

## 564-16-103 Boiler Plant Deficiencies

### Request For Information (RFI) Responses

RFI 1: Are there drawings available for the plant control panel wiring diagrams, burner wiring diagrams for burner management system and combustion controls?

Response RFI 1: No but Fireye NEXUS may have an O&M manual. A new system shall be installed.

RFI 2: Page 5, 1. E. Does this indicate a combustion control system package as opposed to just the burner management system?

Response RFI 2: This is only background information follow SOW section number 8. TASKS (STEAM GENERATION SYSTEM DEFICIENCIES)

RFI 3: Page 6, 2.B. To what standards are we going to be held to, what efficiencies need to be improved? What combustion efficiency are we trying to meet/improve to? What is the existing turndown and combustion tuning data? What is the existing hysteresis and what is expected?

Response RFI 3: Specification sections 23 09 11, 23 50 11 shall be the standard. Attachment 1 by BEI shall be a standard. VHA Directive 2008-062 Boiler Plant Operations shall also be a standard. Contractor shall meet specification sections 23 09 11 and 23 50 11.

RFI 4: Page 6, 2.H. Is this referring to existing burner management system or combustion controls system?

Response RFI 4: This is only background information follow SOW section number 8. TASKS (STEAM GENERATION SYSTEM DEFICIENCIES)

RFI 5: Page 21, J.2. Please verify location and model number of existing Deaerator Tank Pressure Reducing Valve.

Response RFI 5: Pressure Reducing Valve has been replaced. Delete SOW section 8. J. 1 & 2 in their entirety from the contract tasks.

RFI 6: Can you please provide a list of the attendees that were at the site walk through?

Response RFI 6: Site Visit attendee list attached

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RFI 7: It appears the existing Fireye burner management system and combustion controls cannot work separately on the Nexus 6100. However, if both burner management and the combustion controls are required, we will furnish both. Is that your intention?

Response RFI 7: Contractor shall replace the Fireye Nexus and 6100. Contractor shall furnish and install microprocessor type programmer Fireye E100, E110, BurnerLogix, Honeywell 7800 series or equal.

RFI 8: Page 23 of 88 in project scope Part L.: calling for a new 480 volt feed from electric Panel 10EP-208 volt. I am assuming that this is a typo as you cannot get 480 volts out of 208 volt panel. Please verify that 480 volts is not needed.

Response RFI 8: New 208 volt feed from electric Panel "10EP" is correct.

RFI 9: Page 24 of 88 in project scope Part L.: Power to new Panel board shall be fed from existing Panel "10EP". What is required for the New Panel's feed. What size wire? What is the desired amperage? Will this be fed from a breaker or does this panel have feed through lugs?

Response RFI 9: If feed through lugs can be added, then it is permissible to use feed through lugs. Otherwise, a junction box with Polaris style lugs must be added below to feed existing panel "10EP" and the new panel. Wire size shall be 4/0 copper to allow future use.

RFI 10: Scope of Work page 5 Q. mentions providing 3 printers; what are these printer to be used for? What information are you looking to print? Is there additional software required to created reports from your existing equipment?

Response RFI 10: Printers shall be for government use to print whatever files necessary for planning and design of boiler project. VA shall install. No special software is required.

RFI 11: Is this project sales tax exempt? If the project is sales tax exempt can the government provide a sales tax exemption certificate?

Response RFI 11: The government is exempt from sales tax –All contractors and sub-contractors are subject to sales tax.

RFI 12: Where will the designated parking area be for workers accessing the construction site?

Response RFI 12: Refer to SOW section 10. E.

RFI 13: Will the fire sprinkler system and/or the fire alarm system need to be disrupted during construction? If yes, what if any additional security measures will the government require e.g. fire watch, temporary fire alarms, adjustments to sprinkler heads, etc.

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Response RFI 13: Refer to specification 01 35 26

RFI 14: Has the work area been checked for asbestos? What is the government's policy if asbestos products are encountered during construction?

Response RFI 14: Yes then refer to FAR 52.236-2 Differing Site Conditions.

RFI 15: Does the government currently have a 3<sup>rd</sup> party testing service for those items requiring testing or is the contractor free to locate and hire applicable testing firms?

Response RFI 15: Contractor shall engage 3<sup>rd</sup> party testing for items required per the SOW section 8. T. and applicable product specifications.

RFI 16: Background Section of SOW 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. Question: This is a vague statement. In order to accurately quote modifications to existing SCADA system, we would need a narrow scope of the adjustments required and a complete list of nuisance alarms. Which control circuits are in need of adjustment?

Response RFI 16: This is background info not a standard.

RFI 17: OBJECTIVIES – SOW B. - Contractor shall improve efficiency and operation of the steam generation system, Burner Management System and other boiler control systems. Question: - What is the current efficiency of the steam system and what is the expected increase?

Response RFI 17: Refer to specification sections 23 09 11 and 23 52 37.

RFI 18: C. – What nuisance alarms are being currently experienced?

Response RFI 18: SCADA system is reporting false information. Contractor shall completely update the SCADA system.

Issue No.	Description	Corrective Action(s)
1	Condensate Tank High Water Alarm is not functioning properly.	<ul style="list-style-type: none"><li>Replace existing float switch with new conductivity probe.</li></ul>

RFI 19: What is the specified conductivity probe system required or desired? Would a Warrick two probe with relay be acceptable? What would the specified or desired mode of operation?

Response RFI 19: Refer to specification 23 52 39.

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4	Deaerator Tank Overflow drain line has a manual valve that must be such that it can only be locked in the open position.	<ul style="list-style-type: none"><li>• Modify valve (if acceptable to VA Engineer) or install new valve to be LOOP.</li></ul>
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RFI 20: What is the purpose of this valve? Will VA Engineer put out a list of acceptable valves prior to bid date?

Response RFI 20: Overflow drain, if valve can be locked open no new is required. If new conform to specification standard.

8	Heater with muffler does not have vent valve.	<ul style="list-style-type: none"><li>• Furnish &amp; install vent valve.</li></ul>
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RFI 21: What heater does this refer to? What is the muffler? Please describe in further detail.

Response RFI 21: Remove this task from the scope of work. Also remove from scope the task of SOW paragraph 8.K.3 and 8.K.4. These mechanical rooms were completed by others.

9	Main plant gas regulator is not functioning properly.	<ul style="list-style-type: none"><li>• Furnish &amp; install new gas regulator.</li></ul>
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RFI 22: What is the issue with the existing regulator? Replacement may not fix some other issue. What is the inlet pressure available to existing regulator? Is Regulator sized by VA Engineering? Is the capacity flow of regulator only for the combined capacity of the three boilers, or are there other gas users downstream of the regulator in addition to the boilers.

Response RFI 22: Refer to SOW Attachment 1. This inspection explains the malfunction. Contractor shall remove and replace with the exact same make, model and operating parameters. There are no other users downstream.

10	Propane back-up system should be replaced with permanent, hard-piped system	<ul style="list-style-type: none"><li>• Replace existing propane backup with new larger tank located outside and hard piping.</li></ul>
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RFI 23: Larger tank? Will the VA produce specifications on the size and type of tank? Will controls and monitoring of the tank be required? What is the location of the new tank? What specifications are provided or required for foundations and setting of the tank? What specifications are required for fencing or safety rails around the tank? Distance and piping layout required? What specifications on wall penetrations are available and acceptable?

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Response RFI 23: Contractor shall provide 2 - 60 gallon tanks, secured safely, and piped IAW NFPA, VA specifications, and VHA Directive\_1810 BOILER AND BOILER PLANT OPERATIONS\_2017-02-06. These tanks shall be outside the building on the east side. Piping diagram and tank securing shall be a submittal as per specification 01 33 23 for approval by the CO and COR. Use Drawing-AP101 as a template for diagraming.

### Requirements:

#### **Boiler 1:**

Issue No.	Description	Corrective Action(s)
1	Actual lift pressure exceeds set points and drains are not piped separately.	<ul style="list-style-type: none"><li>• Calibrate first and second safety valves to lift within allowable tolerance of set point.</li><li>• Install separate piping for each safety valve drain.</li></ul>

RFI 24: What is the set point of existing boiler safety relief valve? Valve should be set at or below the ASME Code design pressure of the boiler. If Lift pressure exceeds this pressure, the valve should be removed and replaced. What is required by VA for separate piping of each SRV? Valves should be individually vented thru the roof and drip pan elbows should be sized and installed on each valve so that there is no support or binding on the discharge outlet of the valve.

Response RFI 24: In the requirements tables the column labeled "Corrective Action(s)" is the task. The "Description" is the problem identified by SOW Attachment 1 by BEI.

2	Steam pressure limit switch transducer connected to Fireye system is not working properly. System is displaying "F-41" Transducer Fault and "C-41" Safety Limits Fault.	<ul style="list-style-type: none"><li>• Correct Faults in Controller.</li><li>• Replace transducer with new model that is properly rated for temp and pressure conditions.</li><li>• Install a new, secondary dedicated steam pressure cutoff switch (recycling).</li></ul>
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RFI 25: What is meant by "not working properly"? Are there any non-approved transducers by the VA? Will the VA provide a specification on the secondary pressure switch? What is the definition of a steam pressure switch "Recycling?"

Response RFI 25: In the requirements tables the column labeled "Corrective Action(s)" is the task. The "Description" is the problem identified by SOW Attachment 1 by BEI. (Recycling) Operating Steam Pressure Limit Switch is a type of switch specified in section 23 52 39, detail 23 52 39-01, and the SOW Attachment 1 by BEI.

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3	High Steam Pressure Limit Switch (Non-recycling) is not set to the correct set point.	<ul style="list-style-type: none"> <li>• Adjust set point to approx. 5 psig above set point of recycling pressure switch and 5 psig below lowest set point of boiler safety valves.</li> </ul>
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RFI 26: Is the definition of Non-Recycling is meant to be Manual Reset? Steam pressure limits are either manual or automatic reset.

**Response RFI 26: (Non-Recycling) Operating Steam Pressure Limit Switch is a type of switch specified in section 23 52 39, detail 23 52 39-01, and the SOW Attachment 1 by BEI.**

RFI 27: Pressuretrols are set at the desired operating steam pressure of the boiler. The operating pressure control will have a differential set point setting, which can be as low as a couple psig above and below desired operating pressure. 5 psig above and below set point is a very normal setting. It can be higher. The set point should never be set at 5 psig below the lowest set point of the relief valves. The highest operating set point should be no more that 90% of the lowest relief valve setting. There are relief valves that can go higher, but the type valves used on these boilers, (example Kunkle 6010 or 6252) will normally start to lift at 90% of set point and create what is known as weeping.... Or minor leaking. Please clarify what is meant by this line item.

**Response RFI 27: See specification section 23 52 39, detail 23 52 39-01, and the SOW Attachment 1 paragraph 5.2.3 by BEI.**

4	Low Pressure Gas Fuel Cutoff Switch (LPGFCS) is set point is too low but cannot be raised in current configuration due to performance of regulator.	<ul style="list-style-type: none"> <li>• Install test port.</li> <li>• Adjust gas regulator performance to prevent drop in pressure during boiler light off.</li> <li>• Adjust LPGFCS set point to 15-20% of normal operating pressures after gas regulator performance is corrected.</li> </ul>
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RFI 28: What is meant by too low but cannot be raised? Gas regulator must be sized to flow the maximum capacity of the combined boiler capacities at high fire, with a minimum of 10-15% safety factor. The gas pressure downstream must be at the required pressure of the burners, allowing for piping pressure drops and line losses. The low pressure switch should be set below the required boiler pressure and below the minimum allowable pressure for each burner.

**Response RFI 28: See specification section 23 09 11, detail 23 52 39-03, and the SOW Attachment 1 paragraph 5.3.1 by BEI.**

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11	Burner management system combines combustion control and burner safety features into a single device and the low-fire and forced draft damper wide open pre-purge proving switches are not functioning with the existing Fireye controller.	<ul style="list-style-type: none"> <li>• Adjust, repair, and calibrate existing pre-purge and low-fire proving switches for the combustion management system.</li> <li>• Install an additional independent Burner Safety system with low-fire and forced draft damper wide open pre-purge proving switches.</li> <li>• Furnish and install microprocessor type programmer Fireye E100, E110, BurnerLogix, Honeywell 7800 series or equal.</li> </ul>
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RFI 29: 1. What is meant by “not functioning”? If not functioning, how is the boiler firing? 2. What style independent Burner Safety system is desired? Micro switches? Proof of position switch etc.

Response RFI 29: In the requirements tables the column labeled “Corrective Action(s)” is the task. The “Description” is the problem identified by SOW Attachment 1 by BEI. Contractor shall replace the Fireye Nexus and 6100. Contractor shall furnish and install microprocessor type programmer Fireye E100, E110, BurnerLogix, Honeywell 7800 series or equal.

16	Pre-Purge airflow proving switch is not piped correctly and is not functioning with Fireye Controller	<ul style="list-style-type: none"> <li>• Modify piping where high side is plumbed to the Wind box, upstream of FD Damper.</li> <li>• Connect switch to new independent Burner Safety system.</li> </ul>
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RFI 30: 1. What test methods were used to pinpoint this issue? 2. What is the exact issue or issues? 3. Will VA provide any specifications on piping?

Response RFI 30: See specification 23 52 39 PART 2 – PRODUCTS paragraph 2.2.1.P.7.a

17	Forced Draft Motor Interlock cannot be testing with solid core type switch.	<ul style="list-style-type: none"> <li>• Replace with new split core type transformer switches.</li> </ul>
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RFI 31: What is the input/output voltage for the limit string and current transformer(s).

Response RFI 31: See specification 23 09 11 PART 2 – PRODUCTS paragraph 2.2. through paragraph 2.3.

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18	Low Flue Gas Oxygen Alarm and Cutout does not function as audible alarm nor interlock (cutout of boiler operation).	<ul style="list-style-type: none"><li>• Adjust, repair, and calibrate alarm to be audible and provide interlock to boiler operation.</li><li>• Connect to new independent Burner Safety system.</li></ul>
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RFI 32: Would a complete Allen Bradley / Hawk system, be acceptable as a new independent Burner Safety System? Would the VA consider a complete update on the existing SCADA system?

Response RFI 32: No the Allen Bradley / Hawk system are not allowed. Contractor shall replace the Fireye Nexus and 6100. Contractor shall furnish and install microprocessor type programmer Fireye E100, E110, BurnerLogix, Honeywell 7800 series or equal. SCADA system is reporting false information. Contractor shall completely update the SCADA system.

RFI 33: BOILER NO. 2 & 3 see same questions on Boiler # 1

Response RFI 33: See the same answers on Boiler #1. All vendors please read the Scope, Attachment 1, VA Directive, and Specifications together. The combination of these documents should answer 99% of the above questions.

RFI 34: Clarifying project examples: The RFP asks for specific projects to be submitted for 2 different sections: both Factor I-Subfactor 2 (TAB B - Experience) and Factor II (TAB D - Past Performance). Both for sections, the project criteria appear to be the same (e.g., minimum of 3 projects completed within the past 3 years, of similar size/scope to the subject solicitation). Is it acceptable to list the same projects, and provide the same project data, for both sections?

Response RFI 32: Same projects may be listed if they meet requirements of each Factor and Sub-factor

RFI 35: Page limits for Factor I: Please confirm that the page limit for each sub-factor (1, 2, 3) within Factor I is 25 pages, and the 25-page limit does not apply to Factor I in total.

Response RFI 33: Each sub-factor within the each factor has a limit of 25 pages and if factor does not have sub-factors the factor limit is also 25 pages

RFI 36: Page limits for Factor III: Keeping the total pages for all material included in Factor III below 20 pages (as listed in the table on pg. 35 of RFP) will not be possible if all of the required documentation is counted against the limit. For example, company "Certifications and Representations" are almost 50



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pages alone. Could you please clarify which parts of the Factor III will count against the 20 page limitation.

Response RFI 36: Factor III page limit is changed to read: 75