3rd tier subcontractors), the sub-subcontractor providing the labor and materials will be allowed an additional fifteen percent (15%) of the cost of the labor and materials to cover overhead costs and profit. Additional mark-ups by other subcontractors and/or the Design-Builder shall not exceed five percent (5%) to cover supervision and related expense on such sub-subcontractor operations.
  - i. Other Costs. No additional allowance will be made for other costs for which no specific allowance is herein provided.
3. When both additions and credits covering related Work or substitutions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of the net increase, if any, with respect to that change.
  4. If a change involves only deductive Work, the credit to the County shall be the Design-Builder's direct costs only for the labor and materials deleted.

Cook County Warranty Matrix by Building

Warranty Sign Off by Building	O&M Manual #	BUILDING	DESCRIPTION OF WORK	Warranty Start Date	Certificate of Substantial Completion	Punch List Completed	Certificate of Final Completion	Training Completed	Cook County Construction Permit	Comments
1		Central Plant	New Fire Tube Boilers							
		Central Plant	Steam Trap Repair/Replace							
		Central Plant	Replace Electric Chiller 8							
		Central Plant	New Electric Chiller 5							
		Central Plant	New Pumps for New Electric Chiller 5							
		Central Plant	Lighting Retrofit							
		Central Plant	Submeter Installation							
		Central Plant	EMS Upgrade and Expansion							
		Central Plant	End Device Repair (EDR)							
		CCAB	Lighting Retrofit							
2		CCAB	Submeter Installation							
		CCAB	EMS Upgrade and Expansion							
		CCAB	End Device Repair (EDR)							
		CCAB	CAV to VAV AHU Modifications							
		CCAB	Replace CHW Pumps							
		CCAB	Insulation							
		CCB	Lighting Retrofit							
		CCB	Submeter Installation							
		CCB	EMS Upgrade and Expansion							
		CCB	End Device Repair (EDR)							
3		CCB	CAV to VAV AHU Modifications							
		CCB	Insulation							
		Division 1	Additional Facilities Lighting							
		Division 2	Additional Facilities Lighting							
		Division 3	Additional Facilities Lighting							
		Division 4	Additional Facilities Lighting							
		Division 5	Lighting Retrofit							
8		Division 5	Tamper Proof Fixtures							
		Division 5	Submeter Installation							
		Division 5	EMS Upgrade and Expansion							
		Division 5	End Device Repair (EDR)							
		Division 5	Insulation							
		Division 6	Additional Facilities Lighting							
		Division 7	Additional Facilities Lighting							
		Division 9	Lighting Retrofit							
		Division 9	Tamper Proof Fixtures							
	11		Division 9	Submeter Installation						
		Division 9	EMS Upgrade and Expansion							
		Division 9	End Device Repair (EDR)							
		Division 9	Install/Replace VFD's							
		Division 10	Additional Facilities Lighting							
		Division 11	Lighting Retrofit							
		Division 11	Tamper Proof Fixtures							
		Division 11	Submeter Installation							
		Division 11	EMS Upgrade and Expansion							
		Division 11	End Device Repair (EDR)							
13		South Campus Building No. 01	Lighting Retrofit							

Cook County Warranty Matrix by Building

Warranty Sign Off by Building	O&M Manual #	BUILDING	DESCRIPTION OF WORK	Warranty Start Date	Certificate of Substantial Completion	Punch List Completed	Certificate of Final Completion	Training Completed	Cook County Construction Permit	Comments
		South Campus Building No. 01	Submeter Installation							
		South Campus Building No. 01	Insulation							
14		South Campus Building No. 01	TRV Installation							
		South Campus Building No. 02	Lighting Retrofit							
		South Campus Building No. 02	Submeter Installation							
15		South Campus Building No. 02	EMS Upgrade and Expansion							
		South Campus Building No. 02	Insulation							
		South Campus Building No. 03	Lighting Retrofit							
		South Campus Building No. 03	Submeter Installation							
		South Campus Building No. 03	Insulation							
15		South Campus Building No. 03	TRV Installation							
		South Campus Building No. 04	Lighting Retrofit							
		South Campus Building No. 04	Submeter Installation							
17		South Campus Building No. 04	TRV Installation							
		South Campus Building No. 05	Lighting Retrofit							
		South Campus Building No. 05	Submeter Installation							
		South Campus Building No. 05	EMS Upgrade and Expansion							
18		South Campus Building No. 05	Insulation							
		JTDC East	Lighting Retrofit							
		JTDC East	EMS Upgrade and Expansion							
		JTDC East	End Device Repair (EDR)							
19		JTDC East	Install/Replace VFD's							
		JTDC West	Lighting Retrofit							
		JTDC West	EMS Upgrade and Expansion							
		JTDC West	End Device Repair (EDR)							
20		JTDC West	Install/Replace VFD's							
21		JTDC Parking Garage	LED Lighting Replacement							
22		Boot Camp	Solar Thermal Project							
		Cook County	Project Substantial -- ALL ECMs							
		Cook County	Project Final Acceptance -- ALL ECMs							

**Exhibit R**  
**Warranties**

**Warranty Overview**

ESCO will provide the following warranties, beginning upon Substantial Completion by Building, for each Energy Conservation Measure (ECM) implemented in the construction scope of work as defined in Table 2 below.

**Table 2 - ECM Warranty Summary**

<b>ECM Description</b>	<b>Warranty Period</b>
Lighting Systems: <ul style="list-style-type: none"> <li>• Lighting Retrofit</li> <li>• LED Lighting Replacement</li> <li>• Tamper Proof Fixtures</li> <li>• Additional Facilities Lighting Retrofit</li> </ul>	Workmanship is (1) years  Compact Florescent Lamps one (1) year material only, Linear florescent Lamps three (3) years material only, Ballasts: five (5) years material only, LED fixtures one (1) years parts
New Fire Tube Boilers	One (1) year on material and labor
New Chillers <ul style="list-style-type: none"> <li>• New Electric Chiller 5</li> <li>• Replace Electric Chiller 8</li> </ul>	One (1) year on material and labor
HVAC: <ul style="list-style-type: none"> <li>• Steam Trap Repair/Replace</li> <li>• Install/Replace VFDs</li> <li>• CAV to VAV AHU Modifications</li> <li>• Replace CHW Pumps</li> <li>• TRV Installation</li> <li>• Insulation</li> </ul>	One (1) year on material and labor.
EMS Upgrade and Expansion:	One (1) year on material and labor

End Device Repair (EDR)	One (1) year on material and labor
Solar Thermal Project	One (1) year on material and labor
Sub-meter Installation: <ul style="list-style-type: none"> <li>• Electric Meters</li> <li>• Steam Meters</li> <li>• Condensate Meters</li> <li>• Water Meters</li> <li>• CHW Bridge Calibration</li> </ul>	One (1) year on material and labor

**Warranty Service Call Process**

NORESCO maintains a nationwide toll-free 24-hour phone line for service, warranty, and emergencies. All service and warranty calls go through this service number in order to accurately track the progress of all calls to completion.

**NORESCO's Business Numbers and Operating Hours:**

**Regular Business Hours:** Monday through Friday  
8:00am to 5:00pm Eastern Standard Time

**24 Hour Emergency Service**  
In case of Emergencies, please contact the Operations Department at  
(877) NORESCO or 877-667-3726  
Call will be dispatched immediately

**Operations Department Numbers:**  
24 Hours / 7 days a week  
Toll Free Nationwide: (877) NORESCO or (877) 667-3726  
Service Fax Number: (508) 870-1732

**Incoming Warranty and Service Request Procedure**

In order to process a warranty and/or service request properly, the following information will be required; this will allow Operations to better assign the call to the appropriate Warranty service person:

- Name of person placing the call.
- Phone number where they can be reached.
- Location of facility and specific area (if applicable).
- Description of the problem or service needed.

- What was done by customer, before call was placed?
- When did the problem start?

Once all pertinent information has been received, a call slip number will be assigned; this will allow NORESKO to track the progress of the call. The County will be given this number for reference, if they need to call on the status of the request. The call will be evaluated and assigned to the appropriate person. Operations will then stay in touch with all parties, until request has been resolved. Once the call is resolved, the status of the call slip will be closed.

Upon completion of the construction phase the warranty service call process shall be as follows.

**Step 1).** Internal notification to the County of equipment outage or failure.

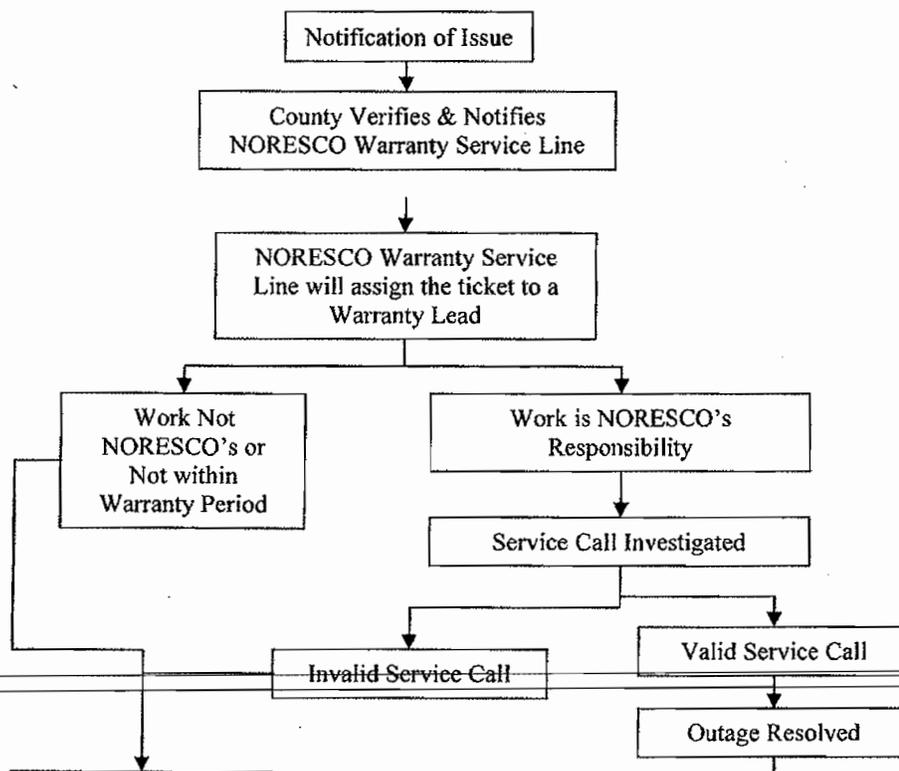
**Step 2).** The County is to confirm that work was performed by NORESKO and is still within the warranty period for NORESKO then the County is to call the NORESKO warranty service line listed above.

**Step 3).** NORESKO warranty service will assign the ticket to a warranty services person to verify that work was performed by NORESKO and is still within the warranty period for NORESKO.

**Step 4).** If the work is warranty work and still within the NORESKO warranty period, NORESKO will resolve the outage in a timely manner. Keep in mind that certain service work requires time to resolve (i.e. high areas requiring lifts or scaffolding, scheduling conflicts with occupants, long-lead material, etc.).

**Step 5).** The NORESKO warranty service person will notify the County of the warranty resolution.

*Figure 1 - Warranty Process Summary*



### **Access to Areas**

In order to resolve service calls in a timely manner, it is essential that access is granted to all required areas. County shall supply NORESKO and/or its delegates all necessary keys, access cards, alarm codes and/or escort as required to complete the work in a given area.

### **Invalid Calls**

Invalid service calls result from a service request wherein the cause of the outage is determined to be something other than faulty workmanship or faulty material on the part of the NORESKO's work, or if the item is no longer within the warranty period. If a service call is determined to be an invalid service call, the following rates may be charged to County.

- **Hourly Rate:** \$120/hour (1hour minimum)
- **Service Equipment / Subcontractors:** Actual Cost of any expenses incurred by the Contractor
- **Trip Charges:** Actual Cost as applicable

**Exhibit S**

**Modifications of Energy Audit Documents**

Modification 1: Revision of Table 2 – Cash Flow for Budget Neutral Program from Section IV Financial Analysis of the Investment Grade Energy Audit dated June 7, 2012. Reduced dollar value for O&M Savings, revised Table 1 below:

Year	Utility Savings	O&M Savings	Total Savings	Repayment of Lease	M&V Service	Steam Trap Audit	Total Cost	Net Cash Flow
1	\$ 2,126,598	\$ 86,930	\$ 2,213,528	\$ 1,994,846	\$ 112,149	\$ 18,169	\$ 2,125,164	\$ 88,364
2	\$ 2,188,671	\$ 89,538	\$ 2,278,209	\$ 2,084,274	\$ 82,851	\$ 18,759	\$ 2,185,884	\$ 92,325
3	\$ 2,252,585	\$ 92,224	\$ 2,344,809	\$ 2,144,887	\$ 85,543	\$ 19,369	\$ 2,249,799	\$ 95,010
4	\$ 2,318,393	\$ 94,990	\$ 2,413,383	\$ 2,207,287	\$ 88,324	\$ 19,998	\$ 2,315,609	\$ 97,774
5	\$ 2,386,154	\$ 97,840	\$ 2,483,994	\$ 2,271,532	\$ 91,194	\$ 20,648	\$ 2,383,374	\$ 100,620
6	\$ 2,455,926	\$ 100,775	\$ 2,556,701	\$ 2,337,673	\$ 94,158	\$ 21,320	\$ 2,453,151	\$ 103,550
7	\$ 2,527,769	\$ 103,799	\$ 2,631,568	\$ 2,405,772	\$ 97,218	\$ 22,012	\$ 2,525,002	\$ 106,566
8	\$ 2,601,746	\$ 106,913	\$ 2,708,659	\$ 2,475,881	\$ 100,378	\$ 22,728	\$ 2,598,987	\$ 109,672
9	\$ 2,677,919	\$ 110,120	\$ 2,788,039	\$ 2,548,064	\$ 103,640	\$ 23,466	\$ 2,675,170	\$ 112,869
10	\$ 2,756,358	\$ 113,424	\$ 2,869,782	\$ 2,622,383	\$ 107,008	\$ 24,229	\$ 2,753,620	\$ 116,162
11	\$ 2,837,130	\$ 116,826	\$ 2,953,956	\$ 2,698,902	\$ 110,486	\$ 25,017	\$ 2,834,405	\$ 119,551
12	\$ 2,920,304	\$ 120,331	\$ 3,040,635	\$ 2,777,687	\$ 114,077	\$ 25,830	\$ 2,917,594	\$ 123,041
13	\$ 3,005,953	\$ 123,941	\$ 3,129,894	\$ 2,858,807	\$ 117,784	\$ 26,669	\$ 3,003,260	\$ 126,634
14	\$ 3,094,152	\$ 127,659	\$ 3,221,811	\$ 2,942,329	\$ 121,612	\$ 27,536	\$ 3,091,477	\$ 130,334
15	\$ 3,184,980	\$ 131,489	\$ 3,316,469	\$ 3,028,330	\$ 125,565	\$ 28,431	\$ 3,182,326	\$ 134,143
16	\$ 3,278,512	\$ 135,434	\$ 3,413,946	\$ 3,116,880	\$ 129,645	\$ 29,355	\$ 3,275,880	\$ 138,066
17	\$ 3,374,831	\$ 139,497	\$ 3,514,328	\$ 3,208,055	\$ 133,859	\$ 30,309	\$ 3,372,223	\$ 142,105
18	\$ 3,474,025	\$ 143,682	\$ 3,617,707	\$ 3,301,941	\$ 138,209	\$ 31,294	\$ 3,471,444	\$ 146,263
19	\$ 3,576,176	\$ 147,992	\$ 3,724,168	\$ 3,398,611	\$ 142,701	\$ 32,311	\$ 3,573,623	\$ 150,545
20	\$ 3,681,375	\$ 152,432	\$ 3,833,807	\$ 3,498,152	\$ 147,339	\$ 33,361	\$ 3,678,852	\$ 154,955
Totals	\$56,719,557	\$2,335,836	\$59,055,393	\$ 53,922,291	\$ 2,243,740	\$500,811	\$56,666,842	\$2,388,551

Modification 2: Revision of Table 3 – O&M Savings from Section IV Financial Analysis of the Investment Grade Energy Audit dated June 7, 2012. Reduced dollar value for O&M Savings by ECM, revised Table 3 below:

<b>O&amp;M Savings by ECM</b>	
Lighting Retrofit	\$ 52,154
LED Lighting Replacement	\$ 23,200
Tamper Proof Fixtures	\$ 11,576
Additional Facilities Lighting Retrofit	\$ -
<b>Total Year 1 Savings</b>	<b>\$ 86,930</b>

Modification 3: Revision of Table 1 – Recommended Energy Conservation Measures of the Investment Grade Energy Audit dated June 7, 2012. Reduced total savings value due to the reduced O&M Savings value as outlined in Modifications 1 and 2 described above. Revised Table 1 below:

ECM	Price	Savings	Monthly Demand (Ann. kW)	Annual Elec. (Alt) (Ann. kW)	Electricity (kWh)	Nat. Gas (Therms)
Lighting Retrofit	\$ 6,013,000	\$ 572,457	16,948	1,016	8,165,101	(81,267)
LED Lighting Replacement	\$ 1,323,000	\$ 69,044	1,176	0	861,367	0
Tamper Proof Fixtures	\$ 2,643,000	\$ 26,476	150	13	49,600	(813)
New Fire Tube Boilers	\$ 5,895,000	\$ 613,067	0	0	0	859,063
Steam Trap Repair/Replace	\$ 575,000	\$ 80,626	0	0	0	112,978
New Electric Chiller 5	\$ 1,072,000	\$ 52,673	(4,174)	(712)	626,483	73,882
Replace Electric Chiller 8	\$ 1,596,000	\$ 78,919	1,196	168	902,132	23,585
Install/Replace VFD's	\$ 564,000	\$ 17,044	215	9	273,170	0
CAV to VAV AHU Modifications	\$ 1,453,000	\$ 69,156	1,794	54	1,034,573	0
EMS Upgrade and Expansion	\$ 5,959,000	\$ 328,191	(11)	0	3,709,906	153,558
End Device Repair (EDR)	\$ 1,965,000	\$ -	0	0	0	0
Replace CHW Pumps	\$ 424,000	\$ 7,777	90	10	122,604	0
TRV Installation	\$ 412,000	\$ 59,197	0	0	0	82,950
Insulation	\$ 246,000	\$ 23,875	0	0	0	33,456
Solar Thermal Project	\$ 209,000	\$ 2,837	0	0	0	3,975
Add'l Facilities Lighting Retrofit	\$ 2,918,000	\$ 212,189	5,748	192	3,220,647	(6,196)
Submeter Installation	\$ 896,000	\$ -	0	0	0	0
New Pumps for New Electric Chiller 5	\$ 65,000	\$ -	0	0	0	0
<b>Totals</b>	<b>\$ 34,228,000</b>	<b>\$ 2,213,528</b>	<b>23,133</b>	<b>749</b>	<b>18,965,582</b>	<b>1,255,171</b>

Modification 4: Addition of Project Weighted Expected Service Life table. The "Life Expectancy" column of this table has been modified and is different than the "Life Expectancy" column in Table 1 – Budget Neutral Program in Section II Financial Analysis of the Phase 1 Investment Grade Energy Audit dated June 7, 2012

#	ECM	Expected Service Life	Price	% of Project	Weighted Expected Service Life
1	Lighting Retrofit	15	\$ 6,013,000	18%	3 Yrs
2	LED Lighting Replacement	15	\$ 1,323,000	4%	1 Yrs
3	Tamper Proof Fixtures	20	\$ 2,643,000	8%	2 Yrs
4	New Fire Tube Boilers	35	\$ 5,895,000	17%	6 Yrs
5	Steam Traps Repair/Replace	20	\$ 575,000	2%	0 Yrs
6	New Electric Chiller 5	25	\$ 1,137,000	3%	1 Yrs
7	Replace Electric Chiller 8	25	\$ 1,596,000	5%	1 Yrs
8	Install/Replace VFD's	20	\$ 564,000	2%	0 Yrs
9	CAV to VAV AHU Modifications	20	\$ 1,453,000	4%	1 Yrs
10	EMS Upgrade and Expansion	20	\$ 5,959,000	17%	3 Yrs
11	End Device Repair (EDR)	20	\$ 1,965,000	6%	1 Yrs
12	Replace CHW Pumps	20	\$ 424,000	1%	0 Yrs
13	TRV Installation	20	\$ 412,000	1%	0 Yrs
14	Insulation	20	\$ 246,000	1%	0 Yrs
15	Solar Thermal Project	20	\$ 209,000	1%	0 Yrs
16	Add'l Facilities Lighting Retrofit	15	\$ 2,918,000	9%	1 Yrs
17	Submeter Installation	30	\$ 896,000	3%	1 Yrs
<b>Totals</b>			<b>\$ 34,228,000</b>	<b>100%</b>	<b>22 Yrs</b>

## Exhibit T

### Standards of Service

The scope of work described in Exhibit C includes installing zone-level temperature sensors in CCAB, CCB and JTDC – West. These expansions of the existing Energy Management System (EMS) will allow for the monitoring, but not the control, of space temperatures in the buildings via the respective buildings' digital control systems (i.e. terminal boxes will continue to be controlled by the existing pneumatic control systems). The monitored space temperature information will be used to cycle the Air Handling Units (AHUs) during unoccupied periods. This will be done by shutting off the units at the start of the building's unoccupied period, and allowing the building temperatures to reset to their unoccupied heating and cooling setpoints. Once those temperatures are reached, the AHUs will turn on periodically to maintain space conditions.

Because the control system changes included in this Contract do not include new controls for the zone-level valves and dampers, the temperature setpoints and system operation during occupied periods will not change and the ESCO cannot guarantee that specific standards of service will be maintained. However the intent is to maintain the existing occupied temperature setpoints that were identified during the IGA. To document the existing temperature setpoints in the buildings, NORESO installed data loggers in several building spaces for approximately three weeks. The following Occupied Setpoints and hours of operation are averages of the existing temperature setpoints and occupied hours identified during the IGA. These temperature setpoints and schedules of operation were the basis of the savings calculations. Any deviations to these setpoints and schedules may result in changes to the utility consumption and may require adjustments to the Guaranteed Energy Savings.

#### Set Points for AHU Cycling CCAB

	Heating Setpoint	Cooling Setpoint	Hours
<b>Occupied</b>	72F	76F	4AM – 7PM, 5 Days / Week
<b>Unoccupied</b>	64F	80F	Balance of Hours

#### Set Points for AHU Cycling CCB

	Heating Setpoint	Cooling Setpoint	Hours
<b>Occupied</b>	70F	76F	5AM – 9PM, 5 Days / Week
<b>Unoccupied</b>	64F	80F	Balance of Hours

#### Set Points for AHU Cycling JTDC - West

	Heating Setpoint	Cooling Setpoint	Hours
<b>Occupied</b>	72F	76F	4AM – 9PM, 5 Days / Week

<b>Unoccupied</b>	65F	80F	<b>Balance of Hours</b>
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## Exhibit U

### Commissioning Plan

The primary objective of the Commissioning Plan is to define how NORESKO confirms that all individual pieces of equipment and integrated systems are correctly installed for performance in conformance with the project design. Although there are different approaches to commissioning, the fundamental process provides quality assurance to confirm that each of the following standards are met for all equipment included in the project:

1. The products and components selected and installed meet project design criteria.
2. Products and components are installed in accordance with the engineer's and manufacturer's recommendations and design criteria.
3. Products and components are capable of meeting their published performance criteria.
4. If the project includes a system of several products and components, the integrated system is installed in accordance with the engineer's design criteria.
5. If the project includes a system of several products and components, the integrated components are interacting in accordance with the engineer's design criteria.
6. Full components and systems operation and service instructions are contained in the Operations and Maintenance (O&M) Manuals.
7. The facility training plan includes items that need to be discussed and reviewed with facility personnel in order for the project to continue to perform.

Detailed commissioning tasks and requirements will be identified in commissioning specifications. These specifications are developed by NORESKO using an approach customized to the complexity of each piece of equipment and the technology involved.

The Commissioning Team will use the specifications to coordinate individual commissioning tasks and ensure that appropriate commissioning test forms are generated and completed to cover all items requested. The specifications for the ECMs included in this project follow and include:

- 1- Lighting Retrofit
- 2- New Fire Tube Boilers
- 3- Steam Trap Replacement
- 4- New Electric Chiller
- 5- Replace VFD's
- 6- CAV to VAV AHU Conversion

- 7- EMS Upgrade and Expansion
- 8- Replace CHW Pumps
- 9- Solar Thermal Project
- 10- Submeter Installation

The procedures included within the attached specifications included with this section are only intended to show the degree of rigor used during the NORESKO commissioning process. Final commissioning requirements may change during final design based on equipment selection, onsite conditions, and individual manufacturer requirements.

Upon completion of project commissioning, the NORESKO Commissioning Agent will perform a final quality control check of all commissioning documents and support the submission of project close out documents. The commissioning submittals will contain all relevant commissioning documentation collected during the project, such as completed checklists, test forms, startup sheets, balance reports, and acceptance forms. Descriptions of any abnormalities or unusual observations will also be included.

## **LIGHTING RETROFIT**

### **1. GENERAL REQUIREMENTS**

- A) Verify that all lighting retrofit components match project specifications.
- B) Confirm that all post retrofit group light levels have been reduced or raised appropriately to meet IES standards.
- C) Document dates, times, operating conditions and names of parties involved with any tests performed.
- D) Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- E) Document procedures, forms and submissions required to initiate & maintain manufacturer's warranty.
- F) Provide written copies of all applicable Operation & Maintenance instructions.
- G) List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- H) Document all training provided with names and signatures of parties who received training.

### **2. ELECTRICAL ITEMS**

- A) Any non-permanent or disposable batteries have been installed and tested and all battery locations, types, and recommended replacement intervals have been documented.
- B) Emergency egress and exit lights have been tested for proper sequencing from normal to emergency mode on battery and/or emergency power as applicable.
- C) Confirm all battery condition pilot lights and test switches are fully functional.

### **3. MECHANICAL AND PHYSICAL ITEMS**

- A) Verify that new fixtures and/or existing fixture retrofit kits have been installed per specifications.
- B) If applicable, confirm support posts or brackets are adequately sized for weight of replacement fixture.
- C) If exterior installation, ensure enclosure penetrations are watertight and/or do not void weather rating.
- D) During operation, check that all fixtures and ballast are free of abnormal vibration or unusual noises.
- E) Confirm equipment, component, and device labels, tags or signs have been installed per specifications.

## **NEW FIRE TUBE BOILERS**

### **1. GENERAL REQUIREMENTS**

- a. Verify that boiler was constructed, shipped and installed with all options specified. (high efficiency burner, EMS control interface, stack economizer, safety devices, etc.)
- b. Provide a complete list of all boiler nameplate data and serial number(s). (This should include any available pressure vessel and burner motor data.)
- c. Document dates, times, operating conditions and names of parties involved with any tests performed.
- d. Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- e. Document procedures, forms and submissions required to initiate and maintain manufacturer's warranty.
- f. Provide written copies of all applicable Operation & Maintenance instructions.
- g. Ensure that a Boiler Log Book has been established using a factory recommended format to record all critical operating parameters during Boiler operation.
- h. Document that all Boiler manufacturer recommended start-up and check-out procedures have been completed by an authorized technician and documented on the manufacturer's forms.
- i. List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- j. Document all training provided with names and signatures of parties who received training.

### **2. ELECTRICAL ITEMS**

- a. Confirm wiring has been completed and protection devices, (low limits, high limits, operating controls, draft sensors, smoke detectors, fusible links, etc.), have been installed to meet applicable codes and specifications for the boiler installed.
- b. Verify all disconnect and/or H-O-A switches have been installed and tested. Hand=On, Off=Off, Auto=EMS state.
- c. Check all fans, blowers, burners and pumps for proper rotation. If a VFD controls any components, ensure rotation is correct in both VFD and bypass modes.
- d. If applicable, ensure emergency power has been provided to boiler and all ancillary equipment and controls that are required for unit to operate as intended during emergency mode.
- e. Measure and document motor voltage and amperage of all fans, blowers, burners, and pumps under normal operating conditions to establish an operating baseline and ensure they are within manufacturer's specifications.

### **3. CONTROL ITEMS**

- a. Confirm proper operation of all automated valves, operating controls, level controls, limit controls, feed water pump controls, low water cutouts, automatic blow down sensors, remote alarms, remote start/stop controls, remote pressure controls, etc.
- b. Test operation of all protection and safety devices, (pre-purge, over-temp, over-pressure, low water, post-purge, power failure, etc.), and associated alarms to ensure they have been adjusted per specifications and meet facility standard operating procedures.
- c. Document all programming settings and test results for safety protection devices.
- d. Verify proper operation of all EMS interfaces with Boiler (remote setpoint adjustment, remote start/stop, alarm monitoring, efficiency monitoring, etc.), if applicable.
- e. Check boiler modulating control through full operating range to verify that pressures and temperatures are maintained within acceptable tolerances, especially during load changes.
- f. Confirm that any continuous trim or closed loop burner controls have been calibrated and are maintaining desired setpoints. Document all settings and programming values.
- g. If Boiler is controlled by a Lead/Lag and Staging control panel, confirm that boiler responds to control panel commands and follows approved sequence of operations.
- h. Ensure all hot stand-by or lag boiler pre-heat controls are working per specified sequence of operations, document all settings and adjustments.

### **4. MECHANICAL AND PHYSICAL ITEMS**

- a. Verify that the boiler has been installed and supported, (housekeeping pads, vibration isolators, seismic restraints, etc.), per specifications.
- b. Review piping connections and accessories for installation issues that might prevent the boiler from operating properly, (check valves, discharge header, flue piping, clearances, etc.).
- c. Confirm that discharge header on steam boilers meets manufacturer recommendations to minimize any possibility of boiler water carryover.
- d. Ensure burner motor, jackshafts, and operating cams, if applicable, have been lubricated, aligned, and/or tensioned to manufacturer specifications.
- e. On oil-fired units, confirm all pumps, piping, heaters, regulators, accessories and filters meet specifications. Ensure oil pump and drive have been aligned and/or tensioned to specifications.
- f. Check to see that all enclosures, shrouds, guards or access panels are securely in place.
- g. Confirm adequate clearances exist for routine service of all motors, controls, dampers, valves, burner tubes, sight glasses, etc.
- h. Ensure all boiler piping and piping accessories, (strainers, control valves, check valves, mixing valves, balance valves, etc.) have been installed per specifications and are free of leaks.

- i. Document size, setting, and capacity of all pressure relief or combination temperature and pressure relief valves or devices. Ensure all devices are located and piped per specifications.
- j. Check all access ports, hand-holes, manholes, and removable doors for proper sealing.
- k. Confirm all specified access doors or access panels have been provided for routine service.
- l. Verify all thermal insulation and sound attenuation has been installed per specifications.
- m. Review location and sizing of combustion air dampers and louvers, if applicable, to ensure they are adequately sized and do not pose a risk of dumping unconditioned air on unprotected piping. Confirm that dampers open and close as required by sequence of operations.
- n. Test Boiler discharge isolation valves and check valves, if applicable, to ensure they properly seal against normal system operating pressure.
- o. Document that all burner nozzles and combustion air baffles, if applicable, meet manufacturer recommendations for all fuel sources available and boiler elevation above sea level.
- p. Confirm there are no abnormal noises or pulsations during part and full load operation and that sight glasses are free of abnormal foaming or bouncing.
- q. Check that all boiler blow down systems, (slow-acting, quick-acting, and continuous), have been tested under operating temperature and pressure.
- r. If a blow-down cooler or tempering device has been installed, ensure that it has been adjusted to maintain discharge temperatures within specified range. Document final settings.
- s. Test all soot blowers or on-line cleaning aids to confirm they are working per manufacturer recommendations and do not adversely affect Boiler operation.
- t. Review all pressure gauge and temperature sensor locations to ensure they can be read from floor level and are of proper scale or range for medium being measured.
- u. Verify breeching and flue piping is installed and insulated per specifications and that discharge configuration meets manufacturer recommendations.
- v. Confirm Boiler and associated piping has been cleaned per specifications and chemical treatment program has been initiated per manufacturer recommendations.
- w. Document actual temperature differential across any stack economizers, heat exchangers, superheaters, etc. to establish an operating baseline and ensure they are within manufacturer's recommendations.
- x. Measure and document operating temperatures and pressures, fuel pressure, fuel flow, stack temperatures and boiler efficiency with all available fuels to establish an operating baseline and ensure they are within manufacturer's specifications.
- y. Confirm equipment, component, and device labels, tags or signs have been installed per specifications.

## **STEAM TRAP REPLACEMENT**

### **1. GENERAL REQUIREMENTS**

- a. Verify that each Steam Trap was constructed, shipped and installed with all options specified. (Orifice size, inlet strainer, leak detector, check valve, sight glass, isolation valves, etc.)
- b. Provide a complete list of all Steam Trap nameplate data and serial number(s).
- c. Document dates, times, operating conditions and names of parties involved with any tests performed.
- d. Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- e. Document procedures, forms and submissions required to initiate and maintain manufacturer's warranty.
- f. Provide written copies of all applicable Operation & Maintenance instructions.
- g. List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- h. Document all training provided with names and signatures of parties who received training.

### **2. MECHANICAL AND PHYSICAL ITEMS**

- a. Confirm that appropriate type trap (Inverted Bucket, Float & Thermostatic, Orifice, etc.) was installed for the type of equipment or service performed.
- b. Where applicable, document that the trap orifice or metering components match the sizes indicated in the specification for the particular piece of equipment or service.
- c. Inspect Steam Trap and adjacent piping from trapped device through to condensate return header to verify Steam Trap has been installed, oriented, and supported per specifications.
- d. Ensure all shipping blocks or temporary supports have been removed prior to start-up.
- e. Inspect Steam Trap and accessories for any physical damage to components.
- f. Confirm all piping to and from Steam Trap has been properly supported and pitched.
- g. Verify adequate clearances exist for routine service of renewable components.
- h. Check that all piping accessories, (strainers, isolation valves, check valves, etc.), have been installed per specifications and that the completed system is free of leaks.
- i. Verify all thermal insulation, if applicable, has been installed or replaced per specifications.
- j. Ensure Steam Trap has been primed, if necessary, and all fill ports specified for continued preventive maintenance have been installed.
- k. Verify piping to and from the Steam Trap has been cleaned per specifications and chemical treatment program has been initiated per manufacturer recommendations.

- l. Check Steam Trap in operation to see if it is cycling as expected and, if possible, confirm the equipment served by the steam trap is operating, (Heating, Sterilizing, etc.), as designed.
- m. Confirm Steam Trap labels, tags or signs have been installed per specifications.

## **NEW ELECTRIC CHILLERS**

### **1. GENERAL REQUIREMENTS**

- a. Verify Chiller was constructed, shipped and installed with all options specified, (compressor type, refrigerant type, EMS control interface, safety devices, etc.).
- b. Provide a complete list of all Chiller nameplate data and serial number(s). (This should include any available motor, compressor and heat exchanger data.)
- c. Document dates, times, operating conditions and names of parties involved with any tests performed.
- d. Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- e. Document procedures, forms and submissions required to initiate and maintain manufacturer's warranty.
- f. Provide written copies of all applicable Operation & Maintenance instructions.
- g. Document that all Chiller manufacturer recommended start-up and check-out procedures have been completed by an authorized technician and documented on the manufacturer's forms.
- h. Ensure that a Chiller Log Book has been established using a factory recommended format to record all critical operating parameters during chiller operation.
- i. List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- j. Document all training provided with names and signatures of parties who received training.

### **2. ELECTRICAL ITEMS**

- a. Confirm wiring has been completed and protection devices, (fuses, heaters, breakers, etc.), have been installed to meet applicable codes and specifications for the Chiller installed.
- b. Verify all disconnect and/or H-O-A switches have been installed and tested. Hand=On, Off=Off, Auto=EMS state.
- c. If applicable, ensure emergency power has been provided to the Chiller and all ancillary equipment and controls that are required for unit to operate as intended during emergency mode.
- d. Ensure all pilot lights, control switches, touchpad's and operating displays are fully functional.
- e. Confirm all sump or crankcase heaters are operating per manufacturer recommendations.
- f. Measure and document no load, normal load and full load voltages, power factors, and amperages to establish an operating baseline and ensure they are within manufacturer's specifications.

### **3. CONTROL ITEMS**

- a. Confirm proper operation of all EMS interfaces with Chiller (remote setpoint adjustment, remote start/stop, alarm monitoring, demand limiting, etc.).
- b. Test operation of all safety or protection devices, (pressure, flow, temperature, voltage, amperage, refrigerant, etc.), to ensure they have been adjusted or programmed to meet specifications and are operating as intended.
- c. Document that Chiller Control Panel has been programmed for the specific chiller purchased as well as the actual Chiller Plant configuration, (Constant Flow, Variable Flow, etc.).
- d. Confirm all user-defined parameters have been reviewed by Chiller Technician, Controls Contractor and Customer representative to ensure they are compatible with facility standard operating procedures.
- e. Verify Chiller failure modes, (power failure, automatic restart, etc.), have been reviewed with Customer representative to ensure they meet facility Standard Operating Procedures.
- f. Test all anticipated Chiller failure modes, if possible, and document test results.
- g. Confirm and document that all minimum and maximum operating flows have been identified and adjusted within limits during Test and Balance.
- h. If applicable, document that all remote monitoring or EMS network interfaces with Chiller Control Panel operating parameters, faults, or alarms have been tested and calibrated.
- i. Verify proper operation of all unique controls or features that were specified to have been provided with Chiller Control Panel, (Lead/Lag, Load Balance, Hot Gas By-Pass, etc.).
- j. If applicable, enable password protection of Chiller Control Panel programming and confirm password matrix of access levels and privileges has been approved and implemented per Customer requirements.
- k. Provide list of all Chiller Control Panel programming parameters and settings.
- l. Confirm the control sequencing for all ancillary equipment, (chilled and condenser water pump start/stop, cooling tower interlock, etc.) meets specifications and desired control sequences.

### **4. MECHANICAL AND PHYSICAL ITEMS**

- a. Verify that the Chiller has been installed and supported, (Housekeeping pads, vibration isolators, seismic restraints, etc.), per specifications.
- b. If unit has an external drive motor, ensure compressor motor and drive components have been aligned per Chiller Manufacturer specifications.
- c. Check to see that all enclosures, shrouds, guards or access panels are securely in place.
- d. Confirm adequate clearances exist for routine service of all motors, controls, heat exchanger tubes, strainers, valves, etc.
- e. Ensure all Chiller piping and piping accessories, (strainers, control valves, flow switches, balance valves, Pete's plugs, etc.) have been installed per specifications and are free of leaks.

- f. Verify all thermal insulation and sound attenuation has been installed per specifications.
- g. Confirm refrigerant purge unit, if applicable, is operating correctly. Verify that refrigerant relief piping is installed per manufacturer's requirements and vented outside.
- h. If possible, test Chiller under potential surge conditions to ensure that automatic surge protection devices, (variable diffusers, load limiting algorithms, etc.), are functioning.
- i. Confirm there are no abnormal noises, vibrations during part and full load operation.
- j. Review all pressure gauge and temperature sensor locations to ensure they can be read from floor level and are of proper scale or range for medium being measured.
- k. Verify piping to and from the chiller has been cleaned per specifications and chemical treatment program has been initiated per manufacturer recommendations.
- l. Confirm equipment, component, piping, and device labels, tags or signs have been installed per specifications or painted per applicable color code.
- m. Measure and document no load, normal load and full load pressures, temperatures, and flows to establish an operating baseline and ensure they are within manufacturer's specifications.

## REPLACE VFD'S

### 1. GENERAL REQUIREMENTS

- a. Verify that drive was constructed, shipped and installed with all options specified. (Manual or Electronic By-Pass, Line Reactors, Manual Speed Control, etc.)
- b. Provide a complete list of all VFD, (and By-Pass if applicable), nameplate data and serial number(s).
- c. Document dates, times, operating conditions and names of parties involved with any tests performed.
- d. Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- e. Document procedures, forms and submissions required to initiate & maintain manufacturer's warranty.
- f. Provide written copies of all applicable Operation & Maintenance instructions.
- g. List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- h. Document all training provided with names and signatures of parties who received training.

### 2. ELECTRICAL ITEMS

- a. Confirm wiring has been completed and protection devices, (fuses, heaters, breakers, etc.), have been installed to meet applicable codes and specifications for VFD installed.
- b. Measure cable length between drive output and motor terminal and confirm that it does not exceed specified minimum without approved compensating filtration.
- c. Verify all disconnect and/or H-O-A switches have been installed and tested. Hand=On, Off=Off, Auto=EMS state.
- d. If a service disconnect is installed between the VFD and motor, confirm that disconnect has been provided with specified supervisory relays and that interlock wiring has been completed to prevent VFD from operating if disconnect switch is opened.
- e. Ensure all pilot lights, control switches, touchpads and operating displays are fully functional.
- f. Document that unit has been programmed for the specific type of equipment, (Fan, Pump, Conveyor, etc.), and motor (Volts, Phase, Amps, etc.), it serves.
- g. Confirm user-defined ramp times have been reviewed with Controls Contractor and Customer representative to ensure they are compatible with facility Standard Operating Procedures.
- h. Verify drive failure modes, (Power failure, Restart, Automatic By-Pass engage, etc.), have been reviewed with Customer representative to ensure they meet facility Standard Operating Procedures.

- i. Check and document that all Drive failure modes and By-Pass modes have been tested.
- j. Confirm and document that all minimum operating speeds have been identified and programmed.
- k. Document that remote start/stop, operating control, & feedback signals have been tested and calibrated.
- l. If applicable, document that all remote monitoring or EMS network interfaces with drive operating parameters, faults or alarms have been tested and calibrated.
- m. Ensure all critical speeds have been identified, blocked by programming, and labeled on drive.
- n. If applicable, enable password protection of drive programming and confirm password matrix of access levels and privileges has been approved and implemented per Customer requirements.
- o. Provide list of all VFD and By-Pass programming parameters and settings.
- p. Document that all factory recommended start-up and check-out procedures have been completed.
- q. Verify motor rotation, in both Drive and By-Pass modes if applicable, has been checked prior to connecting coupling or belt drives.
- r. Measure and document no load, normal load and full load voltages, power factors, and amperages to establish an operating baseline and ensure they are within manufacturer's specifications.

### **3. MECHANICAL AND PHYSICAL ITEMS**

- a. Verify motor has been installed and drive components are aligned per specifications.
- b. Ensure all bearings or gearboxes have been checked for proper type and quantity of lubricant.
- c. Check to see that all enclosures, shrouds and guards for rotating equipment are in place.
- d. During operation, verify motor is free of abnormal vibration or unusual noises.
- e. Confirm adequate clearances exist for VFD cooling air and routine service.
- f. Ensure drive location is not subject to temperatures beyond manufacturer's published operating limits.
- g. Verify drive location is not subject to excessive moisture, spray, or dirt.
- h. If exterior installation, confirm enclosure penetrations are watertight and/or do not void weather rating.
- i. If drive is replacing another form of flow or capacity modulation, (Inlet guide vanes, By-pass valve, etc.), document original devices were removed and/or decommissioned as outlined in specifications.
- j. Confirm equipment, component, and device labels, tags or signs have been installed per specifications.

## **EMS UPGRADE AND EXPANSION**

### **1. GENERAL REQUIREMENTS**

- a. Provide an outline of individual EMS test forms to show how testing will be completed for each component within the EMS and ensure that all components are fully commissioned.
- b. Outline should cover logical portions of EMS and indicate items tested, (Operator Workstation, AHU Point-to-Point Checkout, Existing Components, CHW Sensor Calibration Sheets, etc.)
- c. Document dates, times, operating conditions and names of parties involved with any tests performed.
- d. Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- e. Verify EMS components were constructed, shipped and installed with all options specified. (Manual HOA Transducer Outputs, Workstation Data Backup, Pneumatic Valve Positioners, etc.)
- f. Document procedures, forms and submissions required to initiate & maintain manufacturer's warranty.
- g. Provide written copies of all applicable Operation & Maintenance instructions.
- h. List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- i. Document all training provided with names and signatures of parties who received training.
- j. Provide list of all EMS Nameplate Data, Software and Firmware Versions, and Serial Numbers.
- k. As-built points lists shall include description of all equipment served, point descriptors, point numbers, wire numbers, pneumatic tube numbers, and location of each wire and tube termination.
- l. Document EMS architecture, network and location of all components and network cables.
- m. List the specific types and locations of all spare points required by project specifications.
- n. Provide a troubleshooting logbook by the Operator Workstation for use by facility operators and EMS technicians to document facility issues and contractor responses to ongoing fine-tuning.

### **2. ELECTRICAL ITEMS**

- a. Confirm wiring has been completed and protection devices, (fuses, heaters, breakers, etc.), have been installed to meet applicable codes and specifications for EMS components installed.
- b. Ensure wire or panel grounding and shielding has been checked and meets device specifications.

- c. Provide convenience receptacle for 120v power inside control panel per specifications.
- d. Verify all disconnect and/or H-O-A switches have been installed and tested. Hand=On, Off=Off, Auto=EMS state. If H-O-A switch is to be wired in series with isolation valve end switch, verify this interlock has been wired and is working correctly as well.
- e. Verify all pilot lights, control switches, touchpads and operating displays are fully functional.
- f. Document remote start/stop, operating control, and feedback signals have been tested and calibrated.
- g. Document all sensors have been calibrated and ranges match system or medium to be measured.
- h. Document all feedback or proof devices, (flow switches, pressure switches, current sensors, valve end switches, etc.), have been calibrated and tested for system or equipment monitored.
- i. Document all outputs and transducers have been calibrated and ranges match devices to be controlled.
- j. If applicable, verify interface and monitoring of any OEM equipment, (Variable Frequency Drive, Chiller Control Panel, etc.), operating parameters, faults or alarms have been completed and tested.
- k. Confirm any VFD critical speeds have been identified, blocked by programming, and labeled on drive.
- l. Ensure EMS factory recommended start-up and check-out procedures have been completed.
- m. Any non-permanent or disposable batteries have been installed and tested and all battery locations, types, and recommended replacement intervals have been documented.
- n. If applicable, document remote monitoring of EMS through dial-up or Internet connection has been completed and tested with lists of all phone numbers, modem settings, IP addresses, passwords, etc.

### **3. PNEUMATIC ITEMS**

- a. If applicable, confirm that existing control air compressor has sufficient reserve capacity to handle new EMS components without excessive cycling or run times.
- b. If applicable, ensure new control air compressor has been constructed and installed per specifications.
- c. Verify all control air filters, dryers and regulators have been checked for adequate sizing, are free of audible leaks, and all disposable or replaceable elements have been serviced.
- d. Document all new tubing and piping has been installed and pressure tested per specifications.
- e. Confirm pressure gauges have been installed on main supply line, at pressure reducing stations, at entrance to all panels, on transducer branch lines, and at end devices as required by specifications.
- f. Check and adjust control air supply pressure under normal load at all pressure reducing stations.

- g. Document that spring ranges of all end devices and pilot positioners have been tested, calibrated and permanently marked on each controlled end device per specifications.

#### 4. PROGRAMMING AND SOFTWARE ITEMS

- a. Document EMS programming sequences and strategies implemented for each piece of equipment and provide electronic copies and/or firmware of actual programming code on site for crash recovery.
- b. Provide lists of all user defined system variables, (occupancy schedules, reset schedules, changeover setpoints, control loop tuning parameters, etc.), to facilitate future modifications and fine-tuning.
- c. Collect and print trends for all dynamic control loops to demonstrate proper control, (timely and smooth response, lack of hunting, close to setpoint, minimal overshoot, etc.), over each range of system loads, (weather conditions, start-up, shut-down, etc.), encountered during normal operation.
- d. If applicable, review graphic screens to ensure they accurately reflect all equipment and systems controlled, include output ranges for controlled devices, have sufficient transfers or links to quickly navigate through related subsystems, and include narrative explanation of any non-intuitive sequences.
- e. If applicable, enable password protection of EMS programming and confirm password matrix of access levels and privileges has been approved and implemented per Applicable requirements.
- f. Provide copies of programming code, software settings, and software addresses for all field devices.
- g. Verify user-defined ramp times, staging sequences and lead lag have been reviewed with Customer representative to ensure they are compatible with facility Standard Operating Procedures.
- h. Confirm that all EMS and Equipment failure modes, (Power Failure, Sensor Failure, Pump Failure, Signal or Communication Loss, Freezestat, etc.), and alarm responses have been reviewed with Customer representative to ensure they meet facility Standard Operating Procedures.
- i. Document that all EMS and controlled equipment failure modes and alarms have been tested.
- j. Check that all minimum operating speeds for VFD controlled equipment have been programmed.
- k. Confirm all devices with clocks or calendar functions have been checked for proper dates and times.
- l. Verify all programming code has been synchronized between field panels and Operator Workstation.
- m. Check that any intermediate or test versions of programming code saved for future reference or re-use have been clearly labeled and moved to separate folders so they are not errantly re-loaded on EMS.

- n. Ensure a document control system is defined, documented and in place for software and firmware revisions and upgrades and that operating and maintenance staff have been trained in its application.

## **5. MECHANICAL AND PHYSICAL ITEMS**

- a. Confirm all equipment subject to automatic start/stop control by EMS has been reviewed with Customer representative to ensure that equipment is properly labeled and life safety protection measures, (horns, lights, etc.), are compatible with facility Standard Operating Procedures.
- b. Verify that adequate clearances exist around all components for cooling air and routine service.
- c. Review component locations to ensure they are not subject to temperatures beyond manufacturer's published operating limits.
- d. Check that panel and enclosure locations are not subject to excessive moisture, spray, or dirt.
- e. If exterior installation, confirm enclosure penetrations are watertight and/or do not void weather rating.
- f. If EMS scope includes converting flow or capacity modulation to a new strategy, (Inlet guide vanes to VFD, Three way valve to Two-way valve, etc.), document that original flow control devices have been removed and/or decommissioned as outlined in specifications.
- g. Check that valves and sensors are free of leaks and all valve packings have been adjusted.
- h. Document all sensor locations and inputs have been tested to ensure that readings are stable and accurately reflect medium being measured, (no stratification, excessive pulsations, system effects, etc.).
- i. Confirm locations of devices in occupied spaces have been checked to be free of interference from furnishings or Customer owned equipment, (Printers, Computers, Copiers, etc.).
- j. Document all flow control devices, (Valves, Dampers, etc.), have been tested through full range of motion to ensure complete shut off when closed, unrestricted flow when open, and smooth operation.
- k. Confirm equipment, component, and device labels, tags or signs have been installed per specifications.

## **REPLACE CHW PUMPS**

### **1. GENERAL REQUIREMENTS**

- a. Verify that pump and motor were constructed, shipped and installed with all options or accessories called for in project specifications, (Mechanical Seal Type, Triple Duty Valves, Suction Diffuser, etc.).
- b. Provide a complete list of all pump and motor nameplate data and serial numbers. (This should include all available hydronic data such as Impellor Size, GPM, Head, NPSH requirement, etc.)
- c. Document dates, times, operating conditions and names of parties involved with any tests performed.
- d. Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- e. Document procedures, forms and submissions required to initiate & maintain manufacturer's warranty.
- f. Provide written copies of all applicable Operation & Maintenance instructions.
- g. Include pump performance curves and design selection point for inclusion in as-built documents.
- h. Document that all factory recommended start-up and check-out procedures have been completed.
- i. List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- j. Document all training provided with names and signatures of parties who received training.

### **2. ELECTRICAL ITEMS**

- a. Confirm wiring has been completed and protection devices, (fuses, heaters, breakers, etc.), have been installed to meet applicable codes and specifications for new motor installed.
- b. Verify all disconnect and/or H-O-A switches have been installed and tested. Hand=On, Off=Off, Auto=EMS state.
- c. Check motor rotation, if applicable, has been checked prior to connecting coupling or belt drive.
- d. If applicable, ensure that emergency power has been provided to pump and all ancillary equipment or controls that are required for unit to operate as intended during emergency mode.
- e. Measure and document no load, normal load and full load voltages, amperages and power factor to establish an operating baseline and ensure they are within manufacturer's specifications.

- f. Check motor operating temperature under full load to confirm it is within manufacturer's limits.

### **3. MECHANICAL AND PHYSICAL ITEMS**

- a. Verify that pump has been installed and supported, (Housekeeping pads, vibration isolators, seismic restraints, etc.), per specifications.
- b. Document that pump and motor have been aligned, grouted, or doweled per specifications.
- c. Confirm all piping has been completed per specifications and drawing details, (Strainers, Balance Valves, Gauges, Thermometers, Flex Connectors, Test Ports, EMS Sensors, Insulation, etc.).
- d. Ensure that any required system over-pressure protection devices have been installed and match the sizes and settings called for in the specifications.
- e. Verify that system operating fluid has been properly tested and treated.
- f. Confirm all Rotating Parts are found to be free and smooth when turned by hand.
- g. Ensure that both pump and motor have been lubricated, if necessary.
- h. If belt driven, confirm that belts have been installed and tensioned per specifications.
- i. Check to see that all guards, shields and protective covers have been installed.
- j. During operation, verify pump and motor are free of abnormal vibration or unusual noises.
- k. If a variable speed application, ensure pump and motor are free of vibration or unusual noises through entire range of operating speeds.
- l. During operation, confirm that pump and associated piping are free of abnormal leaks.
- m. If applicable, ensure that seal or stuffing box flushing fluids are adjusted per specifications.
- n. Document that required NPSH is available at pump during all operating speeds and system flows.
- o. Verify adequate clearances exist for motor cooling air and routine service of pump.
- p. Review all pressure gauge and temperature sensor locations to ensure they can be read from floor level and are of proper scale or range for medium being measured.
- q. Confirm equipment, component, and device labels, tags or signs have been installed per specifications.

## **SOLAR THERMAL PROJECT**

### **1. GENERAL REQUIREMENTS**

- a. Verify that the Solar Thermal System was constructed, shipped and installed with all options specified.
- b. Provide a complete list of all Solar Thermal System nameplate data and serial number(s).
- c. Confirm all factory recommended start-up and check-out procedures have been completed.
- d. Document dates, times, operating conditions and names of parties involved with any tests performed.
- e. Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- f. Document procedures, forms and submissions required to initiate and maintain manufacturer's warranty.
- g. List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- h. Document all training provided with names and signatures of parties who received training.
- i. Provide written copies of all applicable Operation & Maintenance instructions.

### **2. ELECTRICAL ITEMS**

- a. Confirm wiring has been completed and protection devices, (fuses, heaters, breakers, etc.), have been installed to meet specifications for the Solar Thermal System components installed.
- b. Verify all disconnect and/or H-O-A switches have been installed and tested. Hand=On, Off=Off, Auto=EMS state.
- c. If applicable, ensure emergency power has been provided to Solar Thermal System and all ancillary equipment and controls required for unit to operate as intended during emergency mode.

### **3. MECHANICAL AND PHYSICAL ITEMS**

- a. Verify the Solar Thermal System has been installed, (air space, sealing, etc.), and supported, (brackets, attachment points, seismic restraints, etc.), per specifications.
- b. Ensure all existing appurtenances are remounted and sealed as required.
- c. Verify any protective coatings are free of scrapes, scratches, etc. which could lead to metal corrosion are repaired to manufacturer's specifications.
- d. Check to see that all enclosures, shrouds, guards or access panels are securely in place.
- e. Confirm adequate clearances exist for routine service.
- f. Verify all thermal insulation and sound attenuation has been installed per specifications.
- g. Check that equipment, component, and device labels, tags or signs have been installed per specifications.

## **SUBMETER INSTALLATION**

### **1. GENERAL REQUIREMENTS**

- a. Verify that all Metering system components are set up and installed with options specified, (communication protocol, local display, data logging, etc.).
- b. Provide a complete list of all Metering system component nameplate data, software and firmware versions, and serial numbers.
- c. Ensure the Metering components are installed, programmed, and calibrated in accordance with manufacturer guidelines.
- d. If included, confirm that any Central Computer used for data acquisition and billing processing meets the requirements of the circuit monitor and communications network.
- e. Document dates, times, operating conditions and names of parties involved with any tests performed.
- f. Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- g. Document procedures, forms and submissions, and installation guidelines, required to initiate & maintain manufacturer's warranty.
- h. Provide written copies of all applicable Calibration and Operation & Maintenance instructions.
- i. List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- j. Document all training provided with names and signatures of parties who received training.

### **2. ELECTRICAL ITEMS**

- a. Confirm wiring has been completed and protection devices, (fuses, breakers, etc.), have been installed to meet applicable codes and specifications for components installed.
- b. Ensure all electrical system grounding, signal cable shield grounding, and network communications cable meets specifications and has been tested.
- c. Document that the Circuit Monitors and Current Transformers have been calibrated per manufacturer's specifications. Ensure devices match voltage of the system being monitored.
- d. Document that the Central Computer network interfaces correctly with each Circuit Monitor, and has been tested per manufacturer requirements and system design criteria.
- e. If applicable, ensure that Metering components integrate properly with the existing metering, control, and monitoring systems.

**3. MECHANICAL AND PHYSICAL ITEMS**

- a. Verify that the Metering components are installed in accordance with manufacturer's recommendations, and that adequate clearances exist for routine service and calibration.
- b. Confirm that Metering components have been installed according to manufacturer's recommendations.
- c. Check to see that all enclosures, insulated covers, or protective shields are in place.
- d. Ensure that Metering component locations are not subject to temperatures beyond manufacturer's published operating limits and not subject to excessive moisture, spray, or dirt.
- e. Confirm equipment, component, and device labels, tags or signs have been installed per specifications.

Additional Commissioning measures may be required for work under this section to confirm proper operation and interaction with other ECMs in integrated system tests.

## Exhibit U

### Commissioning Plan

The primary objective of the Commissioning Plan is to define how NORESKO confirms that all individual pieces of equipment and integrated systems are correctly installed for performance in conformance with the project design. Although there are different approaches to commissioning, the fundamental process provides quality assurance to confirm that each of the following standards are met for all equipment included in the project:

1. The products and components selected and installed meet project design criteria.
2. Products and components are installed in accordance with the engineer's and manufacturer's recommendations and design criteria.
3. Products and components are capable of meeting their published performance criteria.
4. If the project includes a system of several products and components, the integrated system is installed in accordance with the engineer's design criteria.
5. If the project includes a system of several products and components, the integrated components are interacting in accordance with the engineer's design criteria.
6. Full components and systems operation and service instructions are contained in the Operations and Maintenance (O&M) Manuals.
7. The facility training plan includes items that need to be discussed and reviewed with facility personnel in order for the project to continue to perform.

Detailed commissioning tasks and requirements will be identified in commissioning specifications. These specifications are developed by NORESKO using an approach customized to the complexity of each piece of equipment and the technology involved.

The Commissioning Team will use the specifications to coordinate individual commissioning tasks and ensure that appropriate commissioning test forms are generated and completed to cover all items requested. The specifications for the ECMs included in this project follow and include:

- 1- Lighting Retrofit
- 2- New Fire Tube Boilers
- 3- Steam Trap Replacement
- 4- New Electric Chiller
- 5- Replace VFD's
- 6- CAV to VAV AHU Conversion

- 7- EMS Upgrade and Expansion
- 8- Replace CHW Pumps
- 9- Solar Thermal Project
- 10- Submeter Installation

The procedures included within the attached specifications included with this section are only intended to show the degree of rigor used during the NORESKO commissioning process. Final commissioning requirements may change during final design based on equipment selection, onsite conditions, and individual manufacturer requirements.

Upon completion of project commissioning, the NORESKO Commissioning Agent will perform a final quality control check of all commissioning documents and support the submission of project close out documents. The commissioning submittals will contain all relevant commissioning documentation collected during the project, such as completed checklists, test forms, startup sheets, balance reports, and acceptance forms. Descriptions of any abnormalities or unusual observations will also be included.

## **LIGHTING RETROFIT**

### **1. GENERAL REQUIREMENTS**

- A) Verify that all lighting retrofit components match project specifications.
- B) Confirm that all post retrofit group light levels have been reduced or raised appropriately to meet IES standards.
- C) Document dates, times, operating conditions and names of parties involved with any tests performed.
- D) Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- E) Document procedures, forms and submissions required to initiate & maintain manufacturer's warranty.
- F) Provide written copies of all applicable Operation & Maintenance instructions.
- G) List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- H) Document all training provided with names and signatures of parties who received training.

### **2. ELECTRICAL ITEMS**

- A) Any non-permanent or disposable batteries have been installed and tested and all battery locations, types, and recommended replacement intervals have been documented.
- B) Emergency egress and exit lights have been tested for proper sequencing from normal to emergency mode on battery and/or emergency power as applicable.
- C) Confirm all battery condition pilot lights and test switches are fully functional.

### **3. MECHANICAL AND PHYSICAL ITEMS**

- A) Verify that new fixtures and/or existing fixture retrofit kits have been installed per specifications.
- B) If applicable, confirm support posts or brackets are adequately sized for weight of replacement fixture.
- C) If exterior installation, ensure enclosure penetrations are watertight and/or do not void weather rating.
- D) During operation, check that all fixtures and ballast are free of abnormal vibration or unusual noises.
- E) Confirm equipment, component, and device labels, tags or signs have been installed per specifications.

## **NEW FIRE TUBE BOILERS**

### **1. GENERAL REQUIREMENTS**

- a. Verify that boiler was constructed, shipped and installed with all options specified. (high efficiency burner, EMS control interface, stack economizer, safety devices, etc.)
- b. Provide a complete list of all boiler nameplate data and serial number(s). (This should include any available pressure vessel and burner motor data.)
- c. Document dates, times, operating conditions and names of parties involved with any tests performed.
- d. Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- e. Document procedures, forms and submissions required to initiate and maintain manufacturer's warranty.
- f. Provide written copies of all applicable Operation & Maintenance instructions.
- g. Ensure that a Boiler Log Book has been established using a factory recommended format to record all critical operating parameters during Boiler operation.
- h. Document that all Boiler manufacturer recommended start-up and check-out procedures have been completed by an authorized technician and documented on the manufacturer's forms.
- i. List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- j. Document all training provided with names and signatures of parties who received training.

### **2. ELECTRICAL ITEMS**

- a. Confirm wiring has been completed and protection devices, (low limits, high limits, operating controls, draft sensors, smoke detectors, fusible links, etc.), have been installed to meet applicable codes and specifications for the boiler installed.
- b. Verify all disconnect and/or H-O-A switches have been installed and tested. Hand=On, Off=Off, Auto=EMS state.
- c. Check all fans, blowers, burners and pumps for proper rotation. If a VFD controls any components, ensure rotation is correct in both VFD and bypass modes.
- d. If applicable, ensure emergency power has been provided to boiler and all ancillary equipment and controls that are required for unit to operate as intended during emergency mode.
- e. Measure and document motor voltage and amperage of all fans, blowers, burners, and pumps under normal operating conditions to establish an operating baseline and ensure they are within manufacturer's specifications.

### **3. CONTROL ITEMS**

- a. Confirm proper operation of all automated valves, operating controls, level controls, limit controls, feed water pump controls, low water cutouts, automatic blow down sensors, remote alarms, remote start/stop controls, remote pressure controls, etc.
- b. Test operation of all protection and safety devices, (pre-purge, over-temp, over-pressure, low water, post-purge, power failure, etc.), and associated alarms to ensure they have been adjusted per specifications and meet facility standard operating procedures.
- c. Document all programming settings and test results for safety protection devices.
- d. Verify proper operation of all EMS interfaces with Boiler (remote setpoint adjustment, remote start/stop, alarm monitoring, efficiency monitoring, etc.), if applicable.
- e. Check boiler modulating control through full operating range to verify that pressures and temperatures are maintained within acceptable tolerances, especially during load changes.
- f. Confirm that any continuous trim or closed loop burner controls have been calibrated and are maintaining desired setpoints. Document all settings and programming values.
- g. If Boiler is controlled by a Lead/Lag and Staging control panel, confirm that boiler responds to control panel commands and follows approved sequence of operations.
- h. Ensure all hot stand-by or lag boiler pre-heat controls are working per specified sequence of operations, document all settings and adjustments.

### **4. MECHANICAL AND PHYSICAL ITEMS**

- a. Verify that the boiler has been installed and supported, (housekeeping pads, vibration isolators, seismic restraints, etc.), per specifications.
- b. Review piping connections and accessories for installation issues that might prevent the boiler from operating properly, (check valves, discharge header, flue piping, clearances, etc.).
- c. Confirm that discharge header on steam boilers meets manufacturer recommendations to minimize any possibility of boiler water carryover.
- d. Ensure burner motor, jackshafts, and operating cams, if applicable, have been lubricated, aligned, and/or tensioned to manufacturer specifications.
- e. On oil-fired units, confirm all pumps, piping, heaters, regulators, accessories and filters meet specifications. Ensure oil pump and drive have been aligned and/or tensioned to specifications.
- f. Check to see that all enclosures, shrouds, guards or access panels are securely in place.
- g. Confirm adequate clearances exist for routine service of all motors, controls, dampers, valves, burner tubes, sight glasses, etc.
- h. Ensure all boiler piping and piping accessories, (strainers, control valves, check valves, mixing valves, balance valves, etc.) have been installed per specifications and are free of leaks.

- i. Document size, setting, and capacity of all pressure relief or combination temperature and pressure relief valves or devices. Ensure all devices are located and piped per specifications.
- j. Check all access ports, hand-holes, manholes, and removable doors for proper sealing.
- k. Confirm all specified access doors or access panels have been provided for routine service.
- l. Verify all thermal insulation and sound attenuation has been installed per specifications.
- m. Review location and sizing of combustion air dampers and louvers, if applicable, to ensure they are adequately sized and do not pose a risk of dumping unconditioned air on unprotected piping. Confirm that dampers open and close as required by sequence of operations.
- n. Test Boiler discharge isolation valves and check valves, if applicable, to ensure they properly seal against normal system operating pressure.
- o. Document that all burner nozzles and combustion air baffles, if applicable, meet manufacturer recommendations for all fuel sources available and boiler elevation above sea level.
- p. Confirm there are no abnormal noises or pulsations during part and full load operation and that sight glasses are free of abnormal foaming or bouncing.
- q. Check that all boiler blow down systems, (slow-acting, quick-acting, and continuous), have been tested under operating temperature and pressure.
- r. If a blow-down cooler or tempering device has been installed, ensure that it has been adjusted to maintain discharge temperatures within specified range. Document final settings.
- s. Test all soot blowers or on-line cleaning aids to confirm they are working per manufacturer recommendations and do not adversely affect Boiler operation.
- t. Review all pressure gauge and temperature sensor locations to ensure they can be read from floor level and are of proper scale or range for medium being measured.
- u. Verify breeching and flue piping is installed and insulated per specifications and that discharge configuration meets manufacturer recommendations.
- v. Confirm Boiler and associated piping has been cleaned per specifications and chemical treatment program has been initiated per manufacturer recommendations.
- w. Document actual temperature differential across any stack economizers, heat exchangers, superheaters, etc. to establish an operating baseline and ensure they are within manufacturer's recommendations.
- x. Measure and document operating temperatures and pressures, fuel pressure, fuel flow, stack temperatures and boiler efficiency with all available fuels to establish an operating baseline and ensure they are within manufacturer's specifications.
- y. Confirm equipment, component, and device labels, tags or signs have been installed per specifications.

## **STEAM TRAP REPLACEMENT**

### **1. GENERAL REQUIREMENTS**

- a. Verify that each Steam Trap was constructed, shipped and installed with all options specified. (Orifice size, inlet strainer, leak detector, check valve, sight glass, isolation valves, etc.)
- b. Provide a complete list of all Steam Trap nameplate data and serial number(s).
- c. Document dates, times, operating conditions and names of parties involved with any tests performed.
- d. Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- e. Document procedures, forms and submissions required to initiate and maintain manufacturer's warranty.
- f. Provide written copies of all applicable Operation & Maintenance instructions.
- g. List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- h. Document all training provided with names and signatures of parties who received training.

### **2. MECHANICAL AND PHYSICAL ITEMS**

- a. Confirm that appropriate type trap (Inverted Bucket, Float & Thermostatic, Orifice, etc.) was installed for the type of equipment or service performed.
- b. Where applicable, document that the trap orifice or metering components match the sizes indicated in the specification for the particular piece of equipment or service.
- c. Inspect Steam Trap and adjacent piping from trapped device through to condensate return header to verify Steam Trap has been installed, oriented, and supported per specifications.
- d. Ensure all shipping blocks or temporary supports have been removed prior to start-up.
- e. Inspect Steam Trap and accessories for any physical damage to components.
- f. Confirm all piping to and from Steam Trap has been properly supported and pitched.
- g. Verify adequate clearances exist for routine service of renewable components.
- h. Check that all piping accessories, (strainers, isolation valves, check valves, etc.), have been installed per specifications and that the completed system is free of leaks.
- i. Verify all thermal insulation, if applicable, has been installed or replaced per specifications.
- j. Ensure Steam Trap has been primed, if necessary, and all fill ports specified for continued preventive maintenance have been installed.
- k. Verify piping to and from the Steam Trap has been cleaned per specifications and chemical treatment program has been initiated per manufacturer recommendations.

- l. Check Steam Trap in operation to see if it is cycling as expected and, if possible, confirm the equipment served by the steam trap is operating, (Heating, Sterilizing, etc.), as designed.
- m. Confirm Steam Trap labels, tags or signs have been installed per specifications.

## **NEW ELECTRIC CHILLERS**

### **1. GENERAL REQUIREMENTS**

- a. Verify Chiller was constructed, shipped and installed with all options specified, (compressor type, refrigerant type, EMS control interface, safety devices, etc.).
- b. Provide a complete list of all Chiller nameplate data and serial number(s). (This should include any available motor, compressor and heat exchanger data.)
- c. Document dates, times, operating conditions and names of parties involved with any tests performed.
- d. Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- e. Document procedures, forms and submissions required to initiate and maintain manufacturer's warranty.
- f. Provide written copies of all applicable Operation & Maintenance instructions.
- g. Document that all Chiller manufacturer recommended start-up and check-out procedures have been completed by an authorized technician and documented on the manufacturer's forms.
- h. Ensure that a Chiller Log Book has been established using a factory recommended format to record all critical operating parameters during chiller operation.
- i. List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- j. Document all training provided with names and signatures of parties who received training.

### **2. ELECTRICAL ITEMS**

- a. Confirm wiring has been completed and protection devices, (fuses, heaters, breakers, etc.), have been installed to meet applicable codes and specifications for the Chiller installed.
- b. Verify all disconnect and/or H-O-A switches have been installed and tested. Hand=On, Off=Off, Auto=EMS state.
- c. If applicable, ensure emergency power has been provided to the Chiller and all ancillary equipment and controls that are required for unit to operate as intended during emergency mode.
- d. Ensure all pilot lights, control switches, touchpad's and operating displays are fully functional.
- e. Confirm all sump or crankcase heaters are operating per manufacturer recommendations.
- f. Measure and document no load, normal load and full load voltages, power factors, and amperages to establish an operating baseline and ensure they are within manufacturer's specifications.

### 3. CONTROL ITEMS

- a. Confirm proper operation of all EMS interfaces with Chiller (remote setpoint adjustment, remote start/stop, alarm monitoring, demand limiting, etc.).
- b. Test operation of all safety or protection devices, (pressure, flow, temperature, voltage, amperage, refrigerant, etc.), to ensure they have been adjusted or programmed to meet specifications and are operating as intended.
- c. Document that Chiller Control Panel has been programmed for the specific chiller purchased as well as the actual Chiller Plant configuration, (Constant Flow, Variable Flow, etc.).
- d. Confirm all user-defined parameters have been reviewed by Chiller Technician, Controls Contractor and Customer representative to ensure they are compatible with facility standard operating procedures.
- e. Verify Chiller failure modes, (power failure, automatic restart, etc.), have been reviewed with Customer representative to ensure they meet facility Standard Operating Procedures.
- f. Test all anticipated Chiller failure modes, if possible, and document test results.
- g. Confirm and document that all minimum and maximum operating flows have been identified and adjusted within limits during Test and Balance.
- h. If applicable, document that all remote monitoring or EMS network interfaces with Chiller Control Panel operating parameters, faults, or alarms have been tested and calibrated.
- i. Verify proper operation of all unique controls or features that were specified to have been provided with Chiller Control Panel, (Lead/Lag, Load Balance, Hot Gas By-Pass, etc).
- j. If applicable, enable password protection of Chiller Control Panel programming and confirm password matrix of access levels and privileges has been approved and implemented per Customer requirements.
- k. Provide list of all Chiller Control Panel programming parameters and settings.
- l. Confirm the control sequencing for all ancillary equipment, (chilled and condenser water pump start/stop, cooling tower interlock, etc.) meets specifications and desired control sequences.

### 4. MECHANICAL AND PHYSICAL ITEMS

- a. Verify that the Chiller has been installed and supported, (Housekeeping pads, vibration isolators, seismic restraints, etc.), per specifications.
- b. If unit has an external drive motor, ensure compressor motor and drive components have been aligned per Chiller Manufacturer specifications.
- c. Check to see that all enclosures, shrouds, guards or access panels are securely in place.
- d. Confirm adequate clearances exist for routine service of all motors, controls, heat exchanger tubes, strainers, valves, etc.
- e. Ensure all Chiller piping and piping accessories, (strainers, control valves, flow switches, balance valves, Pete's plugs, etc.) have been installed per specifications and are free of leaks.

- f. Verify all thermal insulation and sound attenuation has been installed per specifications.
- g. Confirm refrigerant purge unit, if applicable, is operating correctly. Verify that refrigerant relief piping is installed per manufacturer's requirements and vented outside.
- h. If possible, test Chiller under potential surge conditions to ensure that automatic surge protection devices, (variable diffusers, load limiting algorithms, etc.), are functioning.
- i. Confirm there are no abnormal noises, vibrations during part and full load operation.
- j. Review all pressure gauge and temperature sensor locations to ensure they can be read from floor level and are of proper scale or range for medium being measured.
- k. Verify piping to and from the chiller has been cleaned per specifications and chemical treatment program has been initiated per manufacturer recommendations.
- l. Confirm equipment, component, piping, and device labels, tags or signs have been installed per specifications or painted per applicable color code.
- m. Measure and document no load, normal load and full load pressures, temperatures, and flows to establish an operating baseline and ensure they are within manufacturer's specifications.

## **REPLACE VFD'S**

### **1. GENERAL REQUIREMENTS**

- a. Verify that drive was constructed, shipped and installed with all options specified. (Manual or Electronic By-Pass, Line Reactors, Manual Speed Control, etc.)
- b. Provide a complete list of all VFD, (and By-Pass if applicable), nameplate data and serial number(s).
- c. Document dates, times, operating conditions and names of parties involved with any tests performed.
- d. Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- e. Document procedures, forms and submissions required to initiate & maintain manufacturer's warranty.
- f. Provide written copies of all applicable Operation & Maintenance instructions.
- g. List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- h. Document all training provided with names and signatures of parties who received training.

### **2. ELECTRICAL ITEMS**

- a. Confirm wiring has been completed and protection devices, (fuses, heaters, breakers, etc.), have been installed to meet applicable codes and specifications for VFD installed.
- b. Measure cable length between drive output and motor terminal and confirm that it does not exceed specified minimum without approved compensating filtration.
- c. Verify all disconnect and/or H-O-A switches have been installed and tested. Hand=On, Off=Off, Auto=EMS state.
- d. If a service disconnect is installed between the VFD and motor, confirm that disconnect has been provided with specified supervisory relays and that interlock wiring has been completed to prevent VFD from operating if disconnect switch is opened.
- e. Ensure all pilot lights, control switches, touchpads and operating displays are fully functional.
- f. Document that unit has been programmed for the specific type of equipment, (Fan, Pump, Conveyor, etc.), and motor (Volts, Phase, Amps, etc.), it serves.
- g. Confirm user-defined ramp times have been reviewed with Controls Contractor and Customer representative to ensure they are compatible with facility Standard Operating Procedures.
- h. Verify drive failure modes, (Power failure, Restart, Automatic By-Pass engage, etc.), have been reviewed with Customer representative to ensure they meet facility Standard Operating Procedures.

- i. Check and document that all Drive failure modes and By-Pass modes have been tested.
- j. Confirm and document that all minimum operating speeds have been identified and programmed.
- k. Document that remote start/stop, operating control, & feedback signals have been tested and calibrated.
- l. If applicable, document that all remote monitoring or EMS network interfaces with drive operating parameters, faults or alarms have been tested and calibrated.
- m. Ensure all critical speeds have been identified, blocked by programming, and labeled on drive.
- n. If applicable, enable password protection of drive programming and confirm password matrix of access levels and privileges has been approved and implemented per Customer requirements.
- o. Provide list of all VFD and By-Pass programming parameters and settings.
- p. Document that all factory recommended start-up and check-out procedures have been completed.
- q. Verify motor rotation, in both Drive and By-Pass modes if applicable, has been checked prior to connecting coupling or belt drives.
- r. Measure and document no load, normal load and full load voltages, power factors, and amperages to establish an operating baseline and ensure they are within manufacturer's specifications.

### **3. MECHANICAL AND PHYSICAL ITEMS**

- a. Verify motor has been installed and drive components are aligned per specifications.
- b. Ensure all bearings or gearboxes have been checked for proper type and quantity of lubricant.
- c. Check to see that all enclosures, shrouds and guards for rotating equipment are in place.
- d. During operation, verify motor is free of abnormal vibration or unusual noises.
- e. Confirm adequate clearances exist for VFD cooling air and routine service.
- f. Ensure drive location is not subject to temperatures beyond manufacturer's published operating limits.
- g. Verify drive location is not subject to excessive moisture, spray, or dirt.
- h. If exterior installation, confirm enclosure penetrations are watertight and/or do not void weather rating.
- i. If drive is replacing another form of flow or capacity modulation, (Inlet guide vanes, By-pass valve, etc.), document original devices were removed and/or decommissioned as outlined in specifications.
- j. Confirm equipment, component, and device labels, tags or signs have been installed per specifications.

## **EMS UPGRADE AND EXPANSION**

### **1. GENERAL REQUIREMENTS**

- a. Provide an outline of individual EMS test forms to show how testing will be completed for each component within the EMS and ensure that all components are fully commissioned.
- b. Outline should cover logical portions of EMS and indicate items tested, (Operator Workstation, AHU Point-to-Point Checkout, Existing Components, CHW Sensor Calibration Sheets, etc.)
- c. Document dates, times, operating conditions and names of parties involved with any tests performed.
- d. Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- e. Verify EMS components were constructed, shipped and installed with all options specified. (Manual HOA Transducer Outputs, Workstation Data Backup, Pneumatic Valve Positioners, etc.)
- f. Document procedures, forms and submissions required to initiate & maintain manufacturer's warranty.
- g. Provide written copies of all applicable Operation & Maintenance instructions.
- h. List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- i. Document all training provided with names and signatures of parties who received training.
- j. Provide list of all EMS Nameplate Data, Software and Firmware Versions, and Serial Numbers.
- k. As-built points lists shall include description of all equipment served, point descriptors, point numbers, wire numbers, pneumatic tube numbers, and location of each wire and tube termination.
- l. Document EMS architecture, network and location of all components and network cables.
- m. List the specific types and locations of all spare points required by project specifications.
- n. Provide a troubleshooting logbook by the Operator Workstation for use by facility operators and EMS technicians to document facility issues and contractor responses to ongoing fine-tuning.

### **2. ELECTRICAL ITEMS**

- a. Confirm wiring has been completed and protection devices, (fuses, heaters, breakers, etc.), have been installed to meet applicable codes and specifications for EMS components installed.
- b. Ensure wire or panel grounding and shielding has been checked and meets device specifications.

- c. Provide convenience receptacle for 120v power inside control panel per specifications.
- d. Verify all disconnect and/or H-O-A switches have been installed and tested. Hand=On, Off=Off, Auto=EMS state. If H-O-A switch is to be wired in series with isolation valve end switch, verify this interlock has been wired and is working correctly as well.
- e. Verify all pilot lights, control switches, touchpads and operating displays are fully functional.
- f. Document remote start/stop, operating control, and feedback signals have been tested and calibrated.
- g. Document all sensors have been calibrated and ranges match system or medium to be measured.
- h. Document all feedback or proof devices, (flow switches, pressure switches, current sensors, valve end switches, etc.), have been calibrated and tested for system or equipment monitored.
- i. Document all outputs and transducers have been calibrated and ranges match devices to be controlled.
- j. If applicable, verify interface and monitoring of any OEM equipment, (Variable Frequency Drive, Chiller Control Panel, etc.), operating parameters, faults or alarms have been completed and tested.
- k. Confirm any VFD critical speeds have been identified, blocked by programming, and labeled on drive.
- l. Ensure EMS factory recommended start-up and check-out procedures have been completed.
- m. Any non-permanent or disposable batteries have been installed and tested and all battery locations, types, and recommended replacement intervals have been documented.
- n. If applicable, document remote monitoring of EMS through dial-up or Internet connection has been completed and tested with lists of all phone numbers, modem settings, IP addresses, passwords, etc.

### **3. PNEUMATIC ITEMS**

- a. If applicable, confirm that existing control air compressor has sufficient reserve capacity to handle new EMS components without excessive cycling or run times.
- b. If applicable, ensure new control air compressor has been constructed and installed per specifications.
- c. Verify all control air filters, dryers and regulators have been checked for adequate sizing, are free of audible leaks, and all disposable or replaceable elements have been serviced.
- d. Document all new tubing and piping has been installed and pressure tested per specifications.
- e. Confirm pressure gauges have been installed on main supply line, at pressure reducing stations, at entrance to all panels, on transducer branch lines, and at end devices as required by specifications.
- f. Check and adjust control air supply pressure under normal load at all pressure reducing stations.

- g. Document that spring ranges of all end devices and pilot positioners have been tested, calibrated and permanently marked on each controlled end device per specifications.

#### 4. PROGRAMMING AND SOFTWARE ITEMS

- a. Document EMS programming sequences and strategies implemented for each piece of equipment and provide electronic copies and/or firmware of actual programming code on site for crash recovery.
- b. Provide lists of all user defined system variables, (occupancy schedules, reset schedules, changeover setpoints, control loop tuning parameters, etc.), to facilitate future modifications and fine-tuning.
- c. Collect and print trends for all dynamic control loops to demonstrate proper control, (timely and smooth response, lack of hunting, close to setpoint, minimal overshoot, etc.), over each range of system loads, (weather conditions, start-up, shut-down, etc.), encountered during normal operation.
- d. If applicable, review graphic screens to ensure they accurately reflect all equipment and systems controlled, include output ranges for controlled devices, have sufficient transfers or links to quickly navigate through related subsystems, and include narrative explanation of any non-intuitive sequences.
- e. If applicable, enable password protection of EMS programming and confirm password matrix of access levels and privileges has been approved and implemented per Applicable requirements.
- f. Provide copies of programming code, software settings, and software addresses for all field devices.
- g. Verify user-defined ramp times, staging sequences and lead lag have been reviewed with Customer representative to ensure they are compatible with facility Standard Operating Procedures.
- h. Confirm that all EMS and Equipment failure modes, (Power Failure, Sensor Failure, Pump Failure, Signal or Communication Loss, Freezestat, etc.), and alarm responses have been reviewed with Customer representative to ensure they meet facility Standard Operating Procedures.
- i. Document that all EMS and controlled equipment failure modes and alarms have been tested.
- j. Check that all minimum operating speeds for VFD controlled equipment have been programmed.
- k. Confirm all devices with clocks or calendar functions have been checked for proper dates and times.
- l. Verify all programming code has been synchronized between field panels and Operator Workstation.
- m. Check that any intermediate or test versions of programming code saved for future reference or re-use have been clearly labeled and moved to separate folders so they are not errantly re-loaded on EMS.

- n. Ensure a document control system is defined, documented and in place for software and firmware revisions and upgrades and that operating and maintenance staff have been trained in its application.

#### **5. MECHANICAL AND PHYSICAL ITEMS**

- a. Confirm all equipment subject to automatic start/stop control by EMS has been reviewed with Customer representative to ensure that equipment is properly labeled and life safety protection measures, (horns, lights, etc.), are compatible with facility Standard Operating Procedures.
- b. Verify that adequate clearances exist around all components for cooling air and routine service.
- c. Review component locations to ensure they are not subject to temperatures beyond manufacturer's published operating limits.
- d. Check that panel and enclosure locations are not subject to excessive moisture, spray, or dirt.
- e. If exterior installation, confirm enclosure penetrations are watertight and/or do not void weather rating.
- f. If EMS scope includes converting flow or capacity modulation to a new strategy, (Inlet guide vanes to VFD, Three way valve to Two-way valve, etc.), document that original flow control devices have been removed and/or decommissioned as outlined in specifications.
- g. Check that valves and sensors are free of leaks and all valve packings have been adjusted.
- h. Document all sensor locations and inputs have been tested to ensure that readings are stable and accurately reflect medium being measured, (no stratification, excessive pulsations, system effects, etc.).
- i. Confirm locations of devices in occupied spaces have been checked to be free of interference from furnishings or Customer owned equipment, (Printers, Computers, Copiers, etc.).
- j. Document all flow control devices, (Valves, Dampers, etc.), have been tested through full range of motion to ensure complete shut off when closed, unrestricted flow when open, and smooth operation.
- k. Confirm equipment, component, and device labels, tags or signs have been installed per specifications.

## **REPLACE CHW PUMPS**

### **1. GENERAL REQUIREMENTS**

- a. Verify that pump and motor were constructed, shipped and installed with all options or accessories called for in project specifications, (Mechanical Seal Type, Triple Duty Valves, Suction Diffuser, etc.).
- b. Provide a complete list of all pump and motor nameplate data and serial numbers. (This should include all available hydronic data such as Impellor Size, GPM, Head, NPSH requirement, etc.)
- c. Document dates, times, operating conditions and names of parties involved with any tests performed.
- d. Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- e. Document procedures, forms and submissions required to initiate & maintain manufacturer's warranty.
- f. Provide written copies of all applicable Operation & Maintenance instructions.
- g. Include pump performance curves and design selection point for inclusion in as-built documents.
- h. Document that all factory recommended start-up and check-out procedures have been completed.
- i. List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- j. Document all training provided with names and signatures of parties who received training.

### **2. ELECTRICAL ITEMS**

- a. Confirm wiring has been completed and protection devices, (fuses, heaters, breakers, etc.), have been installed to meet applicable codes and specifications for new motor installed.
- b. Verify all disconnect and/or H-O-A switches have been installed and tested. Hand=On, Off=Off, Auto=EMS state.
- c. Check motor rotation, if applicable, has been checked prior to connecting coupling or belt drive.
- d. If applicable, ensure that emergency power has been provided to pump and all ancillary equipment or controls that are required for unit to operate as intended during emergency mode.
- e. Measure and document no load, normal load and full load voltages, amperages and power factor to establish an operating baseline and ensure they are within manufacturer's specifications.

- f. Check motor operating temperature under full load to confirm it is within manufacturer's limits.

### **3. MECHANICAL AND PHYSICAL ITEMS**

- a. Verify that pump has been installed and supported, (Housekeeping pads, vibration isolators, seismic restraints, etc.), per specifications.
- b. Document that pump and motor have been aligned, grouted, or doweled per specifications.
- c. Confirm all piping has been completed per specifications and drawing details, (Strainers, Balance Valves, Gauges, Thermometers, Flex Connectors, Test Ports, EMS Sensors, Insulation, etc.).
- d. Ensure that any required system over-pressure protection devices have been installed and match the sizes and settings called for in the specifications.
- e. Verify that system operating fluid has been properly tested and treated.
- f. Confirm all Rotating Parts are found to be free and smooth when turned by hand.
- g. Ensure that both pump and motor have been lubricated, if necessary.
- h. If belt driven, confirm that belts have been installed and tensioned per specifications.
- i. Check to see that all guards, shields and protective covers have been installed.
- j. During operation, verify pump and motor are free of abnormal vibration or unusual noises.
- k. If a variable speed application, ensure pump and motor are free of vibration or unusual noises through entire range of operating speeds.
- l. During operation, confirm that pump and associated piping are free of abnormal leaks.
- m. If applicable, ensure that seal or stuffing box flushing fluids are adjusted per specifications.
- n. Document that required NPSH is available at pump during all operating speeds and system flows.
- o. Verify adequate clearances exist for motor cooling air and routine service of pump.
- p. Review all pressure gauge and temperature sensor locations to ensure they can be read from floor level and are of proper scale or range for medium being measured.
- q. Confirm equipment, component, and device labels, tags or signs have been installed per specifications.

## **SOLAR THERMAL PROJECT**

### **1. GENERAL REQUIREMENTS**

- a. Verify that the Solar Thermal System was constructed, shipped and installed with all options specified.
- b. Provide a complete list of all Solar Thermal System nameplate data and serial number(s).
- c. Confirm all factory recommended start-up and check-out procedures have been completed.
- d. Document dates, times, operating conditions and names of parties involved with any tests performed.
- e. Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- f. Document procedures, forms and submissions required to initiate and maintain manufacturer's warranty.
- g. List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- h. Document all training provided with names and signatures of parties who received training.
- i. Provide written copies of all applicable Operation & Maintenance instructions.

### **2. ELECTRICAL ITEMS**

- a. Confirm wiring has been completed and protection devices, (fuses, heaters, breakers, etc.), have been installed to meet specifications for the Solar Thermal System components installed.
- b. Verify all disconnect and/or H-O-A switches have been installed and tested. Hand=On, Off=Off, Auto=EMS state.
- c. If applicable, ensure emergency power has been provided to Solar Thermal System and all ancillary equipment and controls required for unit to operate as intended during emergency mode.

### **3. MECHANICAL AND PHYSICAL ITEMS**

- a. Verify the Solar Thermal System has been installed, (air space, sealing, etc.), and supported, (brackets, attachment points, seismic restraints, etc.), per specifications.
- b. Ensure all existing appurtenances are remounted and sealed as required.
- c. Verify any protective coatings are free of scrapes, scratches, etc. which could lead to metal corrosion are repaired to manufacturer's specifications.
- d. Check to see that all enclosures, shrouds, guards or access panels are securely in place.
- e. Confirm adequate clearances exist for routine service.
- f. Verify all thermal insulation and sound attenuation has been installed per specifications.
- g. Check that equipment, component, and device labels, tags or signs have been installed per specifications.

## **SUBMETER INSTALLATION**

### **1. GENERAL REQUIREMENTS**

- a. Verify that all Metering system components are set up and installed with options specified, (communication protocol, local display, data logging, etc.).
- b. Provide a complete list of all Metering system component nameplate data, software and firmware versions, and serial numbers.
- c. Ensure the Metering components are installed, programmed, and calibrated in accordance with manufacturer guidelines.
- d. If included, confirm that any Central Computer used for data acquisition and billing processing meets the requirements of the circuit monitor and communications network.
- e. Document dates, times, operating conditions and names of parties involved with any tests performed.
- f. Each test form shall be reviewed and signed by the party with overall responsibility for the test as well as Customer representative if it is identified as a test that must be witnessed.
- g. Document procedures, forms and submissions, and installation guidelines, required to initiate & maintain manufacturer's warranty.
- h. Provide written copies of all applicable Calibration and Operation & Maintenance instructions.
- i. List all rejected items, failed tests, abnormalities observed or remedial action required by others that were not completely rectified during construction punchlist process.
- j. Document all training provided with names and signatures of parties who received training.

### **2. ELECTRICAL ITEMS**

- a. Confirm wiring has been completed and protection devices, (fuses, breakers, etc.), have been installed to meet applicable codes and specifications for components installed.
- b. Ensure all electrical system grounding, signal cable shield grounding, and network communications cable meets specifications and has been tested.
- c. Document that the Circuit Monitors and Current Transformers have been calibrated per manufacturer's specifications. Ensure devices match voltage of the system being monitored.
- d. Document that the Central Computer network interfaces correctly with each Circuit Monitor, and has been tested per manufacturer requirements and system design criteria.
- e. If applicable, ensure that Metering components integrate properly with the existing metering, control, and monitoring systems.

### 3. MECHANICAL AND PHYSICAL ITEMS

- a. Verify that the Metering components are installed in accordance with manufacturer's recommendations, and that adequate clearances exist for routine service and calibration.
- b. Confirm that Metering components have been installed according to manufacturer's recommendations.
- c. Check to see that all enclosures, insulated covers, or protective shields are in place.
- d. Ensure that Metering component locations are not subject to temperatures beyond manufacturer's published operating limits and not subject to excessive moisture, spray, or dirt.
- e. Confirm equipment, component, and device labels, tags or signs have been installed per specifications.

Additional Commissioning measures may be required for work under this section to confirm proper operation and interaction with other ECMs in integrated system tests.

**Exhibit V**  
**Training Plan**

**Training Overview**

Facility staff training is critical to ensure the installed Energy Conservation Measures (ECMs) operate properly, deliver improved comfort, reliability, and guaranteed energy savings on a sustained basis. In that regard, NORESOCO will develop a training program for both supervisory and field personnel.

**Technical Training Approach on the Energy Conservation Measures**

NORESOCO's training program will be held on-site delivered by the NORESOCO project team inclusive of NORESOCO project managers, subcontractors, vendors and manufacturer's representatives to provide the County a comprehensive training program for the equipment and systems installed. This program will utilize a combination of class room and field training utilizing installed equipment and Course materials drawings, equipment specifications and NORESOCO's comprehensive operation and maintenance (O&M) manuals.

The Program will be broken down into ECM training plans that will include an overview description of each ECM and the topics to be covered, the allotted time for each topic, and the desired audience. Prior to training taking place and before completion of construction of each ECM, the training will be submitted to the County for review.

For NORESOCO, training starts in the field where the Facility staff can become familiar and comfortable with the equipment, materials and systems that have been recently installed. Training starts with including the Facility staff during the commissioning of the ECM installed to better understand how the ECM or equipment should be operating per manufacture or design guidelines. This will occur during startup and testing and give the Facility Staff the ability to touch and physical see the equipment in operation and ask questions as they relate to bring equipment on line as well as shutting down. This venue is also ideal for instructing maintenance staff of activities that involve opening up or disassembling equipment required for weekly, monthly, semi-annual or annual maintenance service which is difficult to recreate or teach in a classroom setting.

The Field Training is followed up with a formal classroom training where instruction shifts to documentation review. This is inclusive of manufacture documentation; O&M maintenance requirements, emergency and emergency shut-down procedures, technical functions, and warranty provisions for equipment warranty and warranty resolution. The NORESOCO Project Manager will utilize and review the specific O&M Manual Section for the ECM at the time of training.

NORESOCO will train any group size that the County feels is beneficial to them. While we don't put upper limits on the size of the groups we train, we do recommend that the County designate at least two facility operators and a back-up person to attend each training session to provide continuity during staffing changes. We have set the training times based on prior customer requests for training. However, if the County would like to provide more training in one area

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and less in and another we will adjust to suit the needs. The training we will provide County staff is not a generic "one size fits all" proposition. Our training programs is flexible and will be customized based upon the nature and complexity of each measure within the overall time parameters set out below.

In addition to the field and class room training forums, NORESKO welcomes the County to film and create a video training DVD for each ECM that captures the important issues identified during on-site equipment training and classroom topics for each ECM capturing key items that are discussed and addressed in the O&M manuals. With this video library, NORESKO believes that The County can quickly get new personnel up to speed with the O&M requirements for the ECMs installed.

Following training for each ECM, all ECM documentation will be compiled in the NORESKO Operation and maintenance (O&M) manuals which shall be delivered to the County at project completion in a hard copy format as well as digitally scanned version.

The O&M manuals will be bound and clearly marked, tabbed, and indexed and will include all necessary documentation required to successfully operate and maintain the newly installed equipment.

The O&M manual includes the following sections:

1. Contact List for NORESKO, the County, Subcontractors and Vendors
2. Warranty Documentation
3. ECM Documentation (repeated for each ECM)
  - ECM Overview
  - Product operations and maintenance data
  - As-built documents
  - Commissioning documents
  - Warranty letter
  - Training agenda, materials, sign-in form
  - Inspection certificates
  - Hazardous waste manifest (as applicable)

### **Training Plan Summary**

The following table summarizes the training for each energy conservation measure upon construction completion. NORESKO will work closely with the County to ensure that the training requirements are met. This training table is a starting point by which we can further refine the training requirements during project implementation.

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Table 1 - Training Summary

ECM Description	Training Hours	General Description of Training
<p>Lighting Systems:</p> <ul style="list-style-type: none"> <li>• Lighting Retrofit / Lighting Replacement</li> <li>• Tamper Proof Fixtures</li> </ul>	4 hours	<p>Onsite training by the NORESKO Project Manager and lighting subcontractor upon completion of lighting ECMs. Training will include the review of the installed scope, review of As-Built Documentation, review of lighting materials included in the O&amp;M manuals and training on maintenance and warranty procedures with the County staff.</p>
<p>New Fire Tube Boilers:</p>	8 hours	<p>Onsite training by the NORESKO Project Manager, subcontractors and manufacturers' representatives upon completion of ECM installation and commencement of operations.. Training will include the review of the scope of the ECM, equipment and materials included in the O&amp;M manuals, and training on maintenance and warranty procedures with the County staff.</p>
<p>New Electric Chillers:</p> <ul style="list-style-type: none"> <li>• New Electric Chiller #5</li> <li>• New Electric Chiller #8</li> </ul>	8 hours	<p>Onsite training by the NORESKO Project Manager, subcontractors and manufacturers' representatives upon completion of ECM installation and commencement of operations . Training will include the review of the scope of the installed ECM, equipment and materials included in the O&amp;M manuals and training on maintenance and warranty procedures with the County staff.</p>
<p>HVAC:</p> <ul style="list-style-type: none"> <li>• Steam Trap Repair/Replace</li> <li>• Install/Replace VFDs</li> <li>• CAV to VAV AHU Modifications</li> <li>• Replace CHW Pumps</li> <li>• TRV Installation</li> </ul>	<p>2 hours 2 hours 3 hours 2 hours 2 hours</p>	<p>Onsite training by the NORESKO Project Manager, subcontractors and manufacturers' representatives upon completion of ECM installation and commencement of operations. Training will include the review of the scope of the installed ECM, equipment and materials included in the O&amp;M manuals and training on maintenance and warranty procedures with the County staff.</p>

<b>ECM Description</b>	<b>Training Hours</b>	<b>General Description of Savings</b>
EMS Upgrade and Expansion:	16 hours with a 4 hour seasonal refresher for a total of 20 hours	Onsite training by the NORESKO Project Manager and the EMS contractor during implementation of controls project. Upon completion of EMS, training will include the review of the scope, equipment and materials included in the O&M manuals, overview of programming/operation changes, including review of sequence(s) of operation and temperature setpoints. This will include training on maintenance and warranty procedures with the County staff. Refresher 6 month follow-up training will occur during seasonal switchover.
Solar Thermal Project	2 hours	Onsite training by the NORESKO Project Manager, subcontractors and manufacturers' representatives upon completion of ECM installation and commencement of operations. Training will include the review of the scope, equipment and materials included in the O&M manuals and training on maintenance and warranty procedures with the County staff.
Sub-meter Installation <ul style="list-style-type: none"> <li>• Electric Meters</li> <li>• Steam Meters</li> <li>• Condensate Meters</li> <li>• Water Meters</li> <li>• CHW Bridge Calibration</li> </ul>	2 hours	Onsite training by the NORESKO Project Manager, subcontractors and manufacturers' representatives upon completion of ECM installation and commencement of operations. Training will include the review of the scope, equipment and materials included in the O&M manuals and training on maintenance and warranty procedures with the County staff.



**SURETY'S STATEMENT**  
**OF**  
**QUALIFICATION FOR BONDING**

This document must be accurately executed (by the Surety Company) and yielded as part of this Bid.

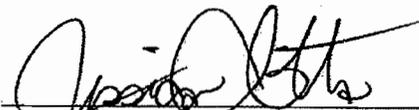
IF THIS DOCUMENT IS NOT ACCURATELY EXECUTED AND SUBMITTED WITH THE BID PACKAGE,  
THIS CONSTITUTES CAUSE FOR DISQUALIFICATION OF THE VENDOR FROM BIDDING ON THIS  
CONTRACT.

The undersigned confirms that Fidelity and Deposit Company of Maryland and Zurich American Insurance Company  
(SURETY COMPANY)

would execute a Performance/Payment Bond in favor of the County of Cook for the full amount of the

bid/contract \_\_\_\_\_ to Noresco, LLC  
(NUMBER) (BIDDER)

The penalty of this bond is to be \$ 34,228,060.00  
(TOTAL DOLLAR AMOUNT OF CONTRACT)

  
\_\_\_\_\_  
(SURETY COMPANY'S AUTHORIZED SIGNATURE)

Jessica Iannotta  
\_\_\_\_\_  
(ATTORNEY-IN FACT)

F&D: 000387 39306  
Zurich: 002563 16535  
\_\_\_\_\_  
AMB # NAIC #

SURETY  
CORPORATE  
SEAL

**ACKNOWLEDGEMENT OF PRINCIPAL**

STATE OF Connecticut )

CITY OF Shelton ) SS:

COUNTY OF Fairfield )

On this 23<sup>rd</sup> day of July, in the year 2012, before me personally came to me known, who, being by me duly sworn, did depose and say that Neil Petchers (he/she resides in Fairfield, CT that (he/she is the President + CEO of NORESCO, LLC, the corporation described in and which executed the above instrument; and that (he/she signed (his/her name thereto by order of the Board of Directors of said Corporation.

Patricia Cratty-Palanzo  
Notary Public or Commissioner of Deeds

Patricia Cratty-Palanzo  
Notary Public-Connecticut  
My Commission Expires  
August 31, 2015

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**ACKNOWLEDGEMENT OF SURETY**

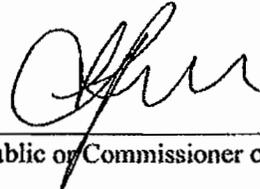
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STATE OF NEW YORK)

CITY OF NEW YORK) SS:

COUNTY OF NEW YORK)

On this **24th Day of July** in the year **2012**, before me personally came to me known, who, being by me duly sworn, did depose and say that **Jessica Iannotta** he/she resides in New York, NY that he/she is the **Attorney-in-Fact of Fidelity and Deposit Company of Maryland and Zurich American Insurance Company** the corporation described in and which executed the above instrument; and that he/she signed his/her name thereto by order of the Board of Directors of said Corporation.



Notary Public or Commissioner of Deeds



**Power of Attorney**  
**FIDELITY AND DEPOSIT COMPANY OF MARYLAND**

KNOW ALL MEN BY THESE PRESENTS: That the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, a corporation of the State of Maryland, by FRANK E. MARTIN JR., Vice President, and ERIC D. BARNES, Assistant Secretary, in pursuance of authority granted by Article VI, Section 2, of the By-Laws of said Company, which are set forth on the reverse side hereof and are hereby certified to be in full force and effect on the date hereof, does hereby nominate, constitute and appoint Vivian CARTI, Debra A. DEMING, Cynthia FARRELL, Thomas RHAVIGAN, Sandra DIAZ, Jessica IANNOTTA, Sonia ROGERS, Valorie SPATES and Evangelina L. DOMINICK, all of New York, New York, EACH its true and lawful agent and Attorney-in-Fact, to make, execute, seal and deliver for, and on its behalf as surety, and as its act and deed: any and all bonds and undertakings, and the execution of such bonds or undertakings in pursuance of these presents, shall be as binding upon said Company, as fully and amply, to all intents and purposes, as if they had been duly executed and acknowledged by the regularly elected officers of the Company at its office in Baltimore, Md., in their own proper persons. This power of attorney revokes that issued on behalf of Vivian CARTI, Debra A. DEMING, Cynthia FARRELL, Thomas RHAVIGAN, Sandra DIAZ, Jessica IANNOTTA, Mekeeva SUMMERFORD, Sonia ROGERS, Valorie SPATES, Evangelina L. DOMINICK, dated May 13, 2011.

The said Assistant Secretary does hereby certify that the extract set forth on the reverse side hereof is a true copy of Article VI, Section 2, of the By-Laws of said Company, and is now in force.

IN WITNESS WHEREOF, the said Vice-President and Assistant Secretary have hereunto subscribed their names and affixed the Corporate Seal of the said FIDELITY AND DEPOSIT COMPANY OF MARYLAND, this 17th day of May, A.D. 2011.

ATTEST:

FIDELITY AND DEPOSIT COMPANY OF MARYLAND



*Eric D. Barnes*

Eric D. Barnes

Assistant Secretary

*Frank E. Martin Jr.*

By:

Frank E. Martin Jr.

Vice President

State of Maryland }  
City of Baltimore } ss:

On this 17th day of May, A.D. 2011, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, came FRANK E. MARTIN JR., Vice President, and ERIC D. BARNES, Assistant Secretary of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, to me personally known to be the individuals and officers described in and who executed the preceding instrument, and they each acknowledged the execution of the same, and being by me duly sworn, severally and each for himself deposed and saith, that they are the said officers of the Company aforesaid, and that the seal affixed to the preceding instrument is the Corporate Seal of said Company, and that the said Corporate Seal and their signatures as such officers were duly affixed and subscribed to the said instrument by the authority and direction of the said Corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above written.



*Maria D. Adamski*

Maria D. Adamski

Notary Public

My Commission Expires: July 8, 2015

ZURICH AMERICAN INSURANCE COMPANY

POWER OF ATTORNEY

KNOW ALL MEN BY THESE PRESENTS, that the ZURICH AMERICAN INSURANCE COMPANY, a corporation created by and existing under the laws of the State of New York does hereby nominate, constitute and appoint Annette LEUSCHNER, Valorie SPATES, Sandra DIAZ, Evangelina L. DOMINICK, Cynthia FARRELL, Jessica IANNOTTA, Mekeeva SUMMERFORD, Sonia ROGERS and Vivian CARTI, all of New York, New York, EACH its true and lawful Attorneys-In-Fact with power and authority hereby conferred to sign, seal, and execute in its behalf, during the period beginning with the date of issuance of this power, any and all bonds and undertakings, recognizances or other written obligations in the nature thereof, and to bind ZURICH AMERICAN INSURANCE COMPANY thereby, and all of the acts of said Attorney[s]-in-Fact pursuant to these presents are hereby ratified and confirmed. This Power of Attorney is made and executed pursuant to and by the authority of the following By-Law duly adopted by the Board of Directors of the Company which By-Law has not been amended or rescinded.

Article VI, Section 5. "...The President or a Vice President in a written instrument attested by a Secretary or an Assistant Secretary may appoint any person Attorney-In-Fact, with authority to execute surety bonds on behalf of the Company and other formal underwriting contracts in reference thereto and reinsurance agreements relating to individual policies and bonds of all kinds and attach the corporate seal. Any such officers may revoke the powers granted to any Attorney-In-Fact."

This Power of Attorney is signed and sealed by facsimile under and by the authority of the following Resolution adopted by the Board of Directors of the ZURICH AMERICAN INSURANCE COMPANY by unanimous consent in lieu of a special meeting dated December 15, 1998

" RESOLVED, that the signature of the President or a Vice President and the attesting signature of a Secretary or an Assistant Secretary and the seal of the Company may be affixed by facsimile on any Power of Attorney pursuant to Article VI, Section 5 of the By-Laws, and the signature of a Secretary or an Assistant Secretary and the seal of the Company may be affixed by facsimile to any certificate of any such power. Any such power or any certificate thereof with such facsimile signature and seal shall be valid and binding on the Company. Furthermore, such power so executed, sealed and certified by certificate so executed and sealed shall, with respect to any bond or undertaking to which it is attached, shall continue to be valid and binding on the Company."

IN WITNESS WHEREOF, the ZURICH AMERICAN INSURANCE COMPANY has caused these presents to be executed in its name and on its behalf and its Corporate Seal to be hereunto affixed and attested by its officers thereunto duly authorized, this 17th day of May, A.D. 2011. This power of attorney revokes that issued on behalf of Annette LEUSCHNER, Valorie SPATES, Sandra DIAZ, Evangelina L. DOMINICK, Cynthia FARRELL, Jessica IANNOTTA, Mekeeva SUMMERFORD, Sonia ROGERS, Vivian CARTI, dated May 4, 2011.



ZURICH AMERICAN INSURANCE COMPANY

*Eric D. Barnes*

*Frank E. Martin Jr.*

STATE OF MARYLAND }  
CITY OF BALTIMORE }

SS:

*Eric D. Barnes*

Secretary

By:

*Frank E. Martin Jr.*

Vice President

On the 17th day of May, A.D. 2011, before the subscriber, a Notary Public of the State of Maryland, duly commissioned and qualified, came the above named Vice President and Secretary of ZURICH AMERICAN INSURANCE COMPANY, to me personally known to be the individuals and officers described in and who executed the preceding instrument and they each acknowledged the execution of the same and being by me duly sworn, they severally and each for himself deposed and said that they respectively hold the offices in said Corporation as indicated, that the Seal affixed to the preceding instrument is the Corporate Seal of said Corporation, and that the said Corporate Seal, and their respective signature as such officers, were duly affixed and subscribed to the said instrument pursuant to all due corporate authorization. IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Official Seal the day and year first above.



*Maria D. Barnes*

Notary Public

My Commission Expires: July 8, 2015

This Power of Attorney limits the acts of those named therein to the bonds and undertaking specifically named therein, and they have no authority to bind the Company except in the manner and to the extent herein stated.

CERTIFICATE

I, the undersigned, a Secretary of the ZURICH AMERICAN INSURANCE COMPANY, do hereby certify that the foregoing Power of Attorney is still in full force and effect, and further certify that Article VI, Section 5 of the By-Laws of the Company and the Resolution of the Board of Directors set forth in said Power of Attorney are still in force.

IN TESTIMONY WHEREOF I have hereto subscribed my name and affixed the seal of said Company

the *24th* day of *July, 2012*

*Gregory E. Murray*

Gregory E. Murray

Secretary



**FIDELITY AND DEPOSIT COMPANY**

OF MARYLAND

600 Red Brook Blvd., Suite 600, Owings Mills, MD 21117

Statement of Financial Condition

As Of December 31, 2011

**ASSETS**

Bonds .....	\$ 167,477,539
Stocks .....	23,576,974
Cash and Short Term Investments .....	235,380
Reinsurance Recoverable .....	12,886,175
Other Accounts Receivable .....	39,980,988
<b>TOTAL ADMITTED ASSETS .....</b>	<b>\$ 244,157,256</b>

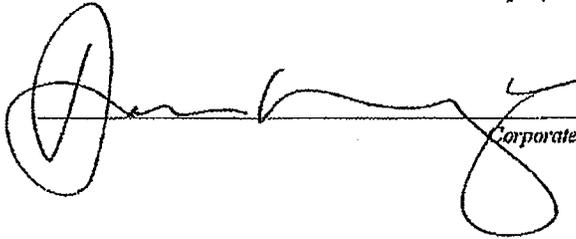
**LIABILITIES, SURPLUS AND OTHER FUNDS**

Reserve for Taxes and Expenses .....	\$ 127,987
Ceded Reinsurance Premiums Payable .....	48,215,682
Securities Lending Collateral Liability .....	1,022,500
<b>TOTAL LIABILITIES .....</b>	<b>\$ 49,366,169</b>
Capital Stock, Paid Up .....	\$ 5,000,000
Surplus .....	189,791,087
Surplus as regards Policyholders .....	194,791,087
<b>TOTAL .....</b>	<b>\$ 244,157,256</b>

Securities carried at \$59,049,993 in the above statement are deposited as required by law.

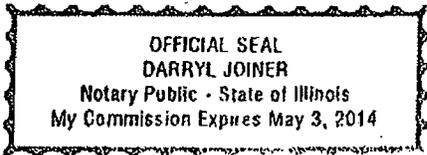
Securities carried on the basis prescribed by the National Association of Insurance Commissioners. On the basis of December 31, 2011 market quotations for all bonds and stocks owned, the Company's total admitted assets would be \$253,778,028 and surplus as regards policyholders \$204,411,859.

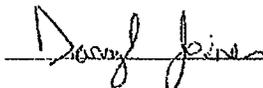
I, DENNIS F. KERRIGAN, Corporate Secretary of the FIDELITY AND DEPOSIT COMPANY OF MARYLAND, do hereby certify that the foregoing statement is a correct exhibit of the assets and liabilities of the said Company on the 31st day of December, 2011.

  
 \_\_\_\_\_  
 Corporate Secretary

State of Illinois }  
City of Schaumburg } SS:

Subscribed and sworn to, before me, a Notary Public of the State of Illinois, in the City of Schaumburg, this 15th day of March, 2012.



  
 \_\_\_\_\_  
 Notary Public

**ZURICH AMERICAN INSURANCE COMPANY**  
**COMPARATIVE BALANCE SHEET**  
**ONE LIBERTY PLAZA, 165 BROADWAY, 32nd FLOOR, NEW YORK, NY 10006**  
**As of December 31, 2011 and December 31, 2010**

	12/31/2011	12/31/2010
<b>Assets</b>		
Bonds	\$ 18,985,096,131	\$ 18,919,367,229
Preferred Stock	259,036	881,155
Common Stock	2,068,881,919	2,164,868,224
Real Estate	-	-
Other Invested Assets	2,065,634,039	2,064,283,585
Short-term Investments	107,298,374	201,721,691
Receivable for securities	18,523,294	-
Cash and cash equivalents	(128,716,627)	295,413,702
Securities lending reinvested collateral assets	120,821,061	355,288,472
Employee Trust for Deferred Compensation Plan	124,809,033	123,641,790
Total Cash and Invested Assets	\$ 23,362,606,260	\$ 24,125,465,848
Premiums Receivable	\$ 3,611,868,304	\$ 3,435,875,097
Funds Held with Reinsurers	28,073,922	62,508,828
Reinsurance Recoverable	233,357,918	217,412,579
Accrued Investment Income	149,372,442	155,412,983
Federal Income Tax Recoverable	788,664,462	864,441,400
Due from Affiliates	95,583,016	84,104,105
Other Assets	459,639,011	475,167,605
Total Assets	\$ 28,729,165,335	\$ 29,420,388,445
<b>Liabilities and Policyholders' Surplus</b>		
<b>Liabilities:</b>		
Loss and LAE Reserves	\$ 14,401,632,170	\$ 14,303,526,826
Unearned Premium Reserve	4,066,273,586	4,266,385,678
Funds Held with Reinsurers	218,214,563	220,452,519
Loss In Course of Payment	353,274,509	326,096,480
Commission Reserve	63,749,920	129,070,777
Federal Income Tax Payable	47,352,138	53,201,046
Romissions and Items Unallocated	69,677,903	47,400,078
Payable to parent, subs and affiliates	92,111,683	130,008,907
Provision for Reinsurance	60,498,188	64,548,922
Ceded Reinsurance Premiums Payable	278,235,370	138,866,405
Securities Lending Collateral Liability	120,821,061	356,743,459
Other Liabilities	1,938,544,837	2,009,922,767
Total Liabilities	\$ 21,710,385,928	\$ 22,046,223,864
<b>Policyholders' Surplus:</b>		
Common Capital Stock	\$ 5,000,000	\$ 5,000,000
Paid-In and Contributed Surplus	4,394,131,320	4,394,131,321
Surplus Notes	883,000,000	1,533,000,000
Special Surplus Retroactive Reinsurance	55,544,000	96,392,000
Change in Net Deferred Tax Asset	340,894,437	321,550,097
Cumulative Unrealized Gain	209,454,958	132,165,276
Dividends Undeclared	-	-
Loss Portfolio Transfer Account	-	-
Unassigned Surplus	1,130,754,692	891,925,887
Total Policyholders' Surplus	\$ 7,018,779,407	\$ 7,374,164,581
Total Liabilities and Policyholders' Surplus	\$ 28,729,165,335	\$ 29,420,388,445

I, Dennis F. Kerrigan, Corporate Secretary of ZURICH AMERICAN INSURANCE COMPANY do hereby certify that the foregoing statement is a correct exhibit of the assets and liabilities of the said Company, on the 31st day of December, 2011, according to the best of my information, knowledge and belief.

State of Illinois  
County of Cook

} SS:

Subscribed and sworn to, before me, a Notary Public of the State of Illinois, in the City of Schaumburg, this 15th day of March, 2012.



*[Signature]*  
Corporate Secretary

*[Signature]*  
Notary public