

**AGREEMENT BETWEEN THE COUNTY OF SAN MATEO AND  
JOHNSON CONTROLS, INC.**

THIS AGREEMENT, entered into this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, by and between the COUNTY OF SAN MATEO, hereinafter called "County," and JOHNSON CONTROLS, INC., hereinafter called "Contractor";

**W I T N E S S E T H:**

WHEREAS, pursuant to Government Code Section 31000, County may contract with independent contractors for the furnishing of such Services to or for County or any Department thereof;

WHEREAS, it is necessary and desirable that Contractor be retained for the purpose of designing, furnishing, and installing a 750 Kw Cogeneration System at the San Mateo Medical Center;

**NOW, THEREFORE, IT IS HEREBY AGREED BY THE PARTIES HERETO  
AS FOLLOWS:**

**1. Exhibits and Attachments**

The following exhibits and attachments are attached to this Agreement and incorporated into this Agreement by this reference:

Exhibit A—Services

Exhibit B—Payments and Rates

Attachment 1—Contractor Proposal dated June 13, 2013

**2. Services to be performed by Contractor**

In consideration of the payments set forth herein and in Exhibit B, Contractor shall perform Services for County in accordance with the terms, conditions, and specifications set forth herein and in Exhibit A (hereinafter, the "Services").

### **3. Payments**

In consideration of the Services provided by Contractor in accordance with all terms, conditions, and specifications set forth herein and in Exhibit A, County shall make payment to Contractor based on the rates and in the manner specified in Exhibit B. County reserves the right to withhold payment if County determines that the quantity or quality of the work performed is unacceptable. However, the County will promptly pay all undisputed amounts of the invoice, and make every reasonable effort to work with the Contractor to resolve any billing discrepancies. In no event shall County's total fiscal obligation under this Agreement exceed two million six hundred and sixty-seven thousand five hundred dollars (\$2,667,500) without additional County Board approval, and Contractor shall not be required to perform additional Services without compensation.

### **4. Term and Termination**

**Subject to compliance with all terms and conditions, the term of this Agreement shall be from October 7, 2013, through October 6, 2015.**

This Agreement may be terminated by the Director of Public Works, or his/her designee at any time without a requirement of good cause upon thirty (30) days' written notice to the other party.

In the event of termination, all finished or unfinished documents, data, studies, maps, photographs, reports, and materials (hereafter referred to as materials) prepared by Contractor under this Agreement shall become the property of County and shall be promptly delivered to County upon payment in full of all amounts due and outstanding. Upon termination, Contractor may make and retain a copy of such materials. Contractor shall be entitled to receive payment for the Services provided prior to termination of the Agreement. Such payment shall be that portion of the full payment which is determined by comparing the Services completed to the Services required by the Agreement plus any de-mobilization costs as authorized by County.

### **5. Availability of Funds**

County may terminate this Agreement or a portion of the Services referenced in the Attachments and Exhibits based upon unavailability of Federal, State, or County funds by providing written notice to Contractor as soon as is reasonably possible after County learns of said unavailability of outside funding.

### **6. Relationship of Parties**

Contractor agrees and understands that the Services performed under this Agreement are performed as an independent Contractor and not as an employee of County and that neither Contractor nor its employees acquire any of the rights, privileges, powers, or advantages of County employees.

## **7. Hold Harmless**

7.1 General Hold Harmless. Contractor shall indemnify and save harmless County and its officers, agents, employees, and servants from all claims, suits, or actions of every name, kind, and description resulting from this Agreement, the performance of any Services required of Contractor under this Agreement, or payments made pursuant to this Agreement brought for, or on account of, any of the following: (A) injuries to or death of any person, including Contractor or its employees/officers/agents; (B) damage to any property of any kind whatsoever and to whomsoever belonging; (C) any sanctions, penalties, or claims of damages resulting from Contractor's failure to comply, if applicable, with the requirements set forth in the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and all Federal regulations promulgated thereunder, as amended; or (D) any other loss or cost, except to the extent caused by the negligence of County and/or its officers, agents, employees, or servants. Contractor's duty to indemnify and save harmless under this Section shall not apply to injuries or damage for which County has been found in a court of competent jurisdiction to the extent liable by reason of its own negligence or willful misconduct.

The duty of Contractor to indemnify and save harmless as set forth by this Section shall include the duty to defend as set forth in Section 2778 of the California Civil Code, but only to the extent a duty to defend arises out of Contractor's negligence.

Neither party shall be liable to the other for indirect or consequential (including loss of business, loss of profits, and the like), exemplary, punitive or special damages, even if such party has been advised of the possibility of such damages in advance and even if a remedy set forth herein is found to have failed of its essential purpose. Under no circumstance shall Contractor's liability under this Agreement exceed Three Million Dollars (\$3,000,000) in the aggregate over the term of the Agreement.

Contractor shall not be responsible to the County for damage, loss, injury, or delay caused by conditions beyond Contractor's reasonable control, and without the intentional misconduct or negligence of Contractor. Such conditions include, but are not limited to: (a) acts of God; (b) acts of Government agencies; (c) strikes; (d) labor disputes; (e) thefts; (f) vandalism; (g) terrorism, riots or war; or (h) unavailability of parts, materials or supplies.

## **7.2 Intellectual Property Indemnification.**

Contractor hereby certifies that it owns, controls, or licenses and retains all right, title, and interest in and to any intellectual property it uses in relation to this Agreement, including the design, look, feel, features, source code, content, and other technology relating to any part of the Services it provides under this Agreement and including all related patents, inventions, trademarks, and copyrights, all applications therefor, and all trade names, service marks, know how, and trade secrets ("IP Rights") except as otherwise noted by this Agreement. Contractor warrants that the Services it provides under this Agreement do not infringe, violate, trespass, or constitute the

unauthorized use or misappropriation of any IP Rights of any third party. Contractor shall defend, indemnify, and hold harmless County from and against all liabilities, costs, damages, losses, and expenses (including reasonable attorney fees) arising out of or related to any claim by a third party that the Services provided under this Agreement infringe or violate any third-party's IP Rights provided any such right is enforceable in the United States. Contractor's duty to defend, indemnify, and hold harmless under this Section applies only provided that: (a) County notifies Contractor promptly in writing of any notice of any such third-party claim; (b) County cooperates with Contractor, at Contractor's expense, in all reasonable respects in connection with the investigation and defense of any such third-party claim; (c) Contractor retains sole control of the defense of any action on any such claim and all negotiations for its settlement or compromise (provided Contractor shall not have the right to settle any criminal action, suit, or proceeding without County's prior written consent, not to be unreasonably withheld, and provided further that any settlement permitted under this Section shall not impose any financial or other obligation on County, impair any right of County, or contain any stipulation, admission, or acknowledgement of wrongdoing on the part of County without County's prior written consent, not to be unreasonably withheld); and (d) should Services under this Agreement become, or in Contractor's opinion be likely to become, the subject of such a claim, or in the event such a third party claim or threatened claim causes County's reasonable use of the Services under this Agreement to be seriously endangered or disrupted, Contractor shall, at Contractor's option and expense, either: (i) procure for County the right to continue using the Services without infringement or (ii) replace or modify the Services so that they become non infringing but remain functionally equivalent.

Notwithstanding anything in this Section to the contrary, Contractor will have no obligation or liability to County under this Section to the extent any otherwise covered claim is based upon: (a) any aspects of the Services under this Agreement which have been modified by or for County (other than modification performed by, or at the direction of, Contractor) in such a way as to cause the alleged infringement at issue; (b) any aspects of the Services under this Agreement which have been used by County in a manner prohibited by this Agreement.

The duty of Contractor to indemnify and save harmless as set forth by this Section shall include the duty to defend as set forth in Section 2778 of the California Civil Code, , but only to the extent of any claim by a third-party that the Services provided under this Agreement infringe or violate such third-party's IP rights, provided any such right is enforceable in the United States.

## **8. Assignability and Subcontracting**

Contractor shall not assign this Agreement or any portion thereof to a third party or subcontract with a third party to provide Services required by Contractor under this Agreement without the prior written consent of County, , which shall not be unreasonably withheld, delayed or conditioned. Any such assignment or subcontract without County's prior written consent shall give County the right to automatically and immediately terminate this Agreement.

#### **9. Insurance**

Contractor shall not commence work or be required to commence work under this Agreement unless and until all insurance required under this Section has been obtained and such insurance has been approved by County's Risk Management, and Contractor shall use diligence to obtain such insurance and to obtain such approval. Contractor shall furnish County with certificates of insurance evidencing the required coverage, and there shall be a specific contractual liability endorsement extending Contractor's coverage to include the contractual liability assumed by Contractor pursuant to this Agreement. These certificates shall specify or be endorsed to provide that thirty (30) days' notice must be given, in writing, to County of any pending change in the limits of liability or of any cancellation or modification of the policy.

- (1) **Workers' Compensation and Employer's Liability Insurance.** Contractor shall have in effect during the entire term of this Agreement workers' compensation and employer's liability insurance providing full statutory coverage. In signing this Agreement, Contractor certifies, as required by Section 1861 of the California Labor Code, (a) that it is aware of the provisions of Section 3700 of the California Labor Code, which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the Labor Code, and (b) that it will comply with such provisions before commencing the performance of work under this Agreement.
- (2) **Liability Insurance.** Contractor shall take out and maintain during the term of this Agreement such bodily injury liability and property damage liability insurance as shall protect Contractor and all of its employees/officers/agents while performing work covered by this Agreement from any and all claims for damages for bodily injury, including accidental death, as well as any and all claims for property damage which may arise from Contractor's operations under this Agreement, whether such operations be by Contractor, any subcontractor, anyone directly or indirectly employed by either of them, or by an agent of either of them. Such insurance shall be combined single limit bodily injury and property damage for each occurrence and shall not be less than the amount specified below.

Such insurance shall include:

- |     |   |             |
|-----|---|-------------|
| (a) | Comprehensive General Liability .....   | \$3,000,000 |
| (b) | Motor Vehicle Liability Insurance ..... | \$1,000,000 |

(c) Professional Liability. . . . . \$1,000,000

County and its officers, agents, employees, and servants shall be named as additional insured on any such policies of insurance, with respect to liability arising out of operations performed for County by or on behalf of Contractor, but only to the extent of damages caused by the negligence of Contractor, which shall also contain a provision that (a) the insurance afforded thereby to County and its officers, agents, employees, and servants shall be primary insurance except to the extent any loss, claim or action is caused by the negligence of one or more of the additional insureds and (b) if the County or its officers, agents, employees, and servants have other insurance against the loss covered by such a policy, such other insurance shall be excess insurance only . except to the extent any loss, claim or action is caused by the negligence of one or more of the additional insureds.

In the event of the breach of any provision of this Section, or in the event any notice is received which indicates any required insurance coverage will be diminished or canceled, County, at its option, may, notwithstanding any other provision of this Agreement to the contrary, immediately declare a material breach of this Agreement and suspend all further Services and payment pursuant to this Agreement.

#### **10. Compliance With Laws**

All Services to be performed by Contractor pursuant to this Agreement shall be performed in accordance with all applicable Federal, State, County, and municipal laws, ordinances, and regulations, including but not limited to the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the Federal Regulations promulgated thereunder, as amended (if applicable), the Business Associate requirements set forth in Attachment H (if attached), the Americans with Disabilities Act of 1990, as amended, and Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of handicap in programs and activities receiving any Federal or County financial assistance. Such Services shall also be performed in accordance with all applicable ordinances and regulations, including but not limited to appropriate licensure, certification regulations, provisions pertaining to confidentiality of records, and applicable quality assurance regulations. In the event of a conflict between the terms of this Agreement and any applicable State, Federal, County, or municipal law or regulation, the requirements of the applicable law or regulation will take precedence over the requirements set forth in this Agreement.

Further, Contractor certifies that Contractor and all of its subcontractors will adhere to all applicable provisions of Chapter 4.106 of the San Mateo County Ordinance Code, which regulates the use of disposable food service ware.

Contractor will timely and accurately complete, sign, and submit all necessary documentation of compliance.

#### **11. Non-Discrimination and Other Requirements**

- A. *General non-discrimination.* No person shall be denied any Services provided pursuant to this Agreement (except as limited by the scope of Services) on the grounds of race, color, national origin, ancestry, age, disability (physical or mental), sex, sexual orientation, gender identity, marital or domestic partner status, religion, political beliefs or affiliation, familial or parental status (including pregnancy), medical condition (cancer-related), military service, or genetic information.
- B. *Equal employment opportunity.* Contractor shall ensure equal employment opportunity based on objective standards of recruitment, classification, selection, promotion, compensation, performance evaluation, and management relations for all employees under this Agreement. Contractor's equal employment policies shall be made available to County upon request.
- C. *Section 504 of the Rehabilitation Act of 1973.* Contractor shall comply with Section 504 of the Rehabilitation Act of 1973, as amended, which provides that no otherwise qualified handicapped individual shall, solely by reason of a disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination in the performance of this Agreement. This Section applies only to contractors who are providing Services to members of the public under this Agreement.
- D. *Compliance with County's Equal Benefits Ordinance.* With respect to the provision of benefits to its employees, Contractor shall comply with Chapter 2.84 of the County Ordinance Code, which prohibits contractors from discriminating in the provision of employee benefits between an employee with a domestic partner and an employee with a spouse. In order to meet the requirements of Chapter 2.84, Contractor must certify which of the following statements is/are accurate:

- ☒ Contractor complies with Chapter 2.84 by:
  - ☒ offering the same benefits to its employees with spouses and its employees with domestic partners.
  - ☒ offering, in the case where the same benefits are not offered to its employees with spouses and its employees with domestic partners, a cash payment to an employee with a domestic partner that is equal to Contractor's cost of providing the benefit to an employee with a spouse.
- ☐ Contractor is exempt from having to comply with Chapter 2.84 because it has no employees or does not provide benefits to employees' spouses.
- ☐ Contractor does not comply with Chapter 2.84, and a waiver must be sought.

- E. *Discrimination Against Individuals with Disabilities.* The Contractor shall comply fully with the nondiscrimination requirements of 41 C.F.R. 60-741.5(a), which is incorporated herein as if fully set forth.
- F. *History of Discrimination.* Contractor must check one of the two following options, and by executing this Agreement, Contractor certifies that the option selected is accurate:
- ☒ No finding of discrimination has been issued in the past 365 days against Contractor by the Equal Employment Opportunity Commission, Fair Employment and Housing Commission, or any other investigative entity.
  - ☐ Finding(s) of discrimination have been issued against Contractor within the past 365 days by the Equal Employment Opportunity Commission, Fair Employment and Housing Commission, or other investigative entity. If this box is checked, Contractor shall provide County with a written explanation of the outcome(s) or remedy for the discrimination.
- G. *Violation of Non-discrimination provisions.* Violation of the non-discrimination provisions of this Agreement shall be considered a breach of this Agreement and subject the Contractor to penalties, to be determined by the County Manager, including but not limited to the following:
- i) termination of this Agreement;
  - ii) disqualification of the Contractor from bidding on or being awarded a County contract for a period of up to 3 years;
  - iii) liquidated damages of \$2,500 per violation; and/or
  - iv) imposition of other appropriate contractual and civil remedies and sanctions, as determined by the County Manager.

To effectuate the provisions of this Section, the County Manager shall have the authority to examine Contractor's employment records with respect to compliance with this Section and/or to set off all or any portion of the amount described in this Section against amounts due to Contractor under this Agreement or any other agreement between Contractor and County.

Contractor shall report to the County Manager the filing by any person in any court of any complaint of discrimination or the filing by any person of any and all charges with the Equal Employment Opportunity Commission, the Fair Employment and Housing Commission, or any other entity charged with the investigation of allegations within 30 days of such filing, provided that within such 30 days such entity has not notified Contractor that such charges are dismissed or otherwise unfounded. Such



notification shall include the name of the complainant, a copy of such complaint, and a description of the circumstance. Contractor shall provide County with a copy of their response to the Complaint when filed.

**12. Compliance with County Employee Jury Service Ordinance**

Contractor shall comply with Chapter 2.85 of the County's Ordinance Code, which states that a contractor shall have and adhere to a written policy providing that its employees, to the extent they live in San Mateo County, shall receive from the Contractor, on an annual basis, no fewer than five days of regular pay for jury service in San Mateo County, with jury pay being provided only for each day of actual jury service. The policy may provide that such employees deposit any fees received for such jury service with Contractor or that the Contractor may deduct from an employee's regular pay the fees received for jury service in San Mateo County. By signing this Agreement, Contractor certifies that it has and adheres to a policy consistent with Chapter 2.85. For purposes of this Section, if Contractor has no employees in San Mateo County, it is sufficient for Contractor to provide the following written statement to County: "For purposes of San Mateo County's jury service ordinance, Contractor certifies that it has no employees who live in San Mateo County. To the extent that it hires any such employees during the term of its Agreement with San Mateo County, Contractor shall adopt a policy that complies with Chapter 2.85 of the County's Ordinance Code."

**13. Retention of Records, Right to Monitor and Audit**

(a) Contractor shall maintain all required records for three (3) years after County makes final payment and all other pending matters are closed, and Contractor shall be subject to the examination and/or audit of County, a Federal grantor agency, and the State of California.

(b) Reporting and Record Keeping: Contractor shall comply with all program and fiscal reporting requirements set forth by appropriate Federal, State, and local agencies, and as required by County.

(c) Contractor agrees upon reasonable notice to provide to County, to any Federal or State department having monitoring or review authority, to County's authorized representatives, and/or to any of their respective audit agencies access to and the right to examine all records and documents necessary to determine compliance with relevant Federal, State, and local statutes, rules, and regulations, to determine compliance with this Agreement, and to evaluate the quality, appropriateness, and timeliness of Services performed. The foregoing shall take place at County's expense and shall be limited to the scope of Services of this Agreement.

**14. Warranty** Contractor will perform the Services in a professional, workman-like manner. Contractor will promptly re-perform any non-conforming Services for no charge, as long as County provides written notice to Contractor within one (1) year following acceptance of the Services. If Contractor installs or furnishes goods or equipment under this Agreement, and such goods or equipment are covered by an

end-user warranty from their manufacturer, Contractor will transfer the benefits of such warranty to County. The foregoing remedy with respect to the Services, together with any remedy provided by goods or equipment manufacturers, shall be County's sole and exclusive remedies for warranty claims. County agrees that the one (1) year period following its acceptance of the Services shall be a reasonable time for purposes of submitting valid warranty claims with respect to the Services. These exclusive remedies shall not have failed of their essential purpose so long as Contractor transfers the benefits of any goods or equipment end-user warranty to County and remains willing to re-perform any non-conforming Services for no charge within the one (1) year period described above. NO OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE PROVIDED BY CONTRACTOR. This warranty does not extend to any Services that has been abused, altered, or misused, or repaired by County or third parties without the supervision or prior written approval of Contractor. Except with respect to goods or equipment manufactured by Contractor and furnished to County hereunder, for which Contractor shall provide its express written manufacturer's warranty, Contractor shall not be considered a merchant or vendor of goods or equipment.

#### **15. Hazardous Materials**

**(a) Asbestos-Containing Materials:** Neither party desires to or is licensed to undertake direct obligations relating to the identification, abatement, cleanup, control, removal or disposal of asbestos-containing materials ("ACM"). Consistent with applicable Laws, County shall supply Contractor with any information in its possession relating to the presence of ACM in areas where Contractor undertakes any Services that may result in the disturbance of ACM. It is Contractor's policy to seek certification for facilities constructed prior to 1982 that no ACM is present, and County shall provide such certification for buildings it owns, or aid Contractor in obtaining such certification from facility owners in the case of buildings that County does not own, if Contractor will undertake Services in the facility that could disturb ACM. If either County or Contractor becomes aware of or suspects the presence of ACM that may be disturbed by Contractor's Services, it shall promptly stop the Services in the affected area and notify the other. As between County and Contractor, County shall be responsible at its sole expense for addressing the potential for or the presence of ACM in conformance with all applicable Laws and addressing the impact of its disturbance before Contractor continues with its Services, unless Contractor had actual knowledge that ACM was present and acted with intentional disregard of that knowledge, in which case (i) Contractor shall be responsible at its sole expense for remediating areas impacted by the disturbance of the ACM, and (ii) County shall resume its responsibilities for the ACM after Contractor's remediation has been completed.

**b) Hazardous Materials:** Contractor shall be responsible for removing or disposing of any Hazardous Materials (as defined below) that it uses in providing Services ("Contractor Hazardous Materials") and for the remediation of any areas impacted by the release of Contractor Hazardous Materials. For other Hazardous Materials that may be otherwise present at County's facilities ("Non-Contractor Hazardous

Materials”), County shall supply Contractor with any information in its possession relating to the presence of such materials if their presence may affect Contractor’s performance of the Services. If either County or Contractor becomes aware of or suspects the presence of Non-Contractor Hazardous Materials that may interfere with Contractor’s Services, it shall promptly stop the Services in the affected area and notify the other. As between County and Contractor, County shall be responsible at its sole expense for removing and disposing of Non-Contractor Hazardous Materials from its facilities and the remediation of any areas impacted by the release of Non-Contractor Hazardous Materials, unless Contractor had actual knowledge that Non-Contractor Hazardous Materials were present and acted with intentional disregard of that knowledge, in which case (i) Contractor shall be responsible at its sole expense for the remediation of any areas impacted by its release of such Non-Contractor Hazardous Materials, and (ii) County shall remain responsible at its sole expense for the removal of Non-Contractor Hazardous Materials that have not been released and for releases not resulting from Contractor’s performance of the Services. For purposes of this Agreement, “Hazardous Materials” means any material or substance that, whether by its nature or use, is now or hereafter defined or regulated as a hazardous waste, hazardous substance, pollutant or contaminant under applicable Law relating to or addressing public or employee health and safety and protection of the environment, or which is toxic, explosive, corrosive, flammable, radioactive, carcinogenic, mutagenic or otherwise hazardous or which is or contains petroleum, gasoline, diesel, fuel, another petroleum hydrocarbon product, or polychlorinated biphenyls. “Hazardous Materials” specifically includes mold and lead-based paint and specifically excludes ACM. Contractor shall have no obligations relating to the identification, abatement, cleanup, control, removal, or disposal of mold, regardless of the cause of the mold.

#### **16. Merger Clause & Amendments**

This Agreement, including the Exhibits and Attachments attached to this Agreement and incorporated herein by reference, constitutes the sole Agreement of the parties to this Agreement and correctly states the rights, duties, and obligations of each party as of this document’s date. In the event that any term, condition, provision, requirement, or specification set forth in the body of this Agreement conflicts with or is inconsistent with any term, condition, provision, requirement, or specification in any Exhibit and/or Attachment to this Agreement, the provisions of the body of the Agreement shall prevail. Any prior agreement, promises, negotiations, or representations between the parties not expressly stated in this document are not binding. All subsequent modifications or amendments shall be in writing and signed by the parties.

#### **7. Controlling Law and Venue**

The validity of this Agreement and of its terms or provisions, the rights and duties of the parties under this Agreement, the interpretation of this Agreement, the performance of this Agreement, and any other dispute of any nature arising out of this Agreement shall be governed by the laws of the State of California without regard to its choice of law rules. Any dispute arising out of this Agreement shall be venued either in the San Mateo County Superior Court or in the United States District Court for the Northern District of California.

**18. Notices**

Any notice, request, demand, or other communication required or permitted under this Agreement shall be deemed to be properly given when both: (1) transmitted via facsimile to the telephone number listed below or transmitted via email to the email address listed below; and (2) sent to the physical address listed below by either being deposited in the United States mail, postage prepaid, or deposited for overnight delivery, charges prepaid, with an established overnight courier that provides a tracking number showing confirmation of receipt.

**In the case of County, to:**

Name/Title: James C. Porter  
Address: 555 County Center, 5<sup>th</sup> Floor  
Telephone: 650-599-1421  
Facsimile: 650-361-8220  
Email: jporter#smcgov.org

**In the case of Contractor, to:**

Name/Title: Neil A. Umscheid, Southwestern Area General Manager  
Address: 5770 Warland Dr., Cypress, CA 90630  
Telephone: ~~562-464-6119~~ 949-940-5928  
Facsimile:  
Email: neil.umscheid@jci.com

**19. Electronic Signature**

If both County and Contractor wish to permit this Agreement and future documents relating to this Agreement to be digitally signed in accordance with California law and County's Electronic Signature Administrative Memo, both boxes below must be checked. Any party that agrees to allow digital signature of this Agreement may revoke such agreement at any time in relation to all future documents by providing notice pursuant to this Agreement.

For County: ☐ If this box is checked by County, County consents to the use of electronic signatures in relation to this Agreement.

For Contractor: ☐ If this box is checked by Contractor, Contractor consents to the use of electronic signatures in relation to this Agreement.

IN WITNESS WHEREOF, the parties hereto, by their duly authorized representatives, have affixed their hands.

COUNTY OF SAN MATEO


By: \_\_\_\_\_  
President, Board of Supervisors, San Mateo  
County

Date: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_  
Clerk of Said Board

Johnson Controls, Inc.

  
Contractor's Signature

Date: 9-17-13

(Revised 7/1/13)

### Exhibit A

In consideration of the payments set forth in Exhibit B, Contractor shall provide the following Services:

The Contractor will at his own proper cost and expense, design, obtain all necessary permits, and do all the work and furnish all the labor, materials, equipment and utilities necessary to furnish and install a 750 Kw Cogeneration system (Option A) as proposed in their Proposal, attachment 1, with the following amendments:

- 1) Under Tab 4, Assumptions and exclusions: delete items b., e., f., and h. Any additional requirements by PG&E, OSHPD as a result of changes in regulations or code changes implemented after the date of this agreement are excluded.
- 2) Under Tab 4, Additional assumptions related to availability of material and site conditions: delete items m., n., o., p., and q. Change r. to read "County will coordinate construction access and work areas in the parking lot adjacent to the cooling towers."
- 3) Under Tab 4, Additional assumptions related to availability of material and site conditions, in item s., delete "...or other unforeseen changes..."
- 4) County agrees to negotiate in good faith to identify and implement a remedy for changed differing site conditions or unexpected from that ordinarily encountered. Contractor acknowledges it has had ample access to and has fully inspected all areas of the project site.
- 5) Contractor shall be responsible to insure that operation of the COGEN system will cause no more than a 1 dB increase in the measured sound at the nearest adjacent neighboring property line to the COGEN equipment. The measurement shall be made with the central plant equipment, existing on the date of this contract, and the COGEN equipment running simultaneously. Contractor shall have a third party perform a sound survey of the before and after condition in order to verify compliance.
- 6) Within two weeks of contract approval, Contractor shall furnish County a bond for faithful performance of the contract in an amount of not less than

one hundred percent of the amount of the contract, and also a payment bond for all wages, service and materials in an amount not less than the total contract amount.

- 7) When applicable, the Contractor hereby agrees to pay not less than the prevailing rates of wages and be responsible for compliance with all the provisions of the California Labor Code, Article 2-Wages, Chapter 1, Part 7, Division 2, Section 1770 et seq.. A copy of the prevailing wage scale established by the Department of Industrial Relations is on file in the office of the Director of Public Works, and available at [www.dir.ca.gov/DLSR](http://www.dir.ca.gov/DLSR) or by phone at 415-703-4774. **California Labor Code Section 1776(a) requires each contractor and subcontractor to keep accurate payroll records of trades workers on all public works projects and to copies of certified payroll records upon request.**
- 8) The system will provide preheating of return water for the hydronic system and indirectly to the local domestic hot water system. The design phase shall include an investigation of the practicality and usefulness of also preheating the boiler feed make-up water for the steam boilers.
- 9) Provide all licenses, keys, etc. and all documentation and any information required to install, configure, operate, diagnose and maintain the Genview and other control software system. Provide all operator interface, programming environment, networking, database management and any other software used by the contractor to install the system or needed to operate the system to its full capabilities.
- 10) Provide graphics to monitor and control engines and other CHP components within the scope of the CHP system as supplied. Graphics will show the heat transfer to the building heating water return loop (point of common connection to the existing plant). System will calculate and display real-time, overall, thermal and electrical efficiencies of the CHP system as supplied.
- 11) Contractor shall coordinate with County during design development and such design and specifications shall be subject to County approval.
- 12) Contractor shall warrant all work for a period of 1 year from acceptance of

the work by County.

- 13) System shall have the capability to follow either the electrical demand or thermal demand within limits of manufacturer operating parameters. Dump radiator shall be sized to serve all three engines simultaneously.
- 14) Appendix A – Scope of Work – Additional Detail Base Solution, Delete the last sentence of paragraph 4, i.e. “The plumbing to and from the client side.....”
- 15) It is understood that Appendix A – Scope of Work –Additional Detail Base Solution is a proposal from Elite to Contractor and that any reference to additional cost, responsibility of others, etc, refers to Contractor and not to County, and such costs and responsibilities, where applicable, are included in Contractor’s proposal.
- 16) Contractor guarantees that the system proposed will comply with BAAQMD emissions requirement
- 17) All pipe connections shall be Victaulic type.
- 18) Contractor shall be assessed Liquidated Damages in the amount of \$1000/ business day commencing on the first day following 22 weeks from the date OSHPD issues a permit for the project and the County has issued a notice to proceed, and continue until the project is accepted by the County. Credit shall be given to Contractor for any delays caused by PG&E once the interconnection is in place and the system is ready for parallel testing. Liquidated damages are subject to the terms and conditions of the Agreement, including but not limited to Section 7.
- 19) Contractor shall not proceed until County has issued a notice to proceed following approval of the contract.



### **Exhibit B**

In consideration of the Services provided by Contractor in Exhibit A and subject to the terms of the Agreement, County shall pay Contractor based on the following fee schedule and terms:

Contractor agrees to perform the scope of work identified in Exhibit A for a lump sum amount of \$2,425,000.

All payments will be invoiced at the end of each month, and shall be based upon the percentage of work completed to date including materials stored and work performed on and off-site. For materials received and stored offsite, contractor shall include a certification that such materials have been received for the benefit of county with their invoice. County and Contractor shall agree to a "Schedule of Values" on which the relative percent complete will be determined. The payments will continue up to ninety-five percent (95%) percent of the total price. The final five (5%) percent shall be billed once the Notice of Completion is approved by the County.

County may withhold 5% of all progress payments until thirty days following the filing of a Notice of completion and no claims have been received.



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## APPENDIX

Scope of Work - Tab 4 - Appendix A and B

Capacity to Perform – Bonding and Insurance



## Cover Letter

Provide a one page cover letter on your letterhead which includes the address, voice and fax numbers, and e-mail address of the contact person or persons and an indication of who is authorized to represent the proposer in negotiations.

Unless the proposer is an individual, all proposals must be signed with a firm/company/partnership/entity name and by a responsible officer or employee indicating that officer or employee's authorization to commit the proposer to the terms of the proposal. Obligations assumed by such signature must be fulfilled.

---

Johnson Controls has provided a cover letter on the following page.

June 13, 2013

Mr. Douglas R. Koenig  
County of San Mateo  
Department of Public Works  
555 County Center 5th Floor  
Redwood City, CA 94063

Re: RFP Response: Request for Proposals No. 2013 – 0001 - Combined Heat and Power System at San Mateo Medical Center

Dear Mr. Koenig:

Dear Mr. Koenig:

Johnson Controls is pleased to submit our response to your request for proposals for a CHP System at San Mateo Medical Center. We have completed a thorough and detailed project development process, and with our partners Elite Energy, Peterson Power, Caterpillar and Turley & Associates engineers are pleased to make this proposal to you.

This team is exactly the same team that designed and built the very successful and very similar cogeneration plant located at John Muir Medical Center in Concord California. We are confident that our familiarity with each other and the collective skills we allow the county to start collecting the benefits of the cogeneration plant sooner.

Mike Kozlowski is the Account Executive responsible for this opportunity, and may be contacted with any questions during the proposal evaluation period. Mr. Kozlowski is the company representative authorized to negotiate on behalf of Johnson Controls and contractually bind our company relative to activities that result from this proposal.

Mike Kozlowski, Account Exec Public Sector  
Johnson Controls Inc.  
103 Woodmere Road, Suite 110  
Folsom CA, 95630  
Office telephone: (916) 294-8816 / Mobile telephone: (916) 458-2512 / Fax: (916) 294-8889  
Email: Mike.Kozlowski@jci.com

Sincerely,

Mike Kozlowski, AIA, LEED AP  
Johnson Controls, Inc.



## Executive Summary

Johnson Controls, Inc. (JCI) and its team of suppliers and engineers is uniquely qualified to design, permit, construct, service, maintain and guarantee the availability a Combined Heat and Power system for the County of San Mateo at San Mateo Medical Center. This team JCI, Elite Energy, Peterson Power, Caterpillar and Turley & Associates very recently and very successfully provided these exact same services to the John Muir Medical Center in Concord California. The system for JMMC was very similar in composition and design output to what is being contemplated by the County and what we have collectively proposed.

Our offer is straight-forward and the lines of responsibility are simplified. This project is offered as a design-build contract, and a service/maintenance and availability guarantee contract. Johnson Controls will be the design build entity and take responsibility for all work necessary to design, permit, secure rebates, construct, and start-up the system. As requested a second contract for service and maintenance is offered by Peterson Power. Peterson Power of San Leandro, California is the local distributor of and the preferred service provider for Caterpillar engine/generator sets. A guarantee of 94% availability is contained within that service and maintenance agreement.

### Base Solution

Our proposal offers a base solution for a complete CHP system built around three(3) 250kWe rich burn engine/generator sets. That solution would provide at full power 750kWe and approximately 4,540,000 Btu/hour of hot water at a nominal temperature of approximately 196 degrees. This solution at the costs we have estimated and if the system is utilized fully will result in approximately \$245,596 savings in utility expense for electricity and natural gas in year one and over its expected life will save more than \$2,800,000 in expense. A cash flow and net-present value calculation is provided to further detail the anticipated benefits.

Our team is confident that this solution provides the best balance of:

- First cost
- Ability to modulate production of electricity and hot water to suit facility needs
- Operating expense.

Peterson Power has offered a contract for Service of the full CHP system for the ten years term that was requested. There scope will extend to all components and contemplates both routine and overhaul type maintenance that will be required to maintain the system over the ten year term.

### Alternate Solution

Our proposal offers an alternate solution at a different price for a complete CHP system built around two(2) 400kWe lean burn engine/generator sets. That solution would provide at full power 800kWe and approximately 3,173,600 Btu/hour of hot water at a nominal temperature of approximately 196 degrees. This solution at the costs we have estimated and if the system is utilized fully will result in



approximately \$246,863 savings in utility expense for electricity and natural gas in year one and over its expected life will save more than \$2,000,000 in expense. A cash flow and net-present value calculation is provided to further detail the anticipated benefits.

This alternative provides some additional electrical generating capacity, is also approximately 25% more efficient in terms of recovery of heat, but produces less heat overall. That effectively reduces the cost of natural gas to operate. The tradeoff however is that this system requires a significantly more complex emissions control system in order to meet local air quality regulations. That additional emissions control makes this system more expensive, and adds a level of complexity and material handling for the emissions controls.

From a pure cost standpoint this system has a longer simple payback from savings/avoided cost.

Peterson Power has offered a contract for service of the full CHP system for the ten years term that was requested. The cost for that maintenance is different from the base solution. There scope will extend to all components and contemplates both routine and overhaul type maintenance that will be required to maintain the system over the ten year term.



# TAB 1 - Firm Qualifications and Experience

Firm Qualifications: Description of the organization and staffing to be used for the project.

## Company Overview

Our company's origins go back to 1885, when Warren S. Johnson, a professor at the State Normal School in Whitewater, Wisconsin, received a patent for the first electric room thermostat. His invention launched the building control industry and was the impetus for a new company. Professor Johnson and a group of Milwaukee investors incorporated with the intent to manufacture, install, and service automatic temperature regulation systems for buildings.

Today, Johnson Controls continues to deliver innovative infrastructure improvement solutions that directly contribute to our clients' core mission and bottom line. We have been in the energy efficiency business for 128 years, and we will be there to support your organization long after individual projects are implemented. Our size allows customers to take advantage of national purchasing agreements and strategic relationships with energy-related vendors.

Our Building Efficiency group, the unit responsible for energy conservation projects, is a global leader in the sustainability industry. We are a full-line service provider of mechanical equipment and technology that controls HVAC, lighting, water, renewable energy, security and fire management in non-residential buildings. Our team of over 10,000 front-line service providers offers capabilities that extend far beyond maintaining mechanical equipment and control systems. Over the course of the past 30 plus years, Johnson Controls has implemented more than 3,000 performance contracting projects. Within the past 15 years alone, our performance contracting solutions have generated savings of approximately \$7.5 billion for our customers and have resulted in the reduction of more than 16 million metric tons of carbon dioxide or "greenhouse gas" emissions.

We are committed to energy efficiency and proud of our leadership role in the industry, developing and implementing successful guaranteed energy performance projects and design-build projects throughout North America. Our credentials include our global leadership in the certification of Leadership in Energy and Environmental Design (LEED) building projects. Our company also was named as the U.S. Environmental Protection Agency ENERGY STAR Buildings'



### At-a-Glance

<b>Years in Business</b>	128
<b>Number of Employees</b>	170,000 worldwide, including 955 in New Jersey dedicated to Building Efficiency
<b>Net Sales</b>	\$42 B (Fiscal year 2012)
<b>Our Vision</b>	Creating a more comfortable, safe and sustainable world.
<b>Our Mission</b>	Exceeding our customers' increasing expectations







"Ally of the Year" for energy efficiency leadership

Additionally, we are recognized by the National Association of Energy Service Companies (NAESCO) with their highest rating of Energy Services Provider (one of only 10 firms in North America with this distinction). This accreditation requires the technical and managerial competence to:



- Provide energy supply through the development and implementation of build/own/ operate distributed generation, cogeneration or combined heat and power projects or the firm contracting energy supply.
- Develop comprehensive energy efficiency projects, including lighting measures, efficient motors and drives, and measures involving HVAC systems.

As a result of our work in building efficiency, we have created the world's largest repository of workspace information derived from our experience operating and maintaining over 1.8 billion square feet of facility workspace and controlling over \$5 billion in annual energy and operations spend. This allows us to benchmark the performance of these facilities and provides us the opportunity to apply our most current best practices to achieve specific goals for new clients.

### Financial Stability

Overall, our commitment to exceeding client satisfaction in all areas of our business has contributed to decades of consistent growth and financial success. Since our beginnings, we have continued to develop, expanding into a global company listed 67th among Fortune 100 companies with \$42 billion in sales in FY2012, making us a financially sound and stable business partner. The day-to-day commitment of over 170,000 employees worldwide has contributed to our consistent growth and financial success. One example of our strength is the fact that we have paid consecutive dividends to our investors every year since 1887.

### Ethics and Integrity



We have been in the business of saving energy for clients for 128 years, always guided by a strong code of ethics. Johnson Controls has been named one of the "World's Most Ethical Companies" for the seventh consecutive year by the Ethisphere Institute.

Ethisphere is dedicated to the creation, advancement and sharing of best practices in business ethics, corporate social responsibility, anti-corruption and sustainability. We are only of only 19 companies to make this prestigious list for all seven years of its existence.





The Institute is an international think-tank dedicated to the creation, advancement and sharing of best practices in business ethics, corporate social responsibility, anti-corruption and sustainability.

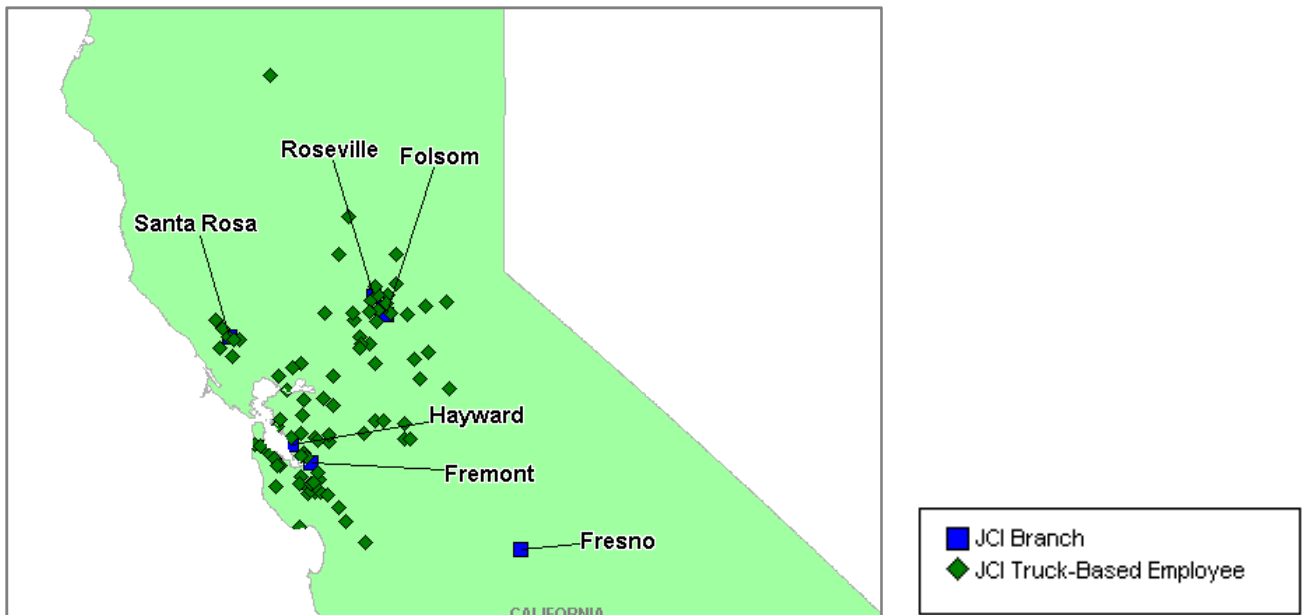
Our long-standing commitment to corporate responsibility has put us in the spotlight after we were ranked fifth in Corporate Responsibility Magazine's ranking of 100 Best Corporate Citizens for 2012. The performance of each company was analyzed based on seven key areas: climate change, employee relations, environmental, financial, governance, human rights and philanthropy.

### Johnson Controls' California Operations

Since 1897, Johnson Controls has been helping California customers in a wide variety of markets conserve energy while improving comfort conditions within their buildings. We have grown its presence in California to 99 locations and more than 2,000 building efficiency employees in California alone, with specific buildings expertise, many of whom focus solely on the unique demands facing healthcare institutions.

We have designated our branch office located in Folsom, California to provide primary support for this contract.

The map below shows Johnson Controls' branch office locations and truck-based employees within Northern California. It is important to note that in addition to the key project team members assigned to your project from our Folsom office, we also can bring additional resources through our regional and national groups – all of which are supplemented by our strong network of local small business and subcontractor partners. We have unparalleled resources that can be immediately directed to your project as required. *We have provided information regarding our subcontracting partners for this project throughout our response.*





## CHP/Central Plant Experience

Improving efficiency by designing and installing central plant upgrades is a key focus for Johnson Controls, and the firm has assisted numerous clients in California and across the country implement projects similar to what is proposed for SMMC. We are among the largest, non-utility-owned providers of central plant projects in North America. We have implemented well over 1,000 energy and central plant projects – most of which included guaranteed savings and a financial solution. Information resulting from analysis of this data, combined with the experience of over 1,000 engineering professionals, allows Johnson Controls to identify potential areas of risk, and create guaranteed central energy plant outcomes at a lower cost.

## Project Staffing

Johnson Controls will serve as the primary contractor on this project. As such, Johnson Controls will be solely responsible for project success and will be accountable to San Mateo County and SMMC for achieving that success, including all actions of our subcontractors.

Our proposed subcontractor partners include the following firms, which comprise the project team responsible for the design and implementation of the CHP at John Muir Medical Center. Please see Tab 2, Section 3 for detailed information on our subcontractors.

- Turley & Associates Mechanical Engineering Group, Inc.
- Elite Energy Systems, LLC
- Peterson Power Systems

.



## TAB 2 – Project Team

### 1) Type of organization, size, professional registration and affiliations.

**We have provided detailed information about the Johnson Controls Organization in Tab 1. The following supplements this with detail about our professional registration and affiliations.**

The County of San Mateo and the San Mateo Medical Center will benefit from our extensive involvement in a wide range of accreditations, certifications, licenses and memberships in professional/trade organizations. We have our finger on the pulse of the industry, and we help drive industry standards and procedures. These credentials will be instrumental in choosing the most cost-effective energy conservation measures (ECMs), incorporating the latest technology and providing some of the best-trained professionals as part of our project team.

### Professional Credentials of Your Project Team

Members of the team assigned to your project have the following professional certifications:

- LEED Accredited Professionals (LEED-AP)
- Certified Energy Manager (CEM)
- Certified Lighting Efficiency Professional (CLEP) and LC
- American Institute of Architects (AIA)
- California State Contractors License
- Professional Engineer

### LEED Accredited Professionals

As a charter member of the U.S. Green Building Council's board, Johnson Controls helped develop the LEED (Leadership in Energy and Environmental Design) Green Building Rating System. This rating system provides standards and recognition for designing, constructing and operating sustainable, high-performance facilities. With nearly 800 staff members who are well-trained, LEED credentialed professionals, we are able to help customers navigate the LEED rating system and certification process for both new and existing buildings.

### Clinton Climate Initiative

The Clinton Climate Initiative (CCI) launched the C40 Large Buildings Retrofit Program in May 2007 and introduced Johnson Controls as one of the lead providers of energy-efficient solutions and technologies to work with CCI to reduce greenhouse gases in 40 cities worldwide. Johnson Controls signed a Memorandum of Understanding with CCI, pledging to work with the Initiative and city governments to improve energy efficiency in municipal and private sector buildings around the world.



## Additional Organizations

We have memberships and/or partnership agreements with the American College of Healthcare Executives (ACHE), American Society of Healthcare Engineers (ASHE) and Strategic Account Management Association (SAMA). We understand the healthcare industry, and we help drive industry standards and procedures. Active memberships and affiliations with many of these organizations demonstrate our dedication to improving our clients' operations.

Johnson Controls also has the following industry affiliations, which give our employees an in-depth understanding of energy efficiency-related issues that impact our customers at both the national level as well as state/chapter level:

- American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE)
- National Association of State Energy Officials (NASEO)
- National Association of Lighting Management Companies (NALMCO)
- International Facilities Management Association (IFMA)
- Edison Electric Institute (EEI)
- Illuminating Engineering Society (IES):
  - This organization is dedicated to the use of proper lighting principles that address both qualitative and quantitative issues. Johnson Controls is a sustaining member of IES and is active in local chapters.
- Association of Physical Plant Administrators (APPA):
  - Johnson Controls is a long-standing active APPA member and education partner. The company's major APPA activities include: national, regional and local conventions in numerous locations; program and event sponsorships; and providing speakers and/or facilitators for business-education forums and workshops. Johnson Controls also sponsors engineering co-op and internship programs, and joint product research projects.
- American Society of Civil Engineers (ASCE)
- American Society of Safety Engineers (ASSE)
- Building Office Management Association (BOMA)
- American Institute of Architects (AIA)
- Institute of Electrical and Electronic Engineers (IEEE)
- National Institute for Uniform Licensing of Power Engineers (NIULPE)
- American Water Works Association (AWWA)
- Water Environment Federation (WEF)
- U.S. Green Building Council (USGBC)
- Association of Energy Engineers (AEE)
- Rebuild America
- Global Environmental Management Initiative (GEMI)



- Association for the Advancement of Sustainability in Higher Education (AASHE)
- National Minority Supplier Development Council (NMSDC)
- National Association of Minority Contractors (NAMC)
- National Summit on Building Performance



## 2) Identify key members' roles and qualifications and responsibility for this this project.

### Johnson Controls Team Member Roles and Responsibilities

The roles of our team members can be separated into three project stages: Project Development, Project Design and Project Construction.

<p><b>Project Development / Account Management</b></p> <p>Mike Kozlowski – AIA, LEED-AP</p>	<p>The Account Executive provides leadership and acts as the central point of communication for the client, the Johnson Controls' team and our subcontractors.</p> <p>Mr. Kozlowski is responsible for all aspects of the project, and assumes the lead in ensuring that the requirements of the project are fully achieved. He addresses the financial, business, operational and environmental objectives, needs and requirements, leading a team with the skills and expertise to solve the customer's challenges.</p> <p>Account Executives are empowered to negotiate agreements that commit Johnson Controls resources to fulfill our obligations.</p> <p>All other project team members work with the Account Executive to ensure a seamless project and consistent communication with customer personnel from start to finish.</p>
<p><b>Engineering Design and Management</b></p> <p>Tim Clark, CEM, CLEP, LC – Market Team Engineering Manager</p>	<p>The Engineering Manager holds primary responsibility for design, engineering, regulatory reviews, permit application preparation, interaction with permit agencies, grant and rebate application preparation and interaction with utility providers or grant providers.</p> <p>Mr. Clark is responsible for developing an efficient and effective means of interconnecting the new Combined Heat and Power (CHP) to existing central plant systems.</p> <p>His responsibilities also include ensuring that the new CHP system and its interconnections are compliant with applicable building codes, and county, regional and state regulations. Mr. Clark directs the actions of consulting engineers and is the key point of contact for the client for all matters related to the design and engineering of the system, and regulatory approvals related to its design and engineering.</p> <p>Engineering Managers are empowered to commit Johnson Controls and consultant resources to fulfill our obligations.</p> <p>The Account Executive and Operations Manager work directly with the Engineering Manager to ensure a seamless project and consistent communication with customer personnel from start to finish.</p>



<p><b>Engineering Design and Management</b></p> <p>Bryan Greenamyer: Subject Matter Expert</p>	<p>Subject Matter Experts provide support and guidance to the Account Executive and Engineering Manager through the preliminary development, design and engineering process.</p> <p>Mr. Greenamyer has held the position of Engineering Manager and Account Executive on many California Healthcare facility projects, and was instrumental in the development and design of the CHP system our team designed and installed for John Muir Medical Center in Concord California.</p> <p>He has also worked on numerous OSHPD approved projects over many years with our key engineering partner Turley &amp; Associates.</p>
<p><b>Project / Construction Management</b></p> <p>Dan Usher – Operations Manager</p>	<p>The Operations Manager (OM) holds primary responsibility for project cost and cost estimates, project schedules and progress monitoring, all construction activity, selection and management of construction resources, interaction with inspectors and testing agencies and project closeout activities.</p> <p>Mr. Usher is responsible for ensuring Johnson Controls' compliance with contractual obligations, and maintaining safety on the work site. He directs actions of construction resources and provides a key point of contact for the client for all matters related to site preparation, construction, installation of component equipment, start-up and testing of equipment, client training and site safety.</p> <p>Operations Managers are empowered to commit Johnson Controls and sub-contractor resources to fulfill our obligations. The Account Executive and Engineering Manager work directly with the Operations Manager to ensure a seamless project and consistent communication with customer personnel from start to finish.</p>





## Resumes of Key Johnson Controls Personnel

Project Team Member	Mike Kozlowski, AIA, LEED-AP
<b>Current Job Title</b>  <b>Role</b>	<b>Account Executive, Northern California Market Team</b>  Responsibilities include leading all aspects of the project, including utility data analysis, building surveys and facility assessment, financial justification feasibility studies, conceptual designs, owner communication, contract negotiation, planning and coordination of design presentations.
<b>Education</b>	Master of Architecture, Lawrence Technological University B.S. in Architecture, Lawrence Technological University
<b>Memberships and Certifications</b>	Architect's License, State of Michigan, 50676, California Architect's license pending oral exam LEED Accredited Professional <ul style="list-style-type: none"> <li>▪ National Council of Architectural Registration Boards (NCARB) certification</li> <li>▪ Collaborative for High Performance Schools (CHPS) Director Representative for Johnson Controls.</li> <li>▪ Coalition for Adequate School Housing Member</li> <li>▪ School Energy Coalition Member</li> </ul>
<b>Experience</b>	Experience with utility programs for high efficiency and renewable energy measures for major IOUs and municipal utility districts throughout California. . Experience with LEED. Experienced with managing projects, funding and approval processes through State Agencies.
Major Relevant Projects	
John Muir Medical Center, Walnut Creek, CA Scott Valley USD, Energy improvements and Modernization, Etna and Ft Jones, CA. Fairmont Elementary School, Vacaville USD.	





Project Team Member	Bryan Greenamyer
<b>Current Job Title</b>	<b>Subject Matter Expert, Northern California Market Team</b>
<b>Role</b>	As a key Subject Matter Expert, Mr. Greenamyer provides support and guidance to the Account Executive and Engineering Manager throughout the preliminary development, design and engineering process. He will also be involved in the OSHPD approval of the project, working with Turley & Associates.
<b>Education</b>	<ul style="list-style-type: none"> <li>▪ MBA, University of Phoenix</li> <li>▪ BS, Mechanical Engineering, Washington State University</li> <li>▪ Associate of Arts and Science, Jet Engine Power Plant, Community College Air Force</li> </ul>
<b>Memberships and Certifications</b>	<ul style="list-style-type: none"> <li>▪ American College of Healthcare Executives (ACHE)</li> <li>▪ California Society of Hospital Engineers (CSHE)</li> <li>▪ American Society of Heating Hospital Engineers (ASHE)</li> <li>▪ Association of Energy Engineers (AEE)</li> </ul>
<b>Experience</b>	<p>Mr. Greenamyer has held the position of Engineering Manager and Account Executive on many California Healthcare facility projects, and was instrumental in the development and design of the CHP system our team designed and installed for John Muir Medical Center in Concord California.</p> <p>He has more than 19 years experience in Central Plant energy performance design, with expertise in healthcare building environments, energy analysis, network integration systems, and information technology.</p>
Major Relevant Projects	
<p>John Muir Medical Center, Concord, CA            University of California Davis Medical Center - CA            Santa Rosa Memorial Hospital, Santa Rosa, CA            Phoenix Children's Hospital, Phoenix, AZ            St Mary's Medical Center, Reno, NV            SJH – St Mary's Medical Center, Apple Valley, CA            Pioneers Memorial Hospital, Brawley, CA            Queen of the Valley Medical Center, Napa, CA            St Joseph Hospital, Eureka, CA Dignity Health Systems, Sacramento, CA</p>	



Project Team Member	Tim Clark, CEM, CLEP, LC
Current Job Title	Northern California Market Team Engineering Manager
Role	Mr. Clark develops and qualifies energy projects, including preliminary and detailed audits, utility analysis, operating cost estimates, installation cost projections and financial analysis. He leads the development team, which consists of project development engineers, lighting, mechanical, water and renewable subcontractors, from the initial stage of a project through completion and closeout.
Education	Associate in Arts, Mechanical Engineering, San Joaquin Delta College, Stockton, CA, 1980
Memberships and Certifications	<p>Certified Energy Manager            Certified Lighting Efficiency Professional</p> <ul style="list-style-type: none"> <li>National Council on Qualifications for the Lighting Profession - LC Lighting Certification</li> <li>California State Contractors License - General Electrical 679906</li> </ul>
Experience	Mr. Clark has over 27 years of experience working with numerous projects in many different industries including local government, K-12 and higher education. In addition, he possesses a wide-ranging knowledge of construction practices and energy efficiency techniques, and has a unique combination of energy, electrical, mechanical engineering and construction, and project management for commercial, industrial and institutional buildings.
Major Relevant Projects	
Mt. Diablo Unified School District, Concord, CA University of Hawaii Community Colleges, Honolulu, HI Spring Grove Elementary School District Hollister, CA	



Project Team Member	Daniel Usher
<b>Current Job Title</b>  <b>Role</b>	<b>Operations Manager</b>  Mr. Usher shapes and directs the activities of the entire project team -- including engineers, architects and subcontractors -- to ensure a completely integrated team effort. Ensures that all work is performed safely and in accordance with the design and contract documents. He is responsible for all aspects of safety management and compliance. He works to ensure that all Johnson Controls personnel and subcontractors receive required safety training.
<b>Education</b>	HVAC&R Certificate, Laney College, Oakland, CA, 1987
<b>Experience</b>	Mr. Usher has over 22 years of experience in performance contracting, major retrofits and general construction. The majority of his experience has been working with existing occupied facilities performing major retrofits, including central plant upgrades, cogeneration installations, utility upgrades, control system installations and lighting upgrades. He has managed projects in healthcare facilities, K-12, federal, state and local government facilities, including extensive experience with the Office of Statewide Health Planning and Development (OSHPD) and the Division of State Architect (DSA).
Major Relevant Projects	
John Muir Medical Center, Concord, CA Veterans Administration Hospital, Fresno, CA New Mexico State Courthouse, Albuquerque, NM Mt. Diablo USD (two phases), Concord, CA Rio Consumnes Correctional Facility, Elk Grove, CA	



Project Team Member	Brian Provencal – Turley & Associates
<b>Current Job Title</b>  <b>Role</b>	<b>President/Principal, Turley &amp; Associates</b>  As a consulting engineer on the project, Mr. Provencal and his team will prepare plans and specifications as needed to depict the design solutions for permitting, cost estimating, and construction. He will also prepare as-built drawings of finished installation for the team's and SMMC's records. Under Mr. Provencal's direction, Turley & Associates will interact with permit agencies on behalf of Johnson Controls and SMMC, and most specifically with OSHPD.
<b>Education</b>	B.S. in Mechanical Engineering, California Polytechnic University, Pomona, 1982
<b>Memberships and Certifications</b>	<ul style="list-style-type: none"> <li>▪ American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)</li> <li>▪ American Society of Plumbing Engineers (ASPE)</li> <li>▪ American Hospital Association (AHA)</li> <li>▪ National Fire Protection Association (NFPA)</li> <li>▪ Society for Marketing Professional Services (SMPS)</li> <li>▪ Sacramento Chamber of Commerce</li> <li>▪ Construction Specification Institute (CSI)</li> <li>▪ AIA Central Valley Chapter</li> <li>▪ Licensed/Registered Mechanical Engineer in 18 states, Including California</li> </ul>
<b>Experience</b>	<p>Mr. Provencal has broad experience in mechanical engineering for Healthcare facilities. This experience includes heating, ventilating and air conditioning, controls, piping distribution, cogeneration and energy conservation for central utility plants. He has additional experience which extends over industrial, institutional and commercial facilities, and includes high-rise office buildings, campus-type acute care hospitals, detention facilities and central plants.</p> <p>Mr. Provencal has been with Turley &amp; Associates for the past twenty-eight years. Prior to joining Turley, he was employed by a design-build mechanical contractor in Southern California. The combined experience of working for a contractor and as a consulting engineer provides a realistic and cost-effective approach to all design challenges as well as comprehensive construction management.</p>
Major Relevant Projects	
John Muir Medical Center – Chiller Plant Upgrade and Cogeneration Plant Mercy San Juan Heating Plant Conversion – Dignity Health Woodland “CHW” - System to Hot Water Conversion Boiler Plant Marshall Hospital - Steam to Hot Water Conversion Boiler Plant Myers Hospital - Central Plant Sutter Memorial - Central Plant Kaiser South Sacramento - Central Plant Colusa County Hospital - Central Plant Conversion	



### 3) Qualifications of consultants, subcontractors, or joint venture firm, if appropriate.

The qualifications of our subcontractor partners and designated key personnel for the San Mateo Medical Center CHP project are detailed below. Please see Tab 3 for additional information regarding specific CHP project experience.

#### Turley & Associates Mechanical Engineering Group, Inc.



Turley & Associates Mechanical Engineering Group, Inc. was founded in 1975 in Sacramento. The firm is led by Brian J. Provencal, M.E., President/Principal and John W. Thompson, M.E., Principal, and has

licensed mechanical engineers and LEED accredited professionals on staff. Turley & Associates has a clear understanding of the state and local codes, regulations, and ordinances, has well-established relationships with the governmental agencies that have jurisdiction over the design, construction, or operation of facilities. The firm is adept at negotiating the approval process for projects in a variety of sectors, including healthcare. Turley & Associates provides a wide variety of services, including Central Plant and CHP design.

Led by **Brian Provencal, President/Principal**, Turley & Associates will be engaged by Johnson Controls as an engineering design consulting partner, and will prepare plans and specifications as needed to depict the design solutions for permitting, cost estimating, and construction. The firm will also prepare as-built drawings of finished installation for the team's and SMMC's records. Under Mr. Provencal's direction, Turley & Associates will interact with permit agencies on behalf of Johnson Controls and SMMC, and most specifically with OSHPD.

Turley & Associates has worked on many OSHPD approved healthcare projects, and on many occasions with Johnson Controls and Elite Energy, both separately and together.

Turley & Associates will primarily be under the direction of Tim Clark, Johnson Controls Engineering Manager, and will be available directly to SMMC as needed. **Mr. Provencal's resume is located in the previous section.**

#### Elite Energy Systems – CHP System Module Manufacturer



Elite Energy Systems, LLC (Elite) provides combined heat and power (CHP) solutions to commercial and industrial energy users. Elite is made up of a group of respected industry experts with decades of experience in designing, delivering, and installing CHP systems. The company has developed dozens of CHP projects, many in healthcare environments, and worked previously with Johnson Controls, Turley & Associates and

Peterson Power, both separately and collectively.

Elite Energy Systems will be engaged by Johnson Controls as manufacturer of the cogeneration modules and related equipment. Elite will pre-assemble all necessary equipment, execute factory tests, have said equipment shipped to the site and reassemble the modules, once set in place by Johnson Controls.

Elite Energy will employ engines/generator sets manufactured by Caterpillar and supplied by Peterson Power the bay area dealer and service and maintenance provider for caterpillar equipment.



Elite Energy will provide startup process oversight and on-going monitoring of the equipment for the duration of the service agreement between SMMC and Peterson Power.

Elite Energy will primarily be under the direction of Tim Clark Engineering Manager and will be available directly to the client as needed.

**Elite's Vice President, Cogeneration, Paul Beck**, will represent Elite on the SMMC project team. Mr. Beck has over 30 years of engineering and management experience since graduation from Cal Poly, San Luis Obispo with a degree in engineering. Mr. Beck has worked for Caterpillar (Solar Gas Turbines), Cummins (Cummins West), GKN Aerospace, Clean Air Partners, and Alturdyne in a variety of manufacturing, engineering, technical sales and management positions. He was directly responsible for cogeneration projects at Clean Air Partners, Alturdyne, Cummins West, and now at Elite Energy Systems, LLC.

### Peterson Power Systems – Engine Manufacturer



Peterson Power Systems provides Powerful Solutions and the expert technical support necessary to address unique power and cogeneration requirements. The company, located in Northern California, provides Caterpillar clean diesel and natural gas engines for electrical generation, industrial, temperature control, marine, and trucking applications. Peterson Power Systems has assembled a team of extremely qualified and experienced personnel who have demonstrated their ability to deliver complex power generation projects in a quality and professional manner. Peterson Power has worked on many CHP projects, in a variety of environments, and on projects with Johnson Controls, Turley & Associates and Elite Energy, both separately and collectively.

Peterson Power will be engaged by Johnson Controls as the manufacturer of the engines/generator sets and related emissions control equipment for the project. Peterson will manufacture equipment, execute factory tests, and ship equipment to Elite Energy for inclusion in the CHP modules. Peterson Power will work with Johnson Controls to execute the initial startup and commissioning process.

Peterson Power will be engaged directly by SMMC to provide on-going monitoring of the equipment, service and maintenance for the entire CHP module provided by Johnson Controls from Elite Energy. The service agreement shall be provided for a period of time that matches the duration of the up-time availability, as required by SMMC.

The firm will be primarily under the direction of Dan Usher, Johnson Controls Operations Manager, and will be available directly to SMMC as needed.

**Martin Hopkins, Gas Energy Division** will represent Peterson Power Systems on the SMMC project. With 15 years experience in the Electric Power Generation Industry, Mr. Hopkins has delivered over 150mW of Electric Power Generation and over 30mW of Natural Gas Power Generation (includes biogas & cogeneration). He is a Caterpillar Certified Sales Professional for Electric Power and a Caterpillar Certified Sales Professional for Product Support & Service. His industry training includes Healthcare Emergency Power Supply Systems Course- Maintenance, Testing and Compliance; On-Site Power Generation Systems – Advanced School, and advanced Caterpillar training courses.





## TAB 3 - Firm Qualifications and Experience

Outline of recent CHP projects completed that are directly related to this project. Consultant is required to demonstrate specific design and project delivery expertise relating to the requirements of sections IV - Scope of Services and TAB 1- Firms Qualifications.

### Demonstrated Capabilities

The John Muir Medical Center Cogeneration Plant project detailed below is virtually identical in size and scope to the project we are proposing for SMMC. This project was designed and implemented by Johnson Controls, and our subcontractor partners Turley & Associates, Elite Energy Systems and Peterson Power Systems.

#### John Muir Medical Center - 900 kW Cogeneration Plant Concord, California

Approved by OSHPD

##### Services & Equipment Provided:

The project was designed and installed by the team of Johnson Controls, Peterson Power Systems, Elite Energy Systems and Turley & Associates as a Johnson Controls performance contract. The cogeneration plant consists of 900 KW, natural gas, Caterpillar naturally aspirated engines. The waste heat from the engines during the production of electricity is utilized for domestic water production, heating water production, dearator preheat water production and the 24/7 operation of a 80 ton absorption chiller. The system efficiency is over 80% and has an average availability for electricity/heat reclaim of 97%. The system was designed in modules with prefabrication as a key component during the construction process. The project also incorporated a new 750 high efficiency chiller, pumps, controls, and 2500 tons of new cooling towers. The project represents one of the first prefabricated, OSHPD Approved Cogeneration Plants

**Total system size: 900 kWe - Cogeneration system installation; 3-250 kWe modules and 1-150 kWe module**

##### Fuel type: natural gas

- Power source: Caterpillar® naturally aspirated engines
- Cooling source: 307-ton absorption chiller
- Thermal efficiency: over 80%
- Average availability: over 97%

*Total Cost: \$5.8 million ~ Annual Energy Savings:  
\$768,000 Utility Rebates: \$235,000 ~ Rebate one-time,  
875,000 Grants, one-time*





## Combined Heat and Power Experience

Johnson Controls has extensive experience designing and installing combined heat and power (CHP) systems for clients – often as part of a performance contracting project. Subject matter experts from our Advanced Solutions Team support local branch offices with CHP solutions. In addition to the John Muir Medical Center project described above, the following table showcases several of our CHP installations throughout the United States:

Customer	Scope of Work Highlights
<b>University of California-Davis Medical Center</b>	The design-build retrofit of eight key facilities on campus, which is expected to save more than 2.8 million kWh per year, or \$370,000 annually. The project included a boiler energy reduction strategy – recommissioning auxiliary boiler mud heaters to utilize CUP excess steam to reduce standby losses.
<b>Department of Veterans Affairs Medical Center, Loma Linda</b>	Turnkey design and installation of a comprehensive fuel cell cogeneration solution. The CHP plant at the VA Loma Linda consists of two 400 kW UTC PureCell® Fuel Cells Model 400 CHP systems. This plant will produce 800kW of electricity and provide heating for both the heating hot water system as well as the domestic hot water system as an alternative to the existing steam boilers.
<b>Phoenix Children's Hospital</b> Phoenix, AZ	Design, Build, Operate and Maintain contract for a 6,500-ton central utility plant. The design included nine 3 MMBtu/hr. high-efficiency condensing boilers with variable-flow primary pumping, three 1,900-ton chillers with variable-frequency drives, one 800-ton water-to-water heat pump chiller, and three 2 MW diesel generator sets for standby electric power capacity.
<b>Twentynine Palms Marine Corps Base</b> Twentynine Palms, CA	7.2 MW dual-fuel cogeneration plant that featured the construction of a 7,200-square-foot turbine hall, a three-mile high-pressure gas line, and all connections to the electrical substation. Our work also involved five chiller plant upgrades, construction of three new chiller plants, chilled water distribution systems serving 30 buildings, and a 1.2 MW solar PV array. The cogeneration plant saves approximately \$5.8 million a year, providing payback for construction costs within just four years, after which the savings keep coming and can be used to fund future improvements.
<b>University of Massachusetts</b> Amherst, MA	New chiller plant with over 3,060 tons of cooling. Consolidate additional cooling plant and provide interconnections to three large campus buildings. Upgrade cogeneration plant to 3.9 MW. Two years later, relocate cogen plant to new power plant, providing all interconnections and replace over 3,000 feet of underground steam and condensate lines.
<b>Northern Michigan University</b> Marquette, MI	42,000 pound per hour biomass steam boiler. 750 kW backpressure steam turbine. Existing gas-fired boilers serve as backup and peaking capacity.
<b>Indiana Department of Correction</b> Four sites	Conversion of existing boilers to biomass combustion boilers at four sites. Each site has 300 to 600 boiler horsepower capacity. The biomass boilers were intended to burn Indiana corn. However, due to the rapid rise in corn prices, this project is fueled by wood. One site includes a 10 kW wind turbine.





Customer	Scope of Work Highlights
<b>Pennsylvania State Correctional Institution Laurel Highlands</b> Somerset, PA	Electricity and steam for the prison produced by a new 7.4 MW cogeneration facility burns gas from a nearby landfill. The cogeneration system includes the following major equipment: 3.5 MW turbine with heat recovery, two 1.6 MW reciprocating engines, a raw landfill gas scrubbing system, steam back pressure turbine and new dual-fuel boilers for backup heating.
<b>Back River Wastewater Treatment Plant</b> Baltimore, MD	Combined heat and power plant designed to generate more than 2.4 MW of electricity annually. A 3 MW cogeneration facility uses anaerobic digester gas produced at the plant.
<b>National Animal Disease Center</b> Ames, IA	1.2 MW combustion turbine and a 1.8 MW diesel cogeneration plant.

### Johnson Controls OSHPD Approved Projects

Pioneers Memorial Hospital, Brawley, CA  
 Scripps Hospital, La Jolla, CA  
 LA County-University of Southern California Medical Center, Los Angeles, CA  
 Little Company of Mary Hospital, Torrance CA  
 Pomona Medical Center, Pomona CA  
 St Mary's Medical Center, Dignity Health, Long Beach CA  
 John Muir Medical Center, Concord CA  
 University of California Davis Medical Center, Sacramento CA  
 Alta-Bates Hospital, Sutter Health, Oakland CA  
 Santa Rosa Memorial Hospital, Santa Rosa, CA



The following table provides a sampling of Cogeneration Projects that our subcontractor partners have implemented.

<b>Turley &amp; Associates</b>	John Muir Medical Center Cogeneration Central Plant Merced College Cogeneration Central Plant Upgrade Sanger High School Cogeneration St. Francis Hospital Cogeneration, San Francisco Sequoia Hospital Cogeneration Saint John of God Cogeneration Santa Clara Cogeneration Systems Restoration Westlake Christian Terrace Cogeneration Wilshire Regent Cogeneration Fire Protection Cogeneration Plant, Ion Kaiser Cogeneration, Fresno Mills Memorial Hospital Cogeneration Design Parkview Hospital 98W Cogeneration
<b>Elite Energy Systems</b>	John Muir Medical Center Cogeneration Central Plant Whole Foods Market The Cooper Union, New York Gardiner Farms, Inc. Western Prime Meat Processors River Valley Family Fitness Hilton Hotels
<b>Peterson Power Systems</b>	John Muir Medical Center Cogeneration Central Plant Finley Bio Energy, LLC, Boardman, OR, 4.8MW Three Mile Farms, Boardman, OR, 4.8MW Stahlbush Farms, Corvallis, OR, 1.6MW City of Gresham WWTP, Gresham, OR, 400ekW City of Sunnyvale, CA, 1.6MW



## TAB 4 – Proposed Scope of Work

### Understanding and Approach to the Project

- 1) Provide a narrative description of the project based on your proposed Scope of Work.
    - Indicate your approach for project development and implementation
    - Identify any unique approaches or strengths that your team sets you apart.
    - Clarify the services that will be self-performed or performed by other subcontractors /consultants.
- 

### Project Description

#### Scope of Work – Option A

1. Johnson Controls, Inc. (JCI) has reviewed all provided information and tie in locations on site.
2. JCI will engineer design, furnish and construct a base loaded Combined Heat and Power CHP) System with the capacity to deliver 750kWe and also to produce 4,540,000 Btu/hour of hot water at a nominal temperature of approximately 196 degrees. (see note g below) The system will utilize three(3) rich burn 250kWe Caterpillar model G3412 reciprocating internal combustion engines. See Scope appendix A under this tab for details of Cogen plant components.
3. JCI will fully interconnect that system with the existing facility electrical system and hot water circulation system as well as gas and electrical utilities as depicted in the provided sheets M1.2, M8.2 and M8.3. The system will have instrumentation to provide for web based, remote continuous monitoring. Open communication protocol software and PC based hardware will be provided. (see note a below)
4. A separate dedicated utility grade gas meter, electric meter, BTU meter and emissions monitor shall be provided and installed. A dump radiator will be provided and monitoring devices necessary to monitor its run ours will be provided and installed.
5. Plans and specifications necessary for construction and obtaining regulatory permits including OSHPD approvals will be provided.
6. JCI shall prepare and submit permit application and coordinate regulatory approvals for OSHPD, and BAAQMD. (see note b below)
7. A 10 year all inclusive maintenance contract is offered as requested and outlined in detail under TAB 5 of this document. (see note c below)
8. A guarantee of 94% availability of the system will be provided.
9. JCI will provide and install all necessary equipment and material to construct system in provided CoGen yard space.
10. Noise abatement measures will be installed within each module cabinet and the engines will have sound control devices. (see note e below)
11. JCI will design the system to comply with the SGIP rebate program of PG&E, and will prepare all necessary documentation to secure the rebate from the county.
12. JCI will provide project management that includes: coordination of sub-contractors and consultants, project costing and scheduling, coordination of OSHPD and independent agency



inspections, start-up, commissioning, training of site staff, preparing as-built drawings and project close-out.

Johnson Controls proposes to provide scope of work A for **\$2,827,793** (see note c below)

### Scope of Work – Option B (alternate)

1. Johnson Controls, Inc.(JCI) has reviewed all provided information and tie in locations on site.
2. JCI will engineer design, furnish and construct a base loaded Combined Heat and Power (CHP) System with the capacity to deliver 800kWe and also to produce 3,173,600 Btu/hour of hot water at a nominal temperature of approximately 196 degrees. (see note g below) The system will utilize two(2) lean burn 400kWe Caterpillar model CG132-08 reciprocating internal combustion engine package generator sets. See Scope appendix B under this tab for details of Cogen plant components.
3. JCI will fully interconnect that system with the existing facility electrical system and hot water circulation system as well as gas and electrical utilities as depicted in the provided sheets M1.1, M8.1 and M8.3 The system will have instrumentation to provide for web based, remote continuous monitoring. Open communication protocol software and PC based hardware will be provided. (see note a below)
4. A separate dedicated utility grade gas meter, electric meter, BTU meter and emissions monitor shall be provided and installed. A dump radiator will be provided and monitoring devices necessary to monitor its run ours will be provided and installed.
5. Plans and specifications necessary for construction and obtaining regulatory permits including OSHPD approvals will be provided.
6. JCI shall prepare and submit permit application and coordinate regulatory approvals for OSHPD, and BAAQMD. (see note b below)
7. A 10 year all inclusive maintenance contract is offered as requested and outlined in detail under TAB 5 of this document. (see note c below)
8. A guarantee of 94% availability of the system will be provided.
9. JCI will provide and install all necessary equipment and material to construct system in provided CoGen yard space.
10. Noise abatement measures will be installed within each module cabinet and the engines will have sound control devices. (see note e below)
11. JCI will design the system to comply with the SGIP rebate program of PG&E, and will prepare all necessary documentation to secure the rebate from the county.
12. JCI will provide project management that includes: coordination of sub-contractors and consultants, project costing and scheduling, coordination of OSHPD and independent agency inspections, start-up, commissioning, training of site staff, preparing as-built drawings and project close-out.

Johnson Controls proposes to provide scope of work B for **\$3,620,186** (see note c below)



## Assumptions and Exclusions:

Scope of work A and the alternate scope of work B share the following assumptions and exclusions, and the additional assumptions related to material availability and site conditions.

- a. Interconnection of the monitoring communication equipment to the existing building management system is excluded per instructions of the county issued on May 30, 2013.
- b. The scope of work would not indicate that a state Fire Marshall approval - separate from OSHPD or that a CEQA documentation - will be required. Any work related to either will be considered additional services and not included in this proposal.
- c. The price for the long term service agreement is separate and not included in the offered price from JCI. Peterson Power's offer to the county for a ten year service agreement that is provided with its associated cost in TAB 5 of this document.
- d. The availability guarantee is provided by Peterson Power to the customer directly and detailed in the service agreement provided in TAB 5 of this document.
- e. Based on other similar installations, no sound abatement measures beyond those noted are expected to be required and are not included.
- f. It is assumed that the proposed equipment will be located within the existing CoGen yard and no modifications to the yard enclosure are required.
- g. Power generation and heat output performance one-time testing shall be performed during project completion to establish customer acceptance that the equipment achieves the rated electrical and heat output at the equipment terminals. Remedy for failure to achieve the rated output to be made by JCI under terms with its subcontractors.
- h. The scope of work for this proposal is limited to the specific work identified herein. Additional work, which may be identified or required shall be reviewed and mutually negotiated with the customer and JCI. Additional work may be, but is not limited to, required code upgrades, regulatory or utility agency requirements.

## Additional assumptions related to availability of material and site conditions

- i. Underground pipe tie in for sewer connection at cooling tower yard is at 24' below surface, and no Underground obstructions will interrupt the free straightline installation of sewer or gas piping at 24" depth.
- j. Soil below the CoGen yard will be structurally capable of supporting Cogen equipment on a slab described on sheet M1.1 provided and trenching for underground piping will not require any hard digging (i.e. blasting, rock removal or use of heavy equipment) Space in yard is limited and only hand digging is practical.
- k. Existing slab in CoGen yard is not structural and its removal will not affect existing adjacent structures or yard walls or footings.
- l. It is assumed that the existing exterior walls of the central plant can accept attachments and support hot water lines and electrical conduit from the CoGen Yard to the building penetration location. See sheet M1.1, M1.2, M8.1, M8.2 and M8.3 for proposed penetration locations and pipe/conduit runs.



- m. Water line and electrical conduits shall enter building at proposed locations without need for overexposure of penetrations.
- n. All new water lines and electrical conduit shall be installed at no more than 10'-0" above the adjacent finished floor elevation.
- o. Overhead piping and conduit shall be suspended with Tolco hanger system.
- p. A new or reconditioned fully visible rack-out breaker is available for the existing electrical system.
- q. JCI has not included repair or replacement of existing switchgear. Existing electrical switchgear is assumed to be rated appropriately.
- r. Free and exclusive use of the parking lot adjacent to the cooling towers for the duration of construction.
- s. In the event any of these assumptions prove to be inaccurate or other unforeseen changes occur, the county and JCI agree to negotiate in good faith to identify and implement a remedy for the issue.

**Please see the Appendix of our proposal for a detailed description of the CHP system.**





2) Provide a schematic design indicating the layout of engine (s) and other important components of CHP system. Clearly indicate how the proposed design will address the functionality, flexibility, maintainability, and reliability of operation.

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**The schematic drawings can be found at the end of Tab 4.**

**Functionality:** The proposed system - whether comprised of two or three modules - will be installed in the yard space provided. Some electrical gear is proposed to be located on the exterior of the yard wall in order to maintain easy, free and code compliant access to both the electrical equipment and the balance of the CHP system located inside the yard. The yard space provided allows for adequate airflow to and from the CHP equipment.

**Flexibility:** The yard space provided is adequate, but not generous so it is unlikely that additional equipment can be added or the capacity of the system increased in the future without additional space being created or provided.

**Maintainability:** The proposed layouts contemplate the space required to do both routine and overhaul type service to the various CHP components.

**Reliability:** We are confident that the arrangements proposed are appropriate and do not create any special limitation on the reliability of operation typical for CHP systems.

3) Indication of information and participation the proposer will require from County staff.

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Johnson Controls welcomes input in the development and design phase of our projects by owner staff and advisors. Given the significant complexity of the project and the environment of the central plant, regular interaction with knowledgeable staff will be greatly beneficial to all parties.

We consider the designs proposed to be preliminary at this time. They are certainly a solution, and one that we are confident can be implemented as proposed to the great benefit of the County. They may not, however, incorporate other considerations that may prove important as we walk through the details with County staff or pass through the approval process.

Once the design is vetted and approved, we would request that the County provide access to the site and central plant for construction activities, and work with JCI to schedule necessary interruptions in utility services and delivery of material that may temporarily impact access to the area surrounding the provided yard, parking or lay-down spaces. We are suggesting that the parking area between the cooling towers and street be provided as a parking and lay-down space for the duration of construction.

Once operational, the system will be tested and commissioned, and we will request that a county staff person be available to observe these operations.

Finally, training will be provided by JCI to the county staff who will be asked to operate or monitor the CHP equipment. This will require a staff time commitment for training on the operational procedures.



4) Provide a proposed schedule for completion upon receipt of Notice to Proceed. Schedule shall include phases for design/procurement, construction, permitting and commissioning.

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Johnson Controls anticipates completing this project approximately 12 months following receipt of an approved contract. We are confident that we can achieve the following milestone dates relative to any start date:

	<b>Duration</b>	<b>Completion date with contract approval of October 1, 2013</b>
Design:	8 weeks	December 3, 2013
Procurement	16 weeks	April 23, 2014
OSHPD approval	20 weeks	April 23, 2014 (follows design)
Construction	20 weeks	September 24, 2014 (follows OSHPD)

**A more detailed schedule is provided on the following page.**





## TAB 5 – Maintenance Contract

Provide an all-inclusive proposal for maintenance agreement in the Cost proposal for the first year cost of the of a ten-year maintenance agreement of the proposed CHP system. After first year, the agreement will allow for a cost escalation of 3% or cost of living index, whichever is lower. The maintenance contract will be executed between the County and the engine manufacturer/representative. The maintenance agreement shall include all services required to support the performance and availability guarantees with the following services as minimum:

- 1) 24x7 remote monitoring and 24 hour response to alarms and issues
- 2) Technical service, inspection, testing, parts and consumables associated with scheduled and unplanned maintenance services including minor and major overhauls at manufacturer recommended run hour intervals.
- 3 ) Annual calibration of monitored transmitters and instruments



### Ten Year Service Agreement:

Peterson Power is able to offer a Long Term Service Agreement for this Cogeneration package. All services proposed for this location will be performed by Peterson Power Systems Factory Certified Technicians. With over forty Electric Power Generation technicians in field trucks located in the Bay Area, Peterson is fully qualified to provide this service for the San Mateo Medical Center. Peterson has been in business for over 75 years under the same family ownership which will give our client the confidence that we will be here for the duration of the ten year contract we are proposing. In this Long Term Service Agreement we are covering all equipment provided by Peterson Power/Elite Energy for this project.

#### **85,000 hour maintenance agreement – 2013 dollar baseline**

- 10 years based on 8500 hours of annual run time
- 24 hour / day remote monitoring and response
- All planned maintenance material and labor
- All consumables and wear items of the plant
- All unplanned repairs – parts and labor
- Oil sampling
- 94% PLANT availability guarantee with penalty

#### **Option One - 3 x 250kW Package:**

Site kilowatt rating	750
Total Cost per run hour	\$25.00
Cost per kilowatt hour	\$0.033 / kWh



### Option Two 2 x 400ekW Package:

Site kilowatt rating	800
Total Cost per run hour	\$21.62
Cost per kilowatt hour	\$0.027 / kWh

- Applicable Taxes are not included in this pricing. Taxes on materials and parts are estimate to be approximately 75% of the contract total.
- All billing will be monthly and calculated by run hour not kWh
- Does not include annual price escalation of 3.0% or mutually agreed upon price index whichever is higher.
- Cost per kW is for reference and is based on 100% load

### Description of Equipment Covered in this agreement

#### Option One - 3 x 250ekW equipment package:

- Three (3) Elite Envirogen 250 kWe CHP Modules
- Two (2) duplex (lead/lag), VFD controlled, electric motor driven circulating pumps, close-coupled, totally enclosed fan cooled motors for cogeneration heat recovery circuit:
  - Pumps are redundant and start alternately.
  - Circuit is temperature controlled to 196°F delivery temperature to the hot side of the client heat exchanger.
- One (1) Series M-10 Alfa-Laval (or equal) plate and frame heat exchanger for servicing facility process hot water loop(s).
  - Heat exchanger in quotation is sized for approximately 369 gpm flow on cold (building) side with 25°F ΔT, 160°F entering water temperature.
  - Deviations may result in revision of quoted price.
- One (1) SRC single core (or equal), vertical discharge dry cooler with VFD controlled fan for excess cogeneration loop heat dump
- Two (2) 3-way valves for temperature control
- As required: isolation valves, expansion tanks, flow control valves and instrumentation

#### Option Two - 2 x 400ekW equipment package:

- Two (2) Caterpillar CG132-16 400 kWe generator sets
- Two (2) Selective Catalyst Reduction Silencers (SCR's)
- Two (2) exhaust heat recovery heat exchangers:
  - Fire tube configuration
  - Single pass with removable ends for periodic cleaning
- Two (2) engine isolation heat exchangers:
- Stainless steel, brazed plate construction (MAWP 450 psig @ 350°F)
- Two (2) duplex (lead/lag), VFD controlled electric motor driven circulating pumps, close-coupled, totally enclosed fan cooled motors for the low temperature aftercooler circuit. Pumps are redundant and start alternately:
  - Circuit serves both the low temperature aftercooler on each unit
  - Circuit temperature is controlled by VFD and engine mounted thermostatic valves



- Two (2) duplex (lead/lag), VFD controlled, electric motor driven circulating pumps, close-coupled, totally enclosed fan cooled motors for cogeneration heat recovery circuit:
  - Pumps are redundant and start alternately.
  - Circuit is temperature controlled to 196°F delivery temperature to the hot side of the client heat exchanger.
- One (1) Series M-10 Alfa-Laval (or equal) plate and frame heat exchanger for servicing facility process hot water loop(s).
  - Heat exchanger in quotation is sized for approximately 254 gpm flow on cold (building) side with 25°F  $\Delta T$ , 160°F entering water temperature.
- Deviations may result in revision of quoted price.
- One (1) SRC single core (or equal), vertical discharge dry cooler with VFD controlled fan for excess cogeneration loop heat dump
- One (1) SRC single core (or equal), vertical discharge dry cooler with VFD controlled fan for
  - Low temperature aftercooler circuit (104°F inlet to aftercooler)
- Two (2) 3-way valves for temperature control
- As required: isolation valves, expansion tanks, flow control valves and instrumentation

## Performance and Availability

**Guarantee of Performance:** The intent of this agreement is to provide a guarantee of performance and availability for each MODULE. The guarantee of performance and availability shall commence 90 days after successful commissioning or following 30 days of continuous operation, acceptance and full payment for each MODULE.

**“Acceptance”** shall be defined as the Customer receiving beneficial use of heat and electric power from the MODULE within the manufacturer’s guidelines for performance.

**Definition of “Operating Hours”** – Operating hours shall be understood to mean the operating time of a MODULE when it is producing electrical power and thermal heat to the PLANT. Payment under this Agreement shall only be for operating hours satisfying these requirements following substantial completion of construction. Certain conditions may arise that allow for the operation of the MODULE for electrical only or at partial output. If advantageous to the CUSTOMER and at CUSTOMER discretion the VENDOR shall operate the PLANT in these conditions. These discretionary run hours will be counted as Operating Hours.

**“Available for Operation”** shall be understood to mean the sum of the effective operating hours according to the MODULE service hour meter and the standstill hours. All “Available for Operation” hours will be excluded from “Downtime” hours.

**“Standstill Hours”** shall be understood to mean those periods of time when, through no fault of the VENDOR or the MODULE manufacturer, the MODULE is not in operation.

**“Downtime”** shall be understood to mean any time in which, through no fault of the CUSTOMER, the MODULE is not available to provide power and heat. The time needed for all Service activities and repairs shall be understood as included in the definition of Downtime.



**Planned maintenance** equal to 3% of available annual hours must be made available to the VENDOR during normal business hours.

**Penalty:** The Guarantee of Performance allows for downtime of the PLANT up to 6% of the period of time covered by the Agreement. For every hour of downtime beyond this a penalty of \$50 per hour will be assessed against the VENDOR. The penalty will be assessed at the end of each applicable year as a credit to the CUSTOMER account.

**Banking:** All “Available for Operation” hours above the 94% guarantee are accumulated and tracked on a rolling 12 month cycle, to be used as offset for any periods of time of penalty.

*“Available” hours calculation*

8760 hours / year

526 hours (6%) maximum planned and unplanned Downtime without penalty

8234 hours Available for Operation run hours per year – guaranteed

*Guaranteed Performance data:*

*Site test conditions:*

*Full Load*

Elevation	100' above mean sea level
Air inlet temperature	68-84 degrees Fahrenheit
Relative Humidity	20% - 40%
Ambient air temperature	not to exceed 90°F

**Base Solution - 3 x 250kW package:**

*Electrical output 480V*

*750kW Minimum @ 1.0 pf*

Steady state gross electrical kW output measured at the generator output breaker using the package instrumentation.

*Fuel Consumption*

*Nominal 11,134 Btu / kWe – hour @ 1.0 pf LHV*

*Guaranteed 11, Btu / kWe – hour @ 1.0 pf LHV*

Fuel Quality – per natural gas specification sheet

Volumetric flow will be measured at the generator inlet using the packaged electromagnetic flow measurement and PG&E gas data for the day of testing found at:

[http://www.pge.com/pipeline/operations/gas\\_quality/index.shtml](http://www.pge.com/pipeline/operations/gas_quality/index.shtml).



PG&E data is presented in HHV.

#### *Heat Production*

*Nominal* 4,542,000 Btu/hour

*Guaranteed* 3,910,000 Btu/hour

Calculated Jacket Water and Exhaust heat gross thermal production measured using flow and temperature measurement devices:

Flow: packaged electromagnetic flow measurement (JWFM-1)

Temperature: package mounted temperature sensor at hot side of HX-1

Fluid: 25% ethylene glycol / 75% water

#### **Alternate Solution - 2x 400ekW package:**

*Electrical output 480V* 800kW Minimum @ 1.0 pf

Steady state gross electrical kW output measured at the generator output breaker using the package instrumentation.

#### *Fuel Consumption*

*Nominal* 8,273 Btu / kWe – hour @ 1.0 pf LHV

*Guaranteed* 8,687 Btu / kWe – hour @ 1.0 pf LHV

Fuel Quality – per natural gas specification sheet

Volumetric flow will be measured at the generator inlet using the packaged electromagnetic flow measurement and PG&E gas data for the day of testing found at:

[http://www.pge.com/pipeline/operations/gas\\_quality/index.shtml](http://www.pge.com/pipeline/operations/gas_quality/index.shtml).

PG&E data is presented in HHV.

#### *Heat Production*

*Nominal* 3,173,688 Btu/hour

*Guaranteed* 2,919,793 Btu/hour

Calculated Jacket Water and Exhaust heat gross thermal production measured using flow and temperature measurement devices:

Flow: packaged electromagnetic flow measurement

Temperature: package mounted temperature sensor at hot side of HX-1



Fluid: 25% ethylene glycol / 75% water

*Exhaust Emissions*

*Current BAAQMD compliance*

Nox	0.15 g/bhp-hr
CO	0.6 g/bhp-hr
HC	0.15 g/bhp-hr

This system will also meet the Greenhouse Gas Emission Standard as defined in paragraph 4.2.8 and 4.2.9 of the California SGIP Handbook version of February 1, 1013 as well as other efficiency and emission requirements required for compliance with the Self-Generation Incentive Program.

The intent of SGIP is to meet 0.07 lbm/MW-hour NO. This can occur two ways; with thermal credit or without. Our systems meet it with the credit.

- Emissions will be measured using packaged monitoring system at the exhaust outlet post the after-treatment device during steady state load.
- Measured by third party during BAAQMD Source Testing

*Tolerance*

When performing a site test, there are numerous variables which have a direct result on package performance measurements. Accuracy of the following have an impact:

- Gauge accuracy
- Power Transformers (PT's)
- Current Transformers (CT's)

If needed to prove guarantee, Peterson shall perform a "propagation of error" analysis of accumulated error for various devices used to calculate performance.

Sincerely,  
Peterson Power Systems, Inc.

Martin Hopkins  
Sales Representative





## TAB 6 – Cost

The cost listed and price offered are based exclusively on the specific scope, assumptions and exclusions listed under Tab 4 of this document and receipt of favorable legal terms.

1) Provide proposal detailing total fees and cost to County to complete a project as described under section IV - Scope of Services.

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The complete scope of work described in Tab 4 referred to as the “Base Solution” is offered to the County of San Mateo for exactly **\$2,827,793**. The cost for long term service agreement is not included. Please see Tab 5 for details and pricing for service.

The complete scope of work described in Tab 4 referred to as the “Alternate Solution” is offered to the County of San Mateo for exactly **\$3,620,186**. The cost for long term service agreement is not included. Please see Tab 5 for details and pricing for service.

2) Provide a spreadsheet that shows the simple payback for proposed CHP system. Clearly indicate data used from proposed engine and any assumptions made

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Please refer to the following pages for spreadsheets describing the simple payback and Net present value of the base and alternate solution.

3) Proposals to “furnish and install” systems should include costs of performance and payments bonds in the fees shown. A bond will be required for the faithful performance of the contract in amount of not less than one hundred percent (100%) of the amount of the contract, and a bond will be required to guarantee the payment of wages for services engaged and for materials used in the performance of the contract in an amount of not less than one hundred percent (100%) of the contract.

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The cost of performance and payment bonds are included in eth provided costs.



## TAB 7 - References

Client references for at least three recent design-build, preferably OSHPD approved, CHP projects (250 KW or larger), including: project description, size, verified energy savings, availability and completion time. Provide name, address and phone number of individual to contact for referral.

SMMC will benefit from the rich experience that Johnson Controls has gained on very similar projects in recent years. At the John Muir Medical Center, our team – including Peterson Power Systems, Elite Energy Systems and Turley & Associates developed and installed a combined heat and power system. This same team will be assigned to your project.

### John Muir Medical Center



#### John Muir Medical Center

<b>Project location</b>	Concord, California
<b>Facility type</b>	Acute care hospital
<b>Utility service provider</b>	Pacific Gas & Electric (PG&E) and California Gas
<b>Incentives received</b>	\$1,200,000
<b>Total project cost</b>	\$9,100,000
<b>Verified Energy Savings Annual savings (kWh, \$)</b>	The client's utility bills are now 28% lower with guaranteed annual savings of nearly \$695,000. Maintenance costs have also been reduced by more than \$100,000 annually. 8,499,680 kWh savings annually
<b>Date implemented</b>	2011
<b>Project team</b>	Johnson Controls, Elite Energy Systems, Peterson Power Systems and Turley & Associates.





## John Muir Medical Center

### Technologies/measures implemented

The John Muir Medical Center is an acute care hospital with four towers covering more than 487,000 square feet. The comprehensive \$9 million program we developed included a 900 kW cogeneration plant, chiller plant, Metasys energy management system, lighting upgrades, re-commissioning of buildings and the new central energy plant, variable frequency drives, and water conservation equipment.

#### CHP details:

**Total system size:** 900 kWe - Cogeneration system installation; 3-250 kWe modules and 1-150 kWe module

Fuel type: natural gas

- Power source: Caterpillar® naturally aspirated engines
- Cooling source: 307-ton absorption chiller
- Thermal efficiency: over 80%
- Average availability: over 97%

Four EnviroGen® modules providing up to 900 kWe of electricity to the facility were installed. The system runs in parallel to existing utilities, providing a constant source of power during blackouts or scheduled maintenance to the CHP system. Heat from the engine exhaust is captured with jacket water to provide hot water to the hospital, and an absorption chiller also provides seasonal cooling to the facility.

### Name and contact information of references for project

Mike Rijavec  
Chief Engineer,  
925-407-5366



## University of California - Davis Medical Center



### University of California - Davis Medical Center

	Sacramento, CA
<b>Facility type</b>	Acute Care Facilities and Technical Education
<b>Utility service provider</b>	Pacific Gas & Electric (PG&E) and California Gas
<b>Total project cost</b>	\$1,414,427
<b>Project location</b>	Utility bills are now 28% lower with guaranteed annual savings of nearly \$695,000. Maintenance costs have also been reduced by more than \$100,000 annually. 8,499,680 kWh savings annually
<b>Date implemented</b>	2011
<b>Project team</b>	Dan Usher, Project Manager; Bryan Greenamyre, Healthcare/Subject Matter Expert
<b>Technologies/measures implemented</b>	<p>As part of the Strategic Energy Partnership program, Johnson Controls was selected to develop energy reduction strategies at the UC-Davis campus, which included significant equipment upgrades in eight buildings. A total of 45 energy conservation measures have been implemented.</p> <p>The design-build retrofit of eight key facilities on campus, which is expected to save more than 2.8 million kWh per year, or \$370,000 annually, included the following:</p> <ul style="list-style-type: none"> <li>▪ Boiler energy reduction strategy – recommission auxiliary boiler mud heaters to utilize CUP excess steam to reduce standby losses.</li> <li>▪ Energy management system improvement – add BAS controls to existing system in four buildings.</li> <li>▪ Lighting retrofit – conversion from T12 to T8 fluorescent technology in 10 buildings.</li> <li>▪ Lighting controls – occupancy sensors in various rooms in the same 10 buildings included in the lighting retrofit.</li> <li>▪ Globalight technology – Lighting system power management in six parking areas.</li> <li>▪ Energy recovery system – heat recovery systems for two 100% outside air AHUs in one building, utilizing a heat exchanger in the exhaust air stream.</li> </ul>



## University of California - Davis Medical Center

### Name and contact information of references for project

Patrick Putney  
Energy Manager  
(916) 734-6012  
[patrick.putney@ucdmc.ucdavis.edu](mailto:patrick.putney@ucdmc.ucdavis.edu)



## Department of Veterans Affairs Medical Center, Loma Linda



### Department of Veterans Affairs Medical Center, Loma Linda

<b>Project location</b>	Loma Linda, CA
<b>Facility type</b>	Comprehensive Medical Center / Acute Care Facility
<b>Total project cost</b>	N/A
<b>Verified Energy Savings Annual savings (kWh, \$)</b>	VA Loma Linda expects to achieve roughly 26% savings on their electrical utility costs and a 42% reduction in natural gas consumption at the existing boilers.
<b>Date implemented</b>	Currently under construction
<b>Technologies/measures implemented</b>	The CHP plant at the VA Loma Linda consists of two 400 kW UTC PureCell® Fuel Cells Model 400 CHP systems. This plant will produce 800kW of electricity and provide heating for both the heating hot water system as well as the domestic hot water system as an alternative to the existing steam boilers.
	<b>Larry Barrett</b> , Energy Manager, VA Loma Linda Healthcare System 909-825-7084 ext. 2925



## TAB 8 – Statement of Compliance with County Compliance Requirements

A sample of the County's standard contract (including Exhibits A and B) is attached to this RFP. Each proposal must include a statement of the proposer's commitment and ability to comply with each of the terms of the County's standard contract, including but not limited to the following:

The County non-discrimination policy;  
 The County equal employment opportunity requirements;  
 County requirements regarding employee benefits;  
 The County jury duty ordinance;  
 The Hold Harmless Provision;  
 Enclosure 3 –Section 504 of the Rehabilitation Act of 1973, as Amended  
 County insurance requirements;  
 All other provisions of the standard contract.

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Johnson Controls is willing to comply with county ordinances and regulations related to employment and employee benefits.

In addition, the proposer should include a statement that it will agree to have any disputes regarding any contract venued in San Mateo County or the Northern District of California.

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Johnson Controls is willing to have the venue for disputes be San Mateo County or the Northern District of California.

Proposals must advise County of any objections to any terms in the County's contract template and provide an explanation for the inability to comply with the required term(s). If no objections are stated, County will assume the proposer is prepared to sign the County contract as-is.

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Johnson Controls, Inc. ("JCI") has made a preliminary review of the Standard County Agreement contained in your Request for Proposal for Combined Heat and Power System at San Mateo Medical Center (Contract No. 2013 - 0001), dated May 3, 2013 (hereinafter, referred to as the "Agreement"). JCI would like to discuss several main contract principles that relate to the Agreement with the San Mateo Medical Center ("County"), as a starting point to our negotiations. They are as follows:

1. **Limitation on Liability.** JCI requests an opportunity to discuss: (A) cap on liability and (B) waiver of consequential damages. The County would not be able to receive the services contemplated on an advantageous and cost-effective basis without providing JCI with reasonable and adequate protections from liability under the Agreement.
  - A. **Cap on Liability.** JCI would like to negotiate a reasonable and fair aggregate cap on liability for the Agreement without carve outs.



**B. Waiver of Consequential Damages.** JCI would like to request a waiver of consequential damages.

JCI has been very successful with similar clients in finding agreement to these terms under the proper risk/reward scenario, and we are confident that we can achieve the same with the County.

2. Mutual Indemnification. JCI would like to request that the indemnification provision be mutual and limited to third party claims arising from a party's negligence or higher offense. Breaches of representations, violations of law, and breaches of covenants in the Agreement would not be tied to negligence (or such higher offense).
3. HazMat. JCI would like an opportunity to discuss each party's obligations as it relates to the remediation or disposal of hazardous materials.
4. Audit. JCI is happy to grant the County the right to audit, but such right should be subject to prior written notice to JCI, at the County's expense and should remain limited to the scope of the services provided under the Agreement.

Once the final scope and pricing have been mutually agreed to by the parties, further review and editing of the Agreement will be necessary to align the Agreement with the final, negotiated scope and pricing.

JCI affirms its intent to negotiate a mutually beneficial agreement with the County, one that reflects an appropriate balance of risk and reward and truly contemplates a win-win business strategy for both parties.

JCI appreciates the opportunity to discuss with you our energy solutions. We believe we can offer the County very competitive and cost-effective services and look forward to talking with you soon.

Thank you in advance for your consideration.



# Appendix

## Tab 4 – Scope of Work Appendix

### Capacity to Perform – Bonding and Insurance





## Appendix A - Scope of Work – Additional Detail Base Solution

### General description of a three (3) 250kWe module Cogeneration Plant

The CHP system recovers heat from the engine exhaust, jacket water and lubricating oil cooler of three (3) 250 kWe EnviroGen cogeneration modules. Each module consists of:

- One (1) Caterpillar G3412NA engine operating at 1,800 rpm (supplied by Peterson Power Systems)
- One (1) Marathon 433RSL4021, 4-pole generator producing 250 kWe at 480 VAC
- One (1) exhaust heat recovery heat exchanger:
  - Patented water tube configuration
  - ASME Code Section VIII
  - Integral water jacket
- One (1) engine isolation heat exchanger:
  - Stainless steel, brazed plate or plate and frame construction
  - ASME Code Section VIII
- One (1) DCL International 3DC-50 MINE-X Three-way Catalyst
- As required: isolation valves, expansion tanks, flow control valves and instrumentation

The Caterpillar engine, Marathon generator, jacket water heat recovery equipment engine and generator controls will be mounted in a weather-proof enclosure creating a cogeneration module, as detailed in the attached “EnviroGen Energy Module” description. The module will be fully assembled at factory. Any components removed for shipment will be re-assembled on-site by ELITE.

The cogeneration loop recovers heat from each engine isolation heat exchanger and each exhaust heat recovery heat exchanger and feeds the heat to the hot side of a plate and frame heat exchanger mounted in the enclosure.

The system will deliver approximately 4,540,000 Btu/hour of hot water at nominal temperature of approximately 196°F to the cogeneration loop (hot) side of the client heat exchanger. Client side delivery temperature can be tailored to site requirements. The plumbing to and from the client side of the heat exchanger is the responsibility of others.

Dry cooler, certain control and process devices will be mounted on a free standing structural steel assembly. Connections between this assembly and the cogeneration module will be provided and installed by Elite after equipment is set.

Heat not utilized by the facility from the jacket water and exhaust heat recovery loop will be rejected to atmosphere via vertical discharge dry cooler. The dry cooler will be factory fitted for installation in the cogeneration space adjacent to the generator enclosures.

Elite will provide a single dry cooler for the combined hot water cogeneration loop

Dry cooler fans will be VFD controlled. Thermal loop flow to the dry coolers will be controlled by three-way valves activated by loop return temperature to the engine.

The cogeneration loop has two redundant circulating pumps that act in a lead/lag configuration.





The complete module as described in this specification will be assembled and idle tested in our facility and dismantled as required for shipping. Emissions will not be measured during this factory idle test.

The CHP System will be pre-piped and wired to provide the installer with one Point of Common Connection each for fuel gas, supply and return to the hot water loop and electrical supply. The location of the CHP System will be outside on a concrete pad supplied by others.

ELITE will provide all engineering required to design the system including: enclosure, mechanical piping, electrical and sizing of pumps and heat exchangers based on information provided by JCI project engineers.

### Detailed Scope of Supply

- Three (3) Elite Envirogen 250 kWe CHP Modules
- Two (2) duplex (lead/lag), VFD controlled, electric motor driven circulating pumps, close-coupled, totally enclosed fan cooled motors for cogeneration heat recovery circuit:
  - Pumps are redundant and start alternately.
  - Circuit is temperature controlled to 196°F delivery temperature to the hot side of the client heat exchanger.
- One (1) Series M-10 Alfa-Laval (or equal) plate and frame heat exchanger for servicing facility process hot water loop(s).
  - Heat exchanger in quotation is sized for approximately 369 gpm flow on cold (building) side with 25°F  $\Delta T$ , 160°F entering water temperature.
  - Deviations may result in revision of quoted price.
- One (1) SRC single core (or equal), vertical discharge dry cooler with VFD controlled fan for excess cogeneration loop heat dump
- Two (2) 3-way valves for temperature control
- As required: isolation valves, expansion tanks, flow control valves and instrumentation

### Connections will be:

- 480 VAC, 3Ø, 200 Amps from host module MMC
- One (1) 4" ANSI, 150# Flange connection for fuel gas.
- One (1) make-up water connection, 1"Ø minimum.
- Two (2) hot water connections (one supply/one return) from client (cold) side of skid mounted heat exchanger: 5" can be either Victaulic or ANSI
- Fuel gas: 4" ANSI, 150# Flange connection for fuel gas; pressure range 2 – 5 psig. We will supply a regulator and filter. Will supply the earthquake valve for each unit at each unit.
- Electrical: to be determined; either single disconnect in cogeneration space or at modules and MMC panel
- Exhaust: each unit will have an 8" diameter exhaust. Elite will fabricate for free standing. Height to be determined by BAAQMD.
- Elite will supply shipped loose for installation by others two (2) Beckwith M3520 intertie relays. Relays will be shipped loose with Belkin (or similar) UPS. Elite will not provide CTs and/or PTs for the installation with the Beckwith M3520 relays. Elite will program the units in compliance with PG&E's requirements when those requirements are determined. There will be one conduit from the cogeneration system control to the M3520(s), 1" is nominal
- Elite's control system will require a dedicated internet connection.
- All steel piping to be Schedule 40. Thermal pipe connections are Victaulic, ASME flange or welded by certified journeyman as required.



- Gas piping, valves and fittings are AGI rated; all connections are welded or national pipe thread on fittings up to 3 inches in diameter as determined by the installation requirements.
- Thermal piping will be insulated with 2" mineral wool and covered in PVC sheathing.
- ELITE will provide an exhaust condensate drain system of 1" diameter to a Point of Common Connection (PCC) to route, by others, to a drain; one from each exhaust stream.

### **Cogeneration Loop Instrumentation:**

- Temperature on all fluid inlets and outlets from:
  - Modules (6)
  - Jacket Water isolation heat exchanger (6)
  - Exhaust gas heat exchanger (6)
  - Dry cooler (2)
- System pressure sensors before and after jacket water and cogeneration loop pumps
- Exhaust backpressure at engine outlet and prior to exhaust gas heat exchanger
- Exhaust gas temperature in three locations:
  - Engine outlet
  - Exhaust heat exchanger inlet
  - Exhaust heat exchanger outlet
- Pete's Plugs located at each sensor and switch for trouble-shooting.

### **Controls**

The proposed cogeneration control system is of ELITE design.

### **Exhaust and Emissions System**

- ELITE will provide a single a HARCO VCS Extreme Duty exhaust silencer for each module sized for approximately 42 dB(A) sound power reduction. Depending upon final system location the silencers will either be unit mounted or shipped loose for remote mounting.
- Each module is equipped with non-selective catalyst reduction (NSCR) exhaust after-treatment for the reduction of NOx, CO and VOC constituents. The system will comply with BAAQMD BACT and 2013 SGIP requirements where applicable.
- The Elite system will meet the Greenhouse Gas Emission Standard as defined in paragraph 4.2.8 and 4.2.9 of the California SGIP Handbook version of February 1, 2013 as well as other efficiency and emission requirements required for compliance with the Self-Generation Incentive Program.
- Elite will provide three (3) emission test ports per in each exhaust run in a location and manner compatible with local requirements.
- Alterations to the exhaust system(s) required by local permitting authorities beyond those specified above may result in additional cost.

### **Electrical**

- Electrical wiring to be in rigid or flexible conduit as required by codes. Conduit and wiring shall be provided to the generator mounted breaker as directed by the JCI.
- ELITE shall provide a Motor Control Center (MCC) for control of pumps and valves including ventilation controls, pumps and valves. The MCC will be located in the enclosure.
- ELITE will provide for pump and fan motor starters and 3-way valve controls in Motor Control Center (MCC) as required.
- Conduit and wiring to electrically connect all module mounted equipment as follows:



- Point to point wiring for all module mounted sensors and controls
- Elite will route wiring for all pumps and other devices to terminals in a common panel
- Where possible and practical control and sensor wiring will be routed to terminal strips in a common panel as required.
- **Please Note:** In the event seismic considerations require installation of a seismic gas valve at the point of gas connection, that valve must have a supervised switch connected to the CHP master controller to allow for hard stop of the engines remote or local identification of the safety actuation. ELITE will provide the point for connection to the master controller at no additional cost. All other cost for the seismic valve, installation and other related cost not included in this scope will be the responsibility of others.

### Exclusions

- Placement of CHP System and equipment (ELITE will provide for re-connection of any components removed for shipment as well all electrical, thermal and control circuits within the system boundary)
- Any Electrical or thermal connections and pipe-work beyond the defined Point(s) of Common Connection (PCC).
- Electrical interconnection, unless otherwise agreed, are the responsibility of JCI.

### Site Assembly, Start-up and Commissioning Services

- JCI must provide ELITE with as-built drawings, final sequence of operation and copies of all permits or operating agreement conditions prior to start-up a commissioning activities.
- Foundation and all other site work is the responsibility of the others
- JCI is responsible for all thermal and electrical connections to Points of Common Connection (PCC) as agreed by all parties and reflected in the documentation. ELITE will provide technical assistance during this process, as defined above, if required.
- Once all thermal and electrical connections have been made, the thermal systems flushed and filled ELITE will provide assistance as qualified above in balancing the thermal system in conjunction with JCI.
- ELITE will provide technical documentation including specific equipment specifications and control system specifications.
- JCI is responsible for contracting of and payment for any emission source testing as required.
- JCI will provide engineering, design, permitting, utility interconnect, freight, rigging, construction, electrical wiring, mechanical and exhaust piping as required to integrate the CHP System in the host facility.

### Switchboard & PG&E Meter Accommodation 3 x 250 kW

#### Net Metering & Disconnect Equipment

JCI proposes to supply a cogeneration system for the above note project consisting of 3 x 250 kW<sub>e</sub>, natural gas fired, reciprocating engine driven cogeneration modules and assorted hydronic and controls equipment. The system will be packaged complete in manufacturing facility and installed at the customer's location.

This basic scope of supply provides electrical equipment normally consistent with PG&E interconnection and net-metering requirements. The equipment quoted herein provides for that equipment with the exception, as noted, of a visible means of disconnect.



## Square D Power Style Custom Switchboard Designed and Tested in accordance with:

- 
- UL 891/NATIONAL ELECTRIC CODE/NEMA PB-2
- System Voltage - 480Y/277V 3Ph 4W 60Hz
- Source Description - Six Circuit Mains
- System Ampacity - 1200A
- Bussing - Aluminum Plated w/Tin and Copper Plated w/Silver
- Neutral Bus - 100%
- Max Available Fault Current (RMS) - 42kA
- Enclosure - Type 1
- Accessibility: Front Only
- Rodent Barrier
- Exterior Paint Color - ANSI 49
- Ground Lug provided for each device
- Standard Aluminum Ground Bus
- Lineup 1 BTU: 9954

## Dimensions

- 1 - 36" Wide Section(s)
- 1 - 42" Wide Section(s)
- 1 - 24" Wide Section(s)
- 3 - 24" Deep Enclosure(s)
- Dimensions: 102.00" W X 24" Max D X 91.5" H
- Approximate Weight: 1988.00

## Incoming Requirements

- Suitable for Use as Service Entrance When Not
- More Than 6 Main Disconnecting Means are Provided
- Entry Point: Center of Lineup, Through the Bottom
- Reverse Feed
- Hot Sequence Utility: Pacific Gas & Electric (CA)
- Standard Door Pattern 1-30in Door, 2 Sockets

## Mains

- 1 - 800AT 480V 80% Rated 65 kA 3 Pole UL,  
Group Mounted Thermal Magnetic Circuit  
Breaker: Type LC Main One
- 1 - 800AT 480V 80% Rated 65 kA 3 Pole UL,  
Group Mounted Thermal Magnetic Circuit  
Breaker: Type LC Main Two
- 1 - 225AT 480V 80% Rated 65 kA 3 Pole UL,  
Group Mounted Thermal Magnetic Circuit  
Breaker: Type JJ Main Three

## Common Main Features:

Padlock Attachment



## Appendix B - Scope of Work – Additional Detail Base Solution

### General description of a two (2) 400kWe module Cogeneration Plant

The CHP system recovers heat from the engine exhaust, jacket water, lubricating oil cooler and first stage of the aftercooler of two 400 kWe cogeneration modules. Each module consists of:

- One (1) Caterpillar CG132-16 engine operating at 1,800 rpm driving a Marelli MJB 355 MB4, 4-pole generator producing 400 kWe at 480 VAC (supplied by Peterson Power Systems)
- One (1) exhaust heat recovery heat exchanger:
  - ASME Code Section VIII
  - Single fire pass with removal ends for periodic cleaning
- One (1) engine isolation heat exchanger:
  - ASME Code Section VIII
  - Stainless steel, brazed plate or plate and frame construction
- One (1) 3-way valve for temperature control:
  - Siemens Flowrite Series 599 3-way valve and actuator (24 VDC)
- One (1) Clean Air Systems E-POD ENDURE SCR/ASSURE OC emissions after-treatment assembly (supplied by Peterson Power Systems)
- As required: isolation valves, expansion tanks, flow control valves and instrumentation

The Caterpillar engine/generator set, jacket water heat recovery equipment and basic process controls will be mounted in a weather-proof enclosure creating a cogeneration module, described below. The module will be fully assembled at factory. Any components removed for shipment will be re-assembled on-site by ELITE.

The cogeneration loop recovers heat from each engine isolation heat exchanger and each exhaust heat recovery heat exchanger and feeds the heat to the hot side of a plate and frame heat exchanger mounted in the enclosure.

The system will deliver approximately 3,173,600 Btu/hour of hot water at nominal temperature of approximately 196°F to the cogeneration loop (hot) side of the client heat exchanger. Client side delivery temperature can be tailored to site requirements. The plumbing to and from the client side of the heat exchanger is the responsibility of others.

The system will have available an additional 180,000 Btu/hour of lower grade hot water (approximately 110°F) from the low temperature aftercooler circuit for facility use. The application of this additional heat for use by the client is the responsibility of others and not included in this scope of supply

Exhaust heat recovery equipment, exhaust after treatment SCR, exhaust by-pass valve (if elected) and certain control and process devices will be mounted on a free standing structural steel assembly. Connections between this assembly and the cogeneration module will be provided and installed by Elite after equipment is set.

Heat not utilized by the facility from the jacket water and exhaust heat recovery loop and the aftercooler circuit will be rejected to atmosphere via vertical discharge dry coolers. The dry coolers will be factory fitted for installation in the cogeneration space adjacent to the generator enclosures.

Elite will provide a single dry cooler for the combined hot water cogeneration loop and one dry cooler for the combined low temperature aftercooler loop.





Dry cooler fans will be VFD controlled. Thermal loop flow to the dry coolers will be controlled by three-way valves activated by loop return temperature to the engine.

The cogeneration loop has two redundant circulating pumps that act in a lead/lag configuration.

Engine aftercooler requirements are supplied by a common loop with two redundant circulating pumps that act in a lead/lag configuration. Loop temperature is controlled by circulating pump VFDs and engine mounted aftercooler thermostats.

The complete module as described in this specification will be assembled and idle tested in our facility and dismantled as required for shipping. Emissions will not be measured during this factory idle test.

The CHP System will be pre-piped and wired to provide the installer with one Point of Common Connection each for fuel gas, supply and return to the hot water loop and electrical supply. The location of the CHP System will be outside on a concrete pad supplied by others.

### Detailed Scope of Supply

- Two (2) Caterpillar CG132-16 800 kWe generator sets
- Two (2) exhaust heat recovery heat exchangers:
  - Fire tube configuration
  - Single pass with removal ends for periodic cleaning
- Two (2) engine isolation heat exchangers:
- Stainless steel, brazed plate construction (MAWP 450 psig @ 350°F)
- Two (2) duplex (lead/lag), VFD controlled electric motor driven circulating pumps, close-coupled, totally enclosed fan cooled motors for the low temperature aftercooler circuit. Pumps are redundant and start alternately:
  - Circuit serves both the low temperature aftercooler on each unit
  - Circuit temperature is controlled by VFD and engine mounted thermostatic valves
- Two (2) duplex (lead/lag), VFD controlled, electric motor driven circulating pumps, close-coupled, totally enclosed fan cooled motors for cogeneration heat recovery circuit:
  - Pumps are redundant and start alternately.
  - Circuit is temperature controlled to 196°F delivery temperature to the hot side of the client heat exchanger.
- One (1) Series M-10 Alfa-Laval (or equal) plate and frame heat exchanger for servicing facility process hot water loop(s).
  - Heat exchanger in quotation is sized for approximately 254 gpm flow on cold (building) side with 25°F ΔT, 160°F entering water temperature.
- Deviations may result in revision of quoted price.
- One (1) SRC single core (or equal), vertical discharge dry cooler with VFD controlled fan for excess cogeneration loop heat dump
- One (1) SRC single core (or equal), vertical discharge dry cooler with VFD controlled fan for
  - Low temperature aftercooler circuit (104°F inlet to aftercooler)
- Two (2) 3-way valves for temperature control
- As required: isolation valves, expansion tanks, flow control valves and instrumentation

### Connections will be:

- 480 VAC, 3Ø, 200 Amps from host module MMC
- One (1) 4" ANSI, 150# Flange connection for fuel gas.



- One (1) make-up water connection, 1"Ø minimum.
- Two (2) hot water one supply/one return from client (cold) side of skid mounted heat exchanger: 4" can be either Victaulic or ANSI
- Fuel gas: 4" ANSI, 150# Flange connection for fuel gas; pressure range 2 – 5 psig. We will supply a regulator and filter. Will supply the earthquake valve for each unit at each unit.
- Electrical: to be determined; either single disconnect in cogeneration space or at modules and MMC panel
- Exhaust: each unit will have an 8" diameter exhaust. We will fabricate for free standing. Height to be determined by BAAQMD.
- There will be a requirement to connect from a 40" x 48" 333 gallon urea totes to the pump system on the SCR. The totes will have to be located for easy access; consumption is ~0.8 – 1.0 gallons/hour of full load operation.
- Elite will supply shipped loose for installation by others two (2) Beckwith M3520 intertie relays. Relays will be shipped loose with Belkin (or similar) UPS. Elite will not provide CTs and/or PTs for the installation with the Beckwith M3520 relays. Elite will program the units in compliance with PG&E's requirements when those requirements are determined. There will be one conduit from the cogeneration system control to the M3520(s), 1" is nominal
- Elite's control system will require a dedicated internet connection.
- All steel piping to be Schedule 40. Thermal pipe connections are Victaulic, ASME flange or welded by certified journeyman as required.
- Gas piping, valves and fittings are AGI rated; all connections are welded or national pipe thread on fittings up to 3 inches in diameter as determined by the installation requirements.
- Thermal piping will be insulated with 2" mineral wool and covered in PVC sheathing.
- ELITE will provide an exhaust condensate drain system of 1" diameter to a Point of Common Connection (PCC) for JCI to route to a drain; one from each exhaust stream

### Cogeneration Loop Instrumentation:

- Temperature on all fluid inlets and outlets from:
  - Engine (4)
  - Jacket Water isolation heat exchanger (4)
  - Exhaust gas heat exchanger (4)
  - Dry cooler (4)
  - Aftercooler Circuit (4)
- System pressure sensors before and after jacket water and cogeneration loop pumps
- Exhaust backpressure at engine outlet and prior to exhaust gas heat exchanger
- Exhaust gas temperature in three locations:
  - Engine outlet
  - Exhaust heat exchanger inlet
  - Exhaust heat exchanger outlet
- Pete's Plugs located at each sensor and switch for trouble-shooting.

### Balance of Module

2 x 50 gallon Reserve Oil Tank – mounted inside.

### Controls

The proposed cogeneration control system is of ELITE design.



## Exhaust and Emissions System

- Elite will mount, plumb and wire s SCR systems supplied by others.
- Exhaust piping is constructed from Schedule 10S 304 stainless steel pipe.
- Mounting and piping per supplier requirements of two (2) SCR modules (supplied by Peterson Power Systems) will include four (4) sets of flexible connections and gaskets per catalyst.
- This scope assumes SCR devices include exhaust noise attenuation.
- This scope provides no insulation for the SCR.
- This scope provides for the following instrumentation associated with the installation of the SCR:

Description	Quantity
Dwyer Differential Pressure Gauge 0-3 in WC	1
Dwyer Differential Pressure Gauge 0-8 in WC	1
Dwyer Differential Pressure Gauge 0-20 in WC	1
Trerice Temperature Gauge 200 °F - 1000 °F	3
Trerice 6" SS Thermal Well	3
MINCO Type K Thermocouple 0 - 1,300 °F, 4-20 mA	3
MINCO 6" SS Thermal Well	3
3/4" SS High Temperature Gate Valve w/10" SS Nipple/Plug	11

- No provision is provided in this scope of supply for UREA handling/storage
- No provision is provided in this scope of supply for compressed air required for SCR operation
- Elite is not responsible for the SCR system performance or functional suitability.
- Exhaust piping pre-exhaust gas heat exchanger "EGHX" will be insulated with silicon jacketed ceramic insulation with stainless steel screen liner. Exhaust piping after the EGHX is not insulated.
- Elite will provide three (3) emission test ports per in each exhaust run in a location and manner compatible with local requirements.
- Alterations to the exhaust system(s) required by local permitting authorities beyond those specified above may result in additional cost.

**Please Note:** no provisions are made in this scope for the inclusion of a urea tank(s) within the enclosure. Elite will mount urea pumps and controls as required and plumb urea fluid lines to a point of common connection to be defined by others on the perimeter of the enclosure.

## Electrical





- Electrical wiring to be in rigid or flexible conduit as required by codes. Conduit and wiring shall be provided to the generator mounted breaker as directed by others.
- ELITE shall provide a Motor Control Center (MCC) for control of pumps and valves including ventilation controls, pumps and valves. The MCC will be located in the enclosure.
- ELITE will provide for pump and fan motor starters and 3-way valve controls in Motor Control Center (MCC) as required.
- Conduit and wiring to electrically connect all module mounted equipment as follows:
  - Point to point wiring for all module mounted sensors and controls
  - Elite will route wiring for all pumps and other devices to terminals in a common panel
  - Where possible and practical control and sensor wiring will be routed to terminal strips in a common panel as required.
- Note Please: In the event seismic considerations require installation of a seismic gas valve at the point of gas connection, that valve must have a supervised switch connected to the CHP master controller to allow for hard stop of the engines remote or local identification of the safety actuation. ELITE will provide the point for connection to the master controller at no additional cost. All other cost for the seismic valve, installation and other related cost not included in this scope will be the responsibility of others.

### Enclosure Description

- The enclosure system was designed to provide for these features:
  - Maximum allowable inside dimension for service access
  - Maximum airflow for equipment cooling
  - Ease of dismantling for maximum serviceability
  - Full fluid containment as part of the enclosure structure
  - Modules are constructed primarily of formed steel components with. (dimension to be determined in final design)
- The system will be comprised of two cogeneration modules, dry cooler assembly and heat recovery/exhaust after-treatment assembly

### Enclosure Construction

- Enclosure bases are continuously welded to provide a liquid tight containment basin that will hold approximately 400 gallons of fluid in the event of a spill or system failure.
- The module frame above the base structure is constructed primarily of formed steel shapes which are then covered with removable insulated panels 48" wide x 86" high x 3" deep.
- The insulated panels are constructed with 16 gauge steel with an electroplated zinc coating. Panels are then powder coated with high temperature polymer coating for maximum corrosion resistance and optimum appearance.
- Interior surfaces of the panels are covered with an adhesive back barrier composite material that provides sound dampening and thermal insulation.
- The panels are mounted in formed steel track and secured by captive fasteners for easy removal. This feature provides rapid service access to any part of the enclosure while offering the best available in corrosion protection in the industry for steel construction.
- Service access to the module is provided with four (4) hinged doors and two (2) lift-off panels.
- A light-duty rail is provided over the engine/generator sets to facilitate service work.

### Ventilation system



- Power module ventilation and combustion air will be supplied primarily by generator cooling fan assisted by two electric motor driven ventilation fans. Outside air will be brought through fixed sound attenuated louvers.
- Combustion air is ducted from the exterior of the enclosure through fixed louvers passing through an intake silencer mounted in the enclosure upstream from the engine mounted air cleaner.

### Internal Lighting and Electrical

- Internal lighting provided by to (2) fluorescent type 2x40 W warm white color and installed in lighting fixture(s) with reflector, prismatic cover, safety guard, rapid start replaceable ballast and starter.
- One (1) lighting switch will be installed on each interior longitudinal side of the enclosure.
- Two (2) 120 VAC 1Ø convenience outlets will be located on the module interior; one (1) in the general engine space and one (1) in the control space.
- One (1) SENS or equal battery charger for operation with batteries supplied by others. Lead acid batteries are anticipated, NiCad batteries will require thermal protection circuit in the battery charger and additional cost.
- RKI Beacon 200 (or similar) two channel gas detection system with visual and audible alarm for CH<sub>4</sub> and CO, mounted and wired.

### Corrosion Protection

- ELITE EnviroGen® Energy Modules are assembled from individual sheet metal components that have been power coated using Sherman-Williams Powdura Urethane coating material.
  - The underside of the substructure is coated with a two-part polyurethane foam that will provide sound attenuating and thermal insulation.
- All hinges are stainless steel; door closures are composite material that has stood up very well in applications in corrosive environments.
- Other fabricated components are covered with a Sherman-Williams catalyzed epoxy primer and top coated with Sherman-Williams Polane polyurethane enamel.

### Exclusions

- Placement of CHP System and equipment (ELITE will provide for re-connection of any components removed for shipment as well all electrical, thermal and control circuits within the system boundary)
- Any Electrical or thermal connections and pipe-work beyond the defined Point(s) of Common Connection (PCC).
- Electrical interconnection, unless otherwise agreed, are the responsibility of JCI.

### Site Assembly, Start-up and Commissioning Services

- JCI must provide ELITE with as-built drawings, final sequence of operation and copies of all permits or operating agreement conditions prior to start-up a commissioning activities.
- Foundation and all other site work is the responsibility of the others
- JCI is responsible for all thermal and electrical connections to Points of Common Connection (PCC) as agreed by all parties and reflected in the documentation. ELITE will provide technical assistance during this process, as defined above, if required.
- Once all thermal and electrical connections have been made, the thermal systems flushed and filled ELITE will provide assistance as qualified above in balancing the thermal system in conjunction with JCI.



- ELITE will provide technical documentation including specific equipment specifications and control system specifications.
- JCI is responsible for contracting of and payment for any emission source testing as required.
- JCI will provide engineering, design, permitting, utility interconnect, freight, rigging, construction, electrical wiring, mechanical and exhaust piping as required to integrate the CHP System in the host facility.

### **Switchboard & PG&E Meter Accommodation 2 x 400 kWe**

#### **Net Metering & Disconnect Equipment**

JCI proposes to supply a cogeneration system for the above note project consisting of 2 x 400 kWe kWe, natural gas fired, reciprocating engine driven cogeneration modules and assorted hydronic and controls equipment. The system will be packaged complete in manufacturing facility and installed at the customer's location.

This basic scope of supply provides electrical equipment normally consistent with PG&E interconnection and net-metering requirements. The equipment quoted herein provides for that equipment with the exception, as noted, of a visible means of disconnect.

#### **Square D Power Style Custom Switchboard Designed and Tested in accordance with:**

- UL 891/NATIONAL ELECTRIC CODE/NEMA PB-2
- System Voltage - 480Y/277V 3Ph 4W 60Hz
- Source Description - Six Circuit Mains
- System Ampacity - 1200A
- Bussing - Aluminum Plated w/Tin and Copper Plated w/Silver
- Neutral Bus - 100%
- Max Available Fault Current (RMS) - 42kA
- Enclosure - Type 1
- Accessibility: Front Only
- Rodent Barrier
- Exterior Paint Color - ANSI 49
- Ground Lug provided for each device
- Standard Aluminum Ground Bus
- Lineup 1 BTU: 9954

#### **Dimensions:**

- 1 - 36" Wide Section(s)
- 1 - 42" Wide Section(s)
- 1 - 24" Wide Section(s)
- 3 - 24" Deep Enclosure(s)
- Dimensions: 102.00" W X 24" Max D X 91.5" H
- Approximate Weight: 1988.00
- **Incoming Requirements:**
- Suitable for Use as Service Entrance When Not
- More Than 6 Main Disconnecting Means are Provided
- Entry Point: Center of Lineup, Through the Bottom



- Reverse Feed
- Hot Sequence Utility: Pacific Gas & Electric (CA)
- Standard Door Pattern 1-30in Door, 2 Sockets

**Mains:**

- 1 - 800AT 480V 80% Rated 65 kA 3 Pole UL, Group Mounted Thermal Magnetic Circuit Breaker: Type LC Main One
- 1 - 800AT 480V 80% Rated 65 kA 3 Pole UL, Group Mounted Thermal Magnetic Circuit Breaker: Type LC Main Two
- 1 - 225AT 480V 80% Rated 65 kA 3 Pole UL, Group Mounted Thermal Magnetic Circuit Breaker: Type JJ Main Three

**Common Main Features:**

Padlock Attachment



## Capacity to Perform – Bonding and Insurance

### Bank References:

JPMorgan Chase  
Credit and Confirmation Group  
Tel: (800) 550-8509  
Fax: (817) 345-3794

### Name of bonding company:

#### **Liberty Mutual Insurance Company**

2815 Forbs Avenue, Suite 102 Hoffman Estates, IL 60192  
Telephone: (847) 396-7131  
Fax: (866) 548-6573  
John J. Moriarty  
Johnj.moriarty@libertymutual.com  
FAX: 866-548-6573

#### **Bonding capacity:**

\$15,000,000 Single Bond Limit  
\$500,000,000 Aggregate

#### **Name and address of agent:**

Hays Companies of Wisconsin  
Attn: Cathy Hutson  
1200 North Mayfair Road, Suite 100  
Milwaukee, WI 53226 Telephone: (414) 290-3583  
Fax: (414) 259-8414  
E-mail: milwaukeebonds@hayescompanies.com

### Certificate of Insurance Coverage

Please see our insurance coverage limits in the documents on the following pages.





# CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)  
6/13/2013

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. 411 East Wisconsin Avenue Suite 1600 Milwaukee, WI 53202 - 4419		<b>CONTACT NAME:</b> Attn: CPU <b>PHONE:</b> (866) 966-4664 <b>FAX:</b> (212) 948-5167 <b>E-MAIL:</b> JCI.CertRequest@marsh.com <b>ADDRESS:</b>															
<b>INSURED</b> Johnson Controls, Inc. York International Corporation Attn: Corp. Risk Mgmt. X-92 P.O. Box 591 Milwaukee, WI 53201		<table border="1"> <thead> <tr> <th>INSURER(S) AFFORDING COVERAGE</th> <th>NAIC #</th> </tr> </thead> <tbody> <tr> <td>INSURER A: OLD REPUBLIC INSURANCE CO</td> <td>24147</td> </tr> <tr> <td>INSURER B: SENTRY INSURANCE A MUTUAL CO.</td> <td>24988</td> </tr> <tr> <td>INSURER C: INDEMNITY INSURANCE CO OF NORTH AMERICA</td> <td>43575</td> </tr> <tr> <td>INSURER D: ACE AMERICAN INSURANCE COMPANY</td> <td>22667</td> </tr> <tr> <td>INSURER E:</td> <td></td> </tr> <tr> <td>INSURER F:</td> <td></td> </tr> </tbody> </table>		INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A: OLD REPUBLIC INSURANCE CO	24147	INSURER B: SENTRY INSURANCE A MUTUAL CO.	24988	INSURER C: INDEMNITY INSURANCE CO OF NORTH AMERICA	43575	INSURER D: ACE AMERICAN INSURANCE COMPANY	22667	INSURER E:		INSURER F:	
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INSURER F:																	

**COVERAGES** **CERTIFICATE NUMBER:** **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 INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<b>GENERAL LIABILITY</b> <input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> CONTRACTUAL <input checked="" type="checkbox"/> X,C,U GEN'L AGGREGATE LIMIT APPLIES PER: <input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC	<input type="checkbox"/>	<input type="checkbox"/>	MWZY59837	10/01/2012	10/01/2013	EACH OCCURRENCE \$ 10,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 10,000,000 MED EXP (Any one person) \$ 50,000 PERSONAL & ADV INJURY \$ 10,000,000 GENERAL AGGREGATE \$ 30,000,000 PRODUCTS - COMP/OP AGG INC IN GEN AGG
B	<b>AUTOMOBILE LIABILITY</b> <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> HIRED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS	<input type="checkbox"/>	<input type="checkbox"/>	90-04606-01 90-04606-02 (MA)	10/01/2012 10/01/2012	10/01/2013 10/01/2013	COMBINED SINGLE LIMIT (Ea Accident) \$ 5,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
	<input type="checkbox"/> UMBRELLA LIAB <input type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$	<input type="checkbox"/>	<input type="checkbox"/>				EACH OCCURRENCE \$ AGGREGATE \$ \$
D	<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 N	N/A	WLRC47124347 (CA, AZ, MA) SCFC47124360 (WI) WCUC47124372 (XSWC - OH, WA) WLRC47124335 (AOS)	10/01/2012	10/01/2013	<input checked="" type="checkbox"/> WC STATUTORY LIMITS <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

JCI Contract Number:  
JCI Project Name:  
Customer PO Number:

## CERTIFICATE HOLDER

## CANCELLATION

	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. <i>Kathleen E. Johnson</i>

ACORD 25 (2010/05)

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 AGENCY CUSTOMER ID: \_\_\_\_\_  
 LOC#: \_\_\_\_\_

## ADDITIONAL REMARKS SCHEDULE

Page 2 of 2

AGENCY Marsh USA Inc.		NAMED INSURED Johnson Controls, Inc.	
POLICY NUMBER		York International Corporation	
CARRIER		Attn: Corp. Risk Mgmt. X-92	
NAIC CODE		P.O. Box 591	
		Milwaukee, WI 53201	
		EFFECTIVE DATE: 10/01/2012	

### ADDITIONAL REMARKS

THIS ADDITIONAL REMARKS FORM IS A SCHEDULE TO ACORD FORM,  
 FORM NUMBER: ACORD 25 (2010/05), FORM TITLE: CERTIFICATE OF LIABILITY INSURANCE

#### WORKERS COMPENSATION

Workers Compensation "AOS" Policy includes coverage for the following states: AK, AL, AR, CO, CT, DC, DE, FL, GA, HI, IA, ID, IL, IN, KS, KY, LA, MD, ME, MI, MN, MO, MS, MT, NC, NE, NH, NJ, NM, NV, NY, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WV

#### PRIMARY COVERAGE

The General Liability and Automobile Liability policies are primary and not excess of or contributing with other insurance or self-insurance, where required by lease or contract. For General Liability, this applies to both ongoing and completed operations.

#### WAIVER OF SUBROGATION

The General Liability, Automobile Liability, Workers Compensation and Employers Liability policies include a waiver of subrogation in favor of the certificate holder to the extent required by contract.

#### ADDITIONAL INSURED – AUTOMOBILE LIABILITY

The Automobile Liability policy, if required by contract, includes coverage for Additional Insureds as required by contract.

#### ADDITIONAL INSURED – GENERAL LIABILITY

For General Liability, if required by written contract, the following are included as additional insureds, as required pursuant to a written contract with a named insured, per Policy Endorsements A2 and A2A, replicated below: **THE CERTIFICATE HOLDER LISTED ON THIS CERTIFICATE OF LIABILITY INSURANCE, AND EACH OTHER PERSON OR ORGANIZATION REQUIRED TO BE INCLUDED AS AN ADDITIONAL INSURED PURSUANT TO A WRITTEN CONTRACT WITH THE NAMED INSURED.**

#### **SCHEDULE FOR POLICY ENDORSEMENTS A2 AND A2A**

Name of Additional Insured Person(s) or Organization(s):

If required by contract, the person or organization listed on the certificate of insurance as additional insured, and each other person or organization required to be included as an additional insured pursuant to a contract with a named insured.

Location(s) of Covered Operations:

As required by contract.

#### **POLICY ENDORSEMENT A2**

##### **ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – NAMED INSURED'S ACTS OR OMISSIONS ONLY**

- A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused solely by:
1. Your acts or omissions; or
  2. The acts or omissions of those acting on your behalf, in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.
- B. With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:
- The insurance does not apply to "bodily injury" or "property damage" occurring after:
1. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
  2. That portion of "your work" out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

#### **POLICY ENDORSEMENT A2A**

**ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS – NAMED INSURED'S ACTS OR OMISSIONS ONLY**  
 Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury" or "property damage" caused solely by "your work" at the location designated and described in the Schedule of this endorsement performed for that additional insured and included in the "products-completed operations hazard".