

**Statement of Work (SOW) Edited
Correct Boiler Plant Deficiencies
Project 564-16-103**

1. BACKGROUND/SCOPE

- A. The Department of Veterans Affairs, Veterans Health Care System of the Ozarks (VHSO), Medical Center, 1100 North College Avenue, Fayetteville, AR., performs testing of the steam generation system safety devices to ensure compliance with the VHA Boiler safety Device Testing Manual, Third Edition and VHA Directive 2008-062 Boiler Plant Operations. Testing considers the safety devices serving the steam generation system plant as a whole, and those serving Boilers Number 1 through 3. This work shall be completed under contract with experienced and qualified vendor(s) who generate a report. Report shall consist of but not be limited to, the results of each safety device tested, comments, recommendations and a combustion analysis.
- B. The Veterans Health Administration regards boiler safety as so important that they require as matter of policy that Medical Center Directors be notified if a boiler safety device is found to be non-functional. Each Safety device installed on the boilers or serving the whole boiler plant mitigates risk or is part of a system to mitigate risk. Safety devices and systems must be properly installed, properly calibrated, properly tested and maintained to be effective in mitigating risk. Boiler plants inherently have the potential for catastrophic failure. When a device is found to be inadequate, prompt repair is essential to ensure a safe working environment.
- C. All safety devices are essential, the non-existence, failure, or improper set point or application of any safety device has the potential for the occurrence of events that may interrupt steam production, cause harm to personnel and damage or destroy equipment and property.
- D. The VHSO boiler plant uses a SCADA system to collect plant data and alarm information. There is a high occurrence of nuisance alarms due to improper adjustments of the control circuits.
- E. Contractor shall furnish all management, supervision, labor, material, equipment, supplies, tools, parts, travel, and related services to correct all steam generation system safety deficiencies, including but not limited to, the boilers fuel burning equipment, safety devices, interlocks, gas valves, pressure devices, fuel oil storage and other systems in accordance with the SOW, Contract plans, specifications, attachments, requirements, VHA Boiler Third Edition, VHA Directive 2008-062 Boiler Plant Operations, Plant Safety Device Testing Manual, in accordance with Federal, State, local laws, regulations, and ordinances of Arkansas governing steam generation systems.
- F. All safety devices on this steam generation system shall be installed, adjusted, tested and approved by the COR before completion of this contract.

2. OBJECTIVES

- A. Contractor shall correct all items not in compliance with the VHA Boiler Plant Safety Device Testing Manual, Third Edition, VHA Directive 2008-062 Boiler Plant Operations and other work as described in this SOW.
- B. Contractor shall improve efficiency and operation of the steam generation system, Nexus Fireye Combustion Management System and other boiler control systems.
- C. Contractor shall reduce/eliminate nuisance alarms.
- D. Contractor shall provide additional recommendations for improving boiler plant safety and efficiency.
- E. Contractor shall properly install, properly adjust, properly calibrate, and properly test each safety device and system on the steam generation system.
- F. All safety devices and systems installed per this contract shall work seamlessly with existing VA steam generation system.
- G. Contractor must test all safety devices and systems on the steam generation system in accordance with VHA Boiler Third Edition, VHA Directive 2008-062 Boiler Plant Operations, IAW, Federal, State, local laws, regulations, and ordinances of Arkansas, governing boiler maintenance service, including but not limited to terms and conditions of this contract.
- H. Contractor shall provide training for boiler plant operators in operation of Nexus Fireye Combustion Management System, all safety devices and systems existing and installed, and testing of safety devices including, but not limited to VHA Boiler Plant Safety Device Testing Manual, Third Edition and VHA Directive 2008-062 Boiler Plant Operations.

3. GENERAL

- A. Any provision or partial provision of the Contract, plans, specifications, attachments, documents or requirements that is not consistent with this SOW shall be null and void only to the extent of the inconsistency; all other provisions or partial provisions of the Contract, plans, specifications, attachments, documents or requirements shall remain in full force and effect.
- B. Information Technology (IT) security requirements Certification and Accreditation (authorization) (C&A) of the contractor system: The C & A requirements do not apply and a Security Accreditation Package is not required.
- C. Safety shall be the Contractor's highest priority.
- D. The VA healthcare facility shall continue to operate during the performance period.
- E. Work by the Contractor shall be completed between the hours of 0700 hours and 1700 hours, CDT, Monday through Friday, excluding Federal holidays. Work that will interfere with normal operations shall be coordinated (prior to or ahead of designated time) with affected VA departments and accomplished during designated maintenance times, as noted otherwise herein, as requested in writing and approved by the Contracting Officer Representative (COR) for special circumstances, without additional cost to the VA

- F. Contractor's work shall be conducted in a manner and at times which would present the least amount of disruption to the VA healthcare facility.
- G. All submittals shall be submitted for review/approval no later than thirty (30) Calendar days after Notice To Proceed.
- H. Installation - The Contractor shall be responsible for all work to include termination to all components and utilities.
- I. VA utilities and work areas may not be immediately available and the Contractor must provide flexibility in the schedule.
- J. Contractor shall execute the contract in accordance with the true intent and meaning of the SOW, contract, plans, specifications, documents, and requirements without additional cost to the VA.

4. SPECIFICATIONS AND DRAWINGS

- A. Electronic copies of the specifications and drawings shall be made available to the Contractor upon Contractor's written request.
- B. Contractor shall be responsible for printed copies of specifications, drawings and other documents, at the Contractor's expense.
- C. Contractor is responsible for verifying all quantities and dimensions.

5. VENDOR REQUIREMENTS

- A. There is a very high level of knowledge and experience that is required to adequately perform the tasks per this SOW.
- B. Vendor must be a Nexus Fireye factory authorized distributor with demonstrated experience installing, calibrating, and programming the Nexus Fireye Combustion Management System.
- C. Vendor must have prior experience (minimum of five (5) years in similar scope, size and complexity during the past five (5) years) installing, calibrating, testing, and troubleshooting the devices listed in the VHA Boiler Plant Safety Device Testing Manual, Third Edition and other items and systems listed in this SOW, at VA Medical Facilities due to the unique and specialized nature of these requirements.
- D. Vendor must have an onsite emergency response time equal to a maximum of four (4) hours for any issues deemed critical to safety or operations that are within the scope of this contract.
- E. Contractor shall submit documentation and references with bid which prove the vendor meets all the above requirements.

6. PLACE OF PERFORMANCE

- A. The jobsite work is located at the Department of Veterans Affairs, Veterans Health Care System of the Ozarks (VHSO), Medical Center, 1100 North College Avenue, Fayetteville, AR., Building 10 Boiler Plant property.

7. PERIOD OF PERFORMANCE

- A. Period of Performance: ONE HUNDRED FIFTY (150) CALENDAR DAYS.

8. TASKS (STEAM GENERATION SYSTEM DEFICIENCIES)

- A. Contractor shall furnish all management, supervision, professional-licensed-certified labor, material, equipment, supplies, tools, parts, travel, and related services necessary to correct safety devices that are not present and need to be

installed, have failed, are not effective because of improper set points or installation, or need to be calibrated.

- B. All tasks apply to the steam generation system, including, but not limit to three (3) high pressure Cleaver Brooks boilers Model CB-200-250-150 (Boiler Number 1 Serial Number 0L103245, Boiler Number 2 Serial Number 0L103246 and Boiler Number 3 Serial Number 0L103247) systems unless noted otherwise.
- C. Tasks shall be conducted independently from each other. This will reduce impact to boiler plant operations. The COR has the authority to adjust the required period of time between tasks and tests when deemed as beneficial and necessary for facility operations, without additional cost to the VA. Proper written notice shall be given to the Contractor in the event the time period is altered.
- D. Contractor shall correct deficiencies as follows:
 - 1. SOW Attachment 1: Titled "Steam Plant Device Deficiencies".
 - 2. SOW Attachment 2: Titled "Boilers Number 1, 2, & 3 Device Deficiencies".
 - 3. SOW Attachment 3: Titled "Fuel Oil Storage Deficiencies".
- E. Contractor shall see SOW Attachment 4: Titled "VA Boiler Safety Device Testing at Fayetteville, AR, March and April, 2016", Pages 1 through 58 for reference.
- F. Contractor shall furnish all management, supervision, labor, material, equipment, supplies, tools, parts, travel, and related services to remove, properly dispose, and replace the following:
 - 1. Deaerator Tank Pressure Relief Valve pressure relief valve shall be identical replacement to the existing Kunkle Model 6010 or equal: Side outlet. Full nozzle design with brass/bronze trim, O-Ring soft Seat for exceptional leak-free performance, reduced maintenance cost, multiple cycles with tight shutoff, improved seating integrity; wide hex on valve nozzle provides wrenching service clearance for easy installation; dual control ring offer easy adjustability for precise opening with minimum preopen or simmer and exact blowdown control; ball bearing pivot between disc and spring side thrust; and grooved piston model disc reduces sliding area and friction. Set 10.0 psi, size 1-1/2 (Contractor shall confirm size.), Capacity 1083 LB/H.
 - 2. Deaerator Tank Pressure Reducing Valve shall be an identical replacement to the existing Fisher Controls 92B-63 pressure reducing self-powered control valve – steam or equal, Press. Units PSIG, Max Inlet 250, Max Max Outlet 150, Max casing pressure 150 PSIG, Max Temp. 406 complete with an identical replacement to the existing Fisher Controls Regulator Pilot FS 92B-63, Type 92B, Press Units PSIG, Output range 5-15, Max Outlet 30.
- G. Contractor shall furnish all management, supervision, labor, material, equipment, supplies, tools, parts, travel, and related services to replace five existing Steam/Heating water Convertors (shell and tube heat exchangers), including but not limited to the following:
 - 1. M2-2
 - a) Disconnect and remove two heat exchangers at connecting flanges on valves.

- b) Furnish and install one new 4 inch butterfly (to match existing) valve at tie in point.
 - c) Furnish and install two new shell and tube heat exchangers Label Convertor No. 1-C1 and 1-C2 (Match existing.), located in room M2-2, Circulating Fluid: Fluid Water, GPM 85, Temp in °F 160, Temp out °F 180, Max. Loss Ft. Fluid 2, Steam PSIG: Entering control valve 40, Interling Convertor 13, Control Valve LBS/HR 925.
 - d) Furnish and install two new temperature gauges with thermometer wells (Match existing.).
 - e) Furnish and install two new pressure gauges with valves (Match existing.).
 - f) Furnish and install Pete's plug (Match existing.).
 - g) Furnish and install two new ¾ inch drain valves with garden hose connections (Match existing.).
 - h) Furnish and install two new 2-1/2 inch flanges and nipples for steam inlet to exchanger including two unions.
 - i) Furnish and install two new air vents and nipples on exchangers.
 - j) Furnish and install two new pressure relief valves on heat exchanger's and pipe drain (Match existing.).
 - k) Furnish and install two new 1 inch valves on condensate outlet on exchangers (Match existing.).
 - l) Furnish and install two new 1 inch wye strainers (Match existing.) in condensate outlet line.
 - m) Furnish and install 1-1/2 inch insulation on heat exchangers (Match existing.).
 - n) Furnish and install new insulation (match existing). Do not cover manufacturer's name plate.
 - o) Furnish and install painting, directional arrows and labeling on piping, test, adjust and balance (TAB), and commissioning.
 - p) Furnish and install valve tags (match existing) complete with Valve Chart in picture frame mounted on wall.
 - q) Existing control valves, steam traps, and Armstrong trap monitors shall remain in place.
2. Mechanical 407
- a) Remove and properly dispose of the following:
 - i. Insulation as required.
 - ii. All pipe fittings, valves, unions, strainers, thermometers, gages, convertors, and pumps being replaced.
 - b) Replace medium pressure steam supply pipe valves (4 each), strainers (2 each), unions (6 each) (match existing).
 - c) Replace medium pressure steam supply by-pass pipe valves (2 each) and unions (2 each) (match existing).
 - d) Replace condensate main piping valves (3), strainers (2 each), and unions (3 each) (match existing).

- e) Replace condensate by-pass piping valve (1 each) (match existing).
 - f) Replace condensate piping from shell of convectors valves (4 each), strainer (2 each), union (4 each) (match existing).
 - g) Replace hot water return piping into convectors valves (2 each), unions (2 each), and thermometer (Terice or equal) 30°F - 230°F one (each). Valves shall be full port ball valves.
 - h) Replace hot water supply pipe from convectors valves (2 each), unions (4 each), unions (4 each), thermometers (Terice or equal) 30°F-230°F (one each), and relief vents (2 each) (match existing).
 - i) Furnish and install new pressure gages (2 each) on hot water return piping into convectors complete with shut-off valves.
 - j) Furnish and install two new shell and tube convectors Label Convector No. 1-C1 and 1-C2 (match existing.).
 - k) Replace hot water main supply pipe from air separator - valves (2 each), strainer (2 each), and pumps labeled P-1 and P-2 (match existing). Valves shall be full port ball valves.
 - l) Replace hot water by-pass supply pipe from air separator – valves (3), unions (2 each), and pressure gages (two each) 0-100 psig (match existing). Valves shall be full port ball valves.
 - m) Furnish and install new insulation (match existing). Do not cover manufacturer's name plate.
 - n) Furnish and install painting, directional arrows and labeling on pipe insulation, test, adjust and balance (TAB), and commissioning.
 - o) Furnish and install valve tags (match existing) complete with Valve Chart in picture frame mounted on wall.
3. Attic mechanical room above Oncology
- a) Remove and properly dispose of the following:
 - i. Insulation as required.
 - ii. All pipe fittings, valves, unions, thermometers, and convector being replaced.
 - b) Furnish and install one new shell and tube convector (match existing). Thrush Co. Inc. Model No. S8182A Year Built 2006 Order #55051.
 - c) Furnish and install two new butterfly valves (match existing).
 - d) Replace thermometers (Terice or equal) 30°F-230°F (two each).
 - e) Furnish and install new insulation (match existing). Do not cover manufacturer's name plate.
 - f) Furnish and install painting, directional arrows and labeling on pipe insulation, test, adjust and balance (TAB), and commissioning.
 - g) Furnish and install valve tags (match existing) complete with Valve Chart in picture frame mounted on wall.

H. During safety tests for each boiler check combustion for oxygen, carbon monoxide, and carbon dioxide at five different points from low fire to high fire and adjust boiler controls as necessary.

- I. Furnish one each HP DesignJet T3500 Production Multifunction Printer complete with two sets of ink refills.
- J. Furnish two each HP Officejet 5741 wireless color inkjet all-in-one printer, scanner, copier and fax or equal complete with two sets of ink refills.
- K. Work performed on boilers per VHA Boiler Plant Safety Device Testing Manual, shall include manufacturer's requirements and shall follow procedures outlined in the specific boiler manufacturer's maintenance manual.
- L. Tests for the three (3) high pressure boilers (Boiler Number 1 Serial Number 0L103245, Boiler Number 2 Serial Number 0L103246 and Boiler Number 3 Serial Number 0L103247) shall be conducted independently from each other. This will reduce impact to boiler plant operations. The COR has the authority to adjust the required period of time between tests when deemed as beneficial and necessary for facility operations. Proper written notice shall be given to the Contractor in the event the time period is altered.
- I. Contractor shall engage Energy Projects Boiler Efficiency Institute (BEI) or equal, 1705 Pumphrey Ave, P.O. Box 2255, Auburn, Alabama 36831-2255 Telephone No. (334) 821-3095 to furnish all management, supervision, qualified licensed/certified technician(s), labor, material, equipment, supplies, tools, parts, travel, and related services necessary to train our boiler operators and to perform checks, test and inspections of our steam generation system, including but not limited to the fuel burning equipment, safety devices, interlocks, gas valves and pressure devices for the three high pressure Clever Brooks boilers in Building 10 in accordance with the most recent edition of the VHA Boiler Plant Safety Device Testing Manual, Federal, State, local laws, regulations, and ordinances of Arkansas, governing boiler maintenance service. This work shall be performed to verify remediation of all steam generation system deficiencies.
- J. The Contractor shall provide a schedule of when Checks, Tests and Inspection of Boilers will be performed to the COR for COR's concurrence prior to the anticipated service date. Checks, tests and inspections of boilers shall be scheduled so as to be performed on definite appointed days and in no event shall the Contractor perform checks, test and/or inspections of boilers outside regular agreed upon work hours without prior written approval from the COR. In the event that conditions make it unsuitable for checks, tests, and/or inspection of the boilers to take place, the service will be re-scheduled to a date and time satisfactory to the Contractor and the COR. Mutually agreed upon postponement will not reflect any penalties or any additional expense to the Contractor or to the Government.
- K. Required Contractor Reporting: All boiler checks, tests and inspections shall be documented. The Contractor is responsible for supplying, completing and submitting reports as required and/or requested by Federal, State and local regulations and/or authorities which pertain to any services contained in the contract. The Contractor shall issue a preliminary report. The preliminary report shall include a summary of all findings and deficiencies per the VHA Boiler Plant Safety Device Testing Manual. The Contractor shall issue two separate final

reports. The first final report shall include all findings and deficiencies as per the VHA Boiler Plant Safety Device Testing Manual. The second final report shall include the data and actions from the combustion checks and a list of recommendations and observations based on ASME and other applicable codes, as well as any beneficial information based on the knowledge and experience of the Contractor. All references in final reports to codes, manuals, standards, etc. shall include the title of the document being referenced, year published, section, paragraph and page number. Any information that is provided based on the Contractor's knowledge and experience shall be identified as such. Provide preliminary reports within one (1) business day of the check, tests, and inspection for each boiler and final reports within five (5) business days after the check, test and inspection for each boiler. An electronic copy of the preliminary reports and final reports shall be forwarded to the COR and the Chief Engineering Service at the Department of Veterans Affairs, Medical Center, VHSO at 1100 North College Avenue, Fayetteville, Arkansas 72703 via email.

- L. Certification of Contactors: Contractor shall be qualified and licensed/certified to perform the checks, test and inspection of the aforementioned boilers. The Contractor shall furnish an electronic copy of an up-to-date and current state certification (showing categories) to the Contracting Officer and COR prior to the start of the contract via email.

9. DELIVERY

- A. All on site work by the Contractor shall be completed between the hours of 0700 hours and 1700 hours CDT, Monday through Friday, excluding Federal holidays unless noted otherwise herein.
- B. Work that will interfere with normal operations shall be coordinated (prior to or ahead of designated time) with affected VA departments and accomplished during designated maintenance times, as noted otherwise herein, as requested in writing by the Contractor and approved by the Contracting Officer Representative (COR) for special circumstances all at no additional cost to the VA.
- C. Contractor's work shall be conducted in a manner and at times which would present the least amount of disruption to the VA healthcare facility.
- D. The COR shall be informed by the Contractor in the following situations;
 - 1. To schedule any work.
 - 2. After arriving on site but before any work is started.
 - 3. As soon as it is known that the work will take longer than scheduled.
 - 4. At completion of work prior to leaving the facility.
 - 5. To report any incomplete aspects of the work or issues that could not be corrected during the visit.
- E. An electronic report documenting all work that is performed shall be provided within ten (10) business days of the completion of the contract.
- F. Contractor shall provide documentation of all test equipment used for this contract.

10. ADDITIONAL INFORMATION

- A. Contractor shall provide all resources, including, but not limited to, supervision, qualified-professional-licensed-certified labor, materials, equipment, tools, supplies, and related services to perform the work. Contractor shall work independently once oriented, with adequate resources to accomplish work within the performance period.
- B. Workmanship: This project shall be a turn-key operation for the SOW, Contract plans, specifications, documents and requirements and be operating systems. The Contractor shall provide qualified professionals, material, equipment, tools, supplies, and related services required. Job site activities shall be conducted in a manner and at times which would present the least amount of disruption to the VA healthcare facility. No utility, fire protection or security system shall be left out of service at the end of a work period (Monday – Friday) or weekend without written permission of the COR. All switches must also be verified, by the Contractor, that they are reset prior to end of any work period (Monday – Friday) or weekend. If a system is not functioning at the end of a work period (Monday – Friday) or weekend without written permission of the COR, the Contractor shall restore the system to working order prior to leaving the site or shall provide an around-the-clock watch until the system is functioning properly. If the Contractor fails to do so, the Contractor shall be liable for any costs incurred by the VA for providing the around-the-clock watch and/or repairing the system.
- C. Vehicles and construction equipment: Contractors' keys to unattended vehicles and equipment shall be removed.
- D. Tools/Staging: Contractors must provide materials, equipment, tools, ladders, and supplies to complete their contract.
- E. Unloading/Parking: Do not leave vehicle(s) unlocked. Parking on VHSD property is limited and the Contractor must have prior written approval of on-site parking from COR.
- F. Radios/Cell Phones: Use only at low volume or outside. Do not carry on conversations in hallways or near any patient areas. AM/FM radios and other sound producing devices are strictly prohibited in the VA buildings.
- G. Photography: Photography of any patients, personnel, visitors, and others on VA property is strictly prohibited.
- H. After regular business hours or weekend access: For work outside the regular business hours and weekend, the Contractor must provide written notification to the COR and the COR will schedule and provide written authorization to proceed three (3) business days in advance of the proposed work activity. This notice is separate from any notices required for utility interruption described later in this section. Any work performed by the Contractor, at the Contractor's own volition outside specified working hours will be at no additional expense to the VA.
- I. Safety: Safety shall be the Contractor's highest priority. The Contractor shall be solely responsible for compliance with (Federal/State/Local) OSHA regulations. The Contractor shall provide and have in place Personal Protective Equipment

(PPE), safety signage, cones, barricades etc., to protect the safety of VHSO patients, employees, visitors, volunteers, tenants and others. Contractor, Contractor employees, and Contractor suppliers shall not be permitted to work and shall be asked to leave if the proper safety items are missing. Contractor shall provide required safety items.

- J. Personnel engaged in the Contract activities specified herein must be licensed by the (Federal/ State/ Local) authority having jurisdiction in those trades, crafts or professions that require licensing by such jurisdictions. The license must be of a grade or other level consistent with the requirement of the work being performed and/or as established by the above jurisdictions.
- K. No unauthorized work shall be initiated without the prior written approval of the Contracting Officer. The Contracting Officer shall approve any request, or proposal for changes in project scope and/or additional requirements, in writing prior to the Contractor proceeding with any related work. Any changes accomplished without prior written approval, shall be done at the Contractor's expense. The Contractor shall not be relieved of his responsibility to carry out the Contract in accordance with the true intent and meaning of the SOW, Contract plans, specifications, and documents without additional cost to the VA. Contractor shall be responsible for complying with applicable (Federal/State/Local) laws, codes, regulations, and ordinances in connection with the prosecution of the work. Additionally, the Contractor shall be responsible for obtaining permits, licenses, etc. that are required by applicable (Federal/State/Local) law, code, regulation, and ordinance in connection with the prosecution of the work.

11. SECURITY REQUIREMENTS

- A. General Requirements: Contractor shall comply with the VA security management program and obtain permission of the VA police, be identified by the contract and employer, and restricted from unauthorized access. This shall be coordinated with the VA Police by the COR. Contractor shall not enter the work site without VHSO issued identity badge (Badge). They may also be subject to inspection of their personal effects when entering or leaving the project site. Badges shall be supplied by the VA to the Contractor for distribution to the Contractor. When there are more than one (1) Contractor employee executing the jobsite activities, one (1) employee shall be identified and designated as a "supervisor" and shall assume all responsibility for the Contractor. The Contractor shall maintain a log of Badge ID numbers and names of employees the Badges were issued to and a copy of the Badge log shall be given to the COR weekly. Lost Badges shall be reported immediately to the COR and the Contractor will be responsible for a \$100.00 fee for all lost or unreturned Badges.
- B. A key for mechanical room(s) will be provided by Engineering and shall be checked out/in by the Contractor on a daily basis. Key(s) provided by Engineering and checked out by the Contractor shall not leave VHSO property. Lost keys shall be reported immediately to the COR and the Contractor shall be responsible for a \$3,500.00 fee for all lost or unreturned keys.

12. WARRANTY

- A. Contract shall provide a two (2) year parts and labor warranty on all items and systems installed, repaired, calibrated or replaced per this contract.
- B. Any warranty item deemed to be an emergency requires the contractor to provide a qualified field service engineer on-site within four (4) hours of logging a call with the Contractor's service center.
- C. Contractor shall provide telephone support during the Warranty period for emergency issues related to this contract twenty four (24) hours per day/seven (7) days per week (24/7).
- D. Contractor shall provide telephone support during the warranty period for technical issues related this contract between the hours of 0700 hours and 1700 hours CST, Monday through Friday, excluding Federal holidays unless noted otherwise herein.