Government Response to RFI Set #2 – Amendment 0003

(RFI Question #1 and Gov Response in Amendment 0001)

2) **Contractor Question:** Please confirm per amendment 1, engineered stamped drawings are not required. It appears through the scope of work, requirements to provide design drawings in addition to what was provided in the RFP detailing Equipment layout, piping and electrical designs and layout, service platform designs, etc.

   Government Response: Design / layout / shop drawings and as-built drawings are required, however they are not required to be stamped by a professional engineer. With the exception of the as-built drawings, PWD-ME will review these drawings prior to construction to verify compliance with the referenced standards in the SOW.

3) **Contractor Question:** Will specifications be provided for piping and electrical materials prior to bid, or is the intent to provide as part of the submittal requirements for the design drawings and development of a submittal register.

   Government Response: All piping, fittings, and associated components (as applicable) provided shall be selected and installed in accordance with ASME B31.1. Steam and air piping shall be Schedule 40, seamless, carbon steel pipe conforming to ASTM A53 Grade B. Electrical requirements / specifications for the components selected and installed are provided by paragraph 2.6 in the Scope of Work (SOW). The Contractor may provide value engineering for materials, equipment, and components as long as they meet or exceed the requirements of the standards listed in paragraph 2.6.

4) **Contractor Question:** Please clarify paragraph 2.1.28. Is the extent just to have the new dryer controls compatible with the existing Allen-Bradley system, or are we to connect the new dryers to the existing control system. If we are to connect to the existing system please provide a contact for the installing contractor.

   Government Response: The intent is for the new air dryer controls to be compatible with the existing Allen-Bradley Digital Control System (DCS) that monitors / controls the Power Plant. The air dryers will not be connected to the Plant's DCS as part of this project.

5) **Contractor Question:** Is the designer of record as noted in paragraph 2.5.6.5.1 PWD ME Electrical Engineering Branch?

   Government Response: The designer of record noted in aforementioned paragraph is the PWD ME Electrical Engineering Branch. Note that this paragraph has been renumbered in the SOW to paragraph 2.6.6.5.1. Also note that the SOW has been updated to clarify that PWD ME will provide the circuit breaker settings and the electronic analysis of the system.

6) **Contractor Question:** Please confirm independent rigging of new equipment by the contractor will not be required provided a minimum of 1 weeks' notice is provided, and all equipment to be rigged has certified lifting points.

Government Response: With a two week notice, the Navy will provide the services to rig, lift, and land components / assemblies from the loading platform to the Plant's floor. It is the contactor's responsibility to move those items from that location on the Plant's floor into their installed / assembled position in the new air dryer area. With regard to certified lift points, also known as Integral Lifting Attachments (ILAs), all components lifted do not require ILAs, as it is expected that the air dryer units will need to brought into the space as components and then be re-assembled. A significant number of those components can be rigged without including affixing additional lifting points. That said, if the contractor intends to lift the units as an assembly, the assembly shall be provided with certified lifting points and a lifting plan from the manufacturer. Note that the Shipyard's riggers are empowered to refuse to lift anything that they do not have confidence can be lifted safely (e.g. due to poorly fabricated or damaged ILAs, suspect structural integrity of component, etc.). The Shipyard's Lifting and Handling Manual, Appendix 5.1, Chapter 4 of Volume III, Change 11, dated 26 February, 2015, provides the following direction for the design and testing of integral lift points, as well as requirements for lifting plans:

5.1. PURPOSE. The lifting and handling specifications herein shall control the design, documentation and certification of general purpose service equipment being manufactured for PNSY. This specification is derived primarily from the requirements of the Lifting & Handling Manual for integral lifting attachments.

5.2. DEFINITIONS.

5.2.1. Integral Lifting Attachment (ILA): A lifting point that is permanently attached to or part of the Unit being lifted such as a padeye, lifting eye, integrally mounted ring, threaded hole, or a hole in a structural element, etc.

5.2.2. Unit: The item or load being lifted to which ILAs are permanently mounted.

5.2.3. PNSY: Portsmouth Naval Shipyard

5.2.4. Contractor: The entity fabricating the Unit.

5.2.5. Designer: The qualified engineer or entity designing the Unit including the ILA installation to the Unit.

5.2.6. Base of Support: That portion of the Unit's structure which contacts the ground and supports the Unit when the Unit is on the ground (i.e. footprint).

5.2.7. Qualified Engineer: An engineer who is competent in the practice of structural and/or mechanical engineering as a result of education and experience.

5.2.8. Working Load Limit (WLL): The maximum allowable load that can be applied to a designed structural component without infringing on its safety factors defined herein, aka: design capacity.

5.3. GENERAL

5.3.1. Any deviations to this specification which pertain to ILAs or other crane lifting and handling related functions must be approved in writing by PNSY, with concurrence from the PNSY Lifting and Handling Department Technical Division (Code 710).

5.3.2. A lifting plan which includes a diagram for lifting the Unit shall be provided by the Designer/Contractor and must be approved by PNSY prior to fabrication of the unit. This plan shall include the Unit's weight (empty weight and full weight, if applicable), center of gravity location, ILA details and the locations of each ILA. The plan shall also include any basic lifting restrictions and any special allowances, including but not limited to, minimum sling length, minimum sling capacity, or allowance for out-of-plane pulling on padeyes (if applicable), etc.

5.3.3. Lifting plans and ILA designs require written approval from PNSY Lifting and Handling Department Technical Division (C710) for any Unit which weighs 96,000 lbs. or greater.

5.3.4. Threaded holes intended to be used as ILAs shall not be lubricated and shall be protected by removable threaded plugs or similar when not in use.

5.3.5. The padeye is the preferred ILA and it should be used when possible, provided it can be incorporated into the design of the Unit in a practical way. Examples of padeyes and the preferred rigging configuration using padeyes are provided in Figures 1 and 2 below.

5.3.6. Material used for the purposes of manufacturing an ILA shall be steel or aluminum.

Figure 1: Typical Padeyes

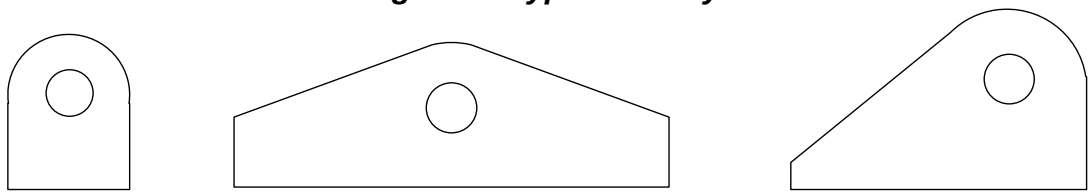
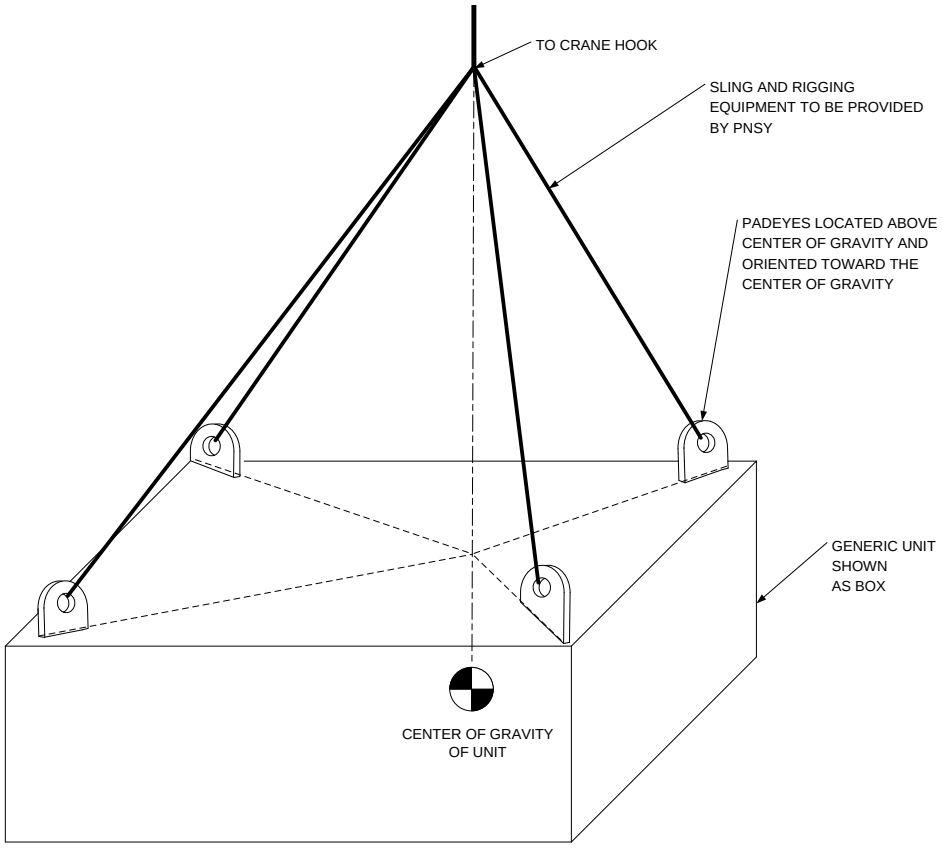


Figure 2: Standard (Preferred) Lifting Configuration



5.4. MARKING

5.4.1. The total weight (empty and full, if applicable) of the Unit shall be permanently marked on each side of the Unit with 2-inch high lettering (or larger) with a contrasting color from the Unit (yellow unacceptable).

5.4.2. Each ILA shall be permanently identified with its Working Load Limit (WLL), [e.g., WLL=10,000 LB] by stamping, etching or by placing on an abutting metal label plate.

5.4.3. Any ILA receiving a load test shall be also be permanently marked with the test date (i.e., by stamping, etching or by placing on a permanently attached label plate).

5.4.4. The lifting plan with diagram shall be displayed on an 8in x 10in minimum sized placard attached to the unit.

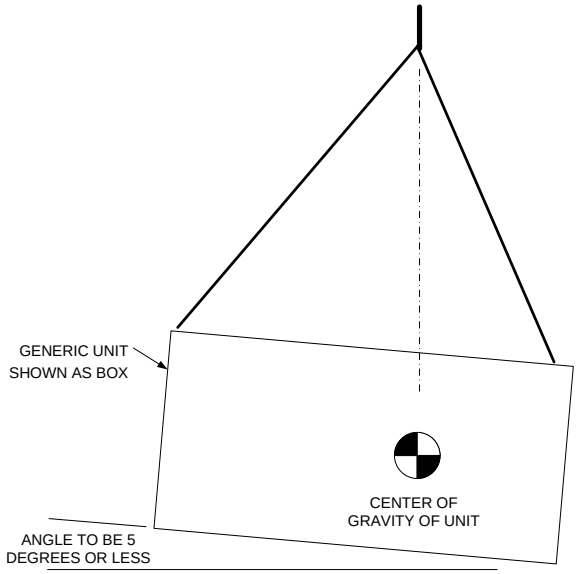
5.5. PLACEMENT

5.5.1. ILAs shall not be located below the Unit's center of gravity or in any condition which could result in an unstable lift.

5.5.2. It must be possible to lift the Unit by crane using no more than 4 and no less than 2 ILAs.

5.5.3. *The ILAs shall be located on the Unit so that the Unit can be lifted in a level fashion. The Unit's Base of Support must not form an angle greater than 5 degrees from horizontal when lifted. See Figure 3 below.*

Figure 3: Maximum Allowable Tilt in Lift



5.5.4. *The ILAs must be situated/located on the Unit so that the item can be lifted using standard rigging equipment such as shackles, swivel hoist rings and slings. Lifting arrangements which require strongbacks, spreader beams, non–standard (metric) threads, eyebolts, or other unique lifting gear in order to be lifted by crane must be approved in writing per paragraph 2.1.*

5.5.5. *ILAs must be designed to allow for the proper connection of standard rigging gear as provided by ASME B30.26. ILAs shall not be solely designed for direct connection into a hook without written approval per paragraph 2.1.*

5.5.6. *ILAs must be oriented so that the worst case forces that result when the Unit is lifted do not cause stresses that exceed the allowable stresses provided herein. Specifically, if padyes are used as ILAs they should be oriented on the Unit so that the resulting direction of pull exerted by the rigging equipment lies within 5 degrees (10 degrees included angle) of the plane formed by the padeye plate. If the designed or intended use of padeye requires the applied load to be directed out of plane with the padeye plate (greater than 5 degrees), the padeye must be designed so that such loading (under worst case conditions) does not result in stresses which exceed the allowable stresses described herein (see ILA Design section) and marking/documentation provided to indicate that out of plane loading is acceptable.*

5.6. *<u>ILA DESIGN</u>*

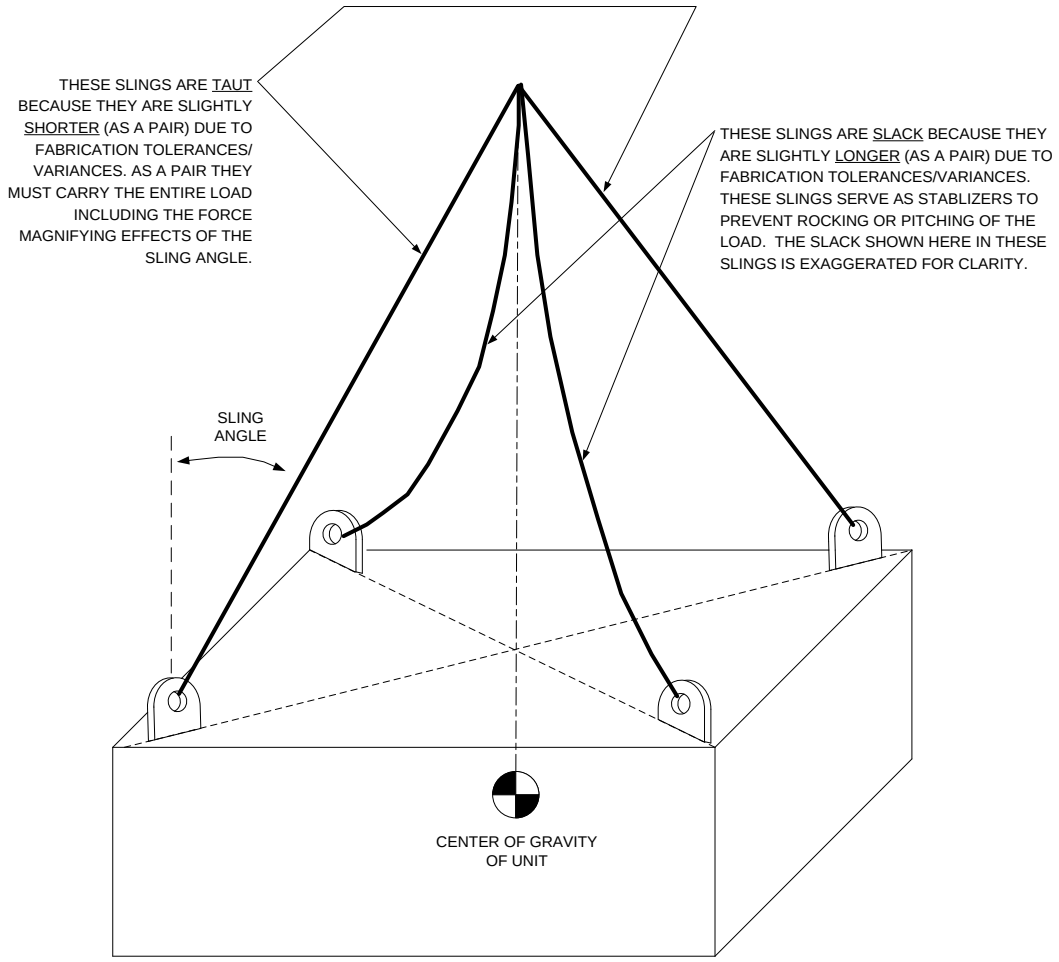
5.6.1. *The Designer of the ILAs shall be a Qualified Engineer.*

5.6.2. All calculations shall be reviewed by a Qualified Engineer other than the Designer.

5.6.3. Design lifting attachments to accept standard rigging hardware or handling equipment (ASME B30.26 equipment). Attachment points on components that are part of a larger system (e.g., multiple components which form an enclosure) shall be sized such that one set of standard rigging equipment can be used to lift all components of the system.

5.6.4. The WLL of each ILA shall be sized based on the worst case loading that it may be required to resist, based on the location of a ILA relative to the Unit's center of gravity and the other ILAs, on the maximum angle from vertical formed by the lifting slings, and on the ability for the connected rigging gear to equalize between structurally redundant connections (when 4 slings are used to lift the Unit). In arrangements where 4 ILAs are used, each ILA must be designed so that either pair of diagonally opposed ILAs are capable of supporting the entire load of the Unit (with the force magnifying effects of sling angles being considered) without infringing on the safety factors stipulated herein. See Figure 4 below.

Figure 4: Worst Case Loading When 4 ILAs are Used



5.6.5. *The WLL of each ILA shall be sized to provide a margin between the WLL and the actual (expected) loading. See Table 1 for minimum margin requirements. Additional margins should be considered for integral attachments subjected to situations with the potential for increased loading (e.g., binding or hang-ups due to seals of tight tolerances, additional weight in buildings/enclosures or fluid filled voids, etc.).*

***Table 1**: Minimum Required Margins Between WLL And Actual Load Weight*

Total Item Weight (lb.)	***WLL of Integral Attachment[1]***
Less than 1,000	*+200 lb.[2] OR 200% (whichever is greater)*
1,000 – 10,000	*150%*
10,001 – 100,000	*125%[3]*
Greater than 100,000	*115%*
Notes: *1. Percentages shown are of expected load exerted on the integral attachment.* *2. Total Item Weight + 200 lb.* *3. Percentage may be reduced to 115 percent IF the weight of the item is known (not estimated) AND the potential for binding or added weight does not exist.*	

5.6.6. *ILAs shall be designed using an allowable stress which is the lower of the two values resulting from a safety factor of 3.0 with respect to yield strength (F_Y) or 5.0 with respect to ultimate strength of the material (F_U). A factor of 0.6 shall be applied to any allowable shear stress. For example, the allowable stress for double shear plane tear-out of a padeye hole would be either $(0.6)(F_Y)/3.0$ or $(0.6)(F_U)/5.0$, whichever is more restrictive.*

5.6.7. *Any welds shall be designed per American Welding Society (AWS) Specification D1.1 with the following exceptions: Welds shall be designed with a safety factor of 5.0 with respect to the ultimate strength of the weld metal or base metal as applicable. A factor of 0.6 shall be applied to any allowable shear stress. For example, the allowable stress of a fillet weld shall be $(0.6)(F_u)/5.0$, since fillet welds are generally assumed to fail in shear, where F_u is the ultimate strength of the weld filler material or the base metal as applicable. The allowable stresses provided here apply only to the failure modes which directly relate to the ILA and the connecting weld joint. These allowable stresses do not apply to any adjacent surrounding structure, however, such surrounding structure may be required to resist a one-time applied load equal to 210 percent of the WLL of the ILA in the cases where 200 percent load tests are required as provided herein.*

5.6.8. *Any ILAs (excluding threaded or through-holes installed directly into a structural element of the Unit) are to be connected to the Unit using a welded joint which meets the requirements of paragraph 5.3 above. Welded joints connecting ILAs to the Unit structure shall be designed using a continuous weld around the exterior of the joint (as a minimum) in order to prevent the entry of moisture into any interior un-bonded portion of the joint*

that may exist. Bolted joints that directly connect an ILA to the Unit are not permitted. This does not apply to bolted joints placed elsewhere in the structure of the Unit that do not serve as a structural connection directly between the ILA and the Unit.

5.6.9. Threaded holes used as ILAs may only be installed on Units which are primarily intended for in-door use. Where threaded holes are used as the ILA (e.g., for use with swivel hoist rings or eyebolts), the length of threaded holes must be at least 1.5 times the nominal thread diameter for steel, or 2.0 times the nominal thread diameter for aluminum.

5.6.9.1. Only standard imperial (non-metric) UNC - Class 2B threads may be used as threaded holes intended for use as ILAs.

5.6.9.2. Threaded holes intended for use as an ILA must be located to allow for 360-degree rotation and 180-degree pivot of a standard swivel hoist ring bail.

5.6.9.3. Threaded holes intended for use as an ILA must be located on the structural element so that the seating surface of a mounted swivel hoist ring does not overhang the edge of the structural element and the mating face of the structural element is flat to match that of a standard swivel hoist ring.

5.6.10. All surfaces of an ILA which could be subjected to moisture, corrosion, or wear due to movement must be accessible for inspection without disassembly.

5.6.11. Any ILA attached via a weldment with a capacity greater than 6000 lbs. must receive a one-time 200 percent load test, which shall be administered by the Contractor prior to delivery of the Unit.

5.6.12. The applied test load shall be 200 percent of the design capacity (WLL) with a tolerance of +5%/-0% of the <u>test load</u>. In other words, the applied test load shall be a minimum of 200 percent and a maximum of 210 percent of the <u>design capacity (WLL)</u> of the ILA. The test load shall be maintained for a period no less than two minutes.

5.6.13. The test load can be applied to each ILA individually or to multiple ILAs at once provided it can be shown through basic mechanics that each tested ILA received the proper test load value. Applied test load should mimic the as-used/as designed configuration to the maximum extent practicable, with alternate loading configurations approved by the Designer.

5.6.14. Written documentation shall be provided by the Contractor which documents the completion of this test for each ILA listing the ILAs tested, actual applied load, test date, two minute test duration and signature of person performing the test.

7) Contractor Question: Regarding pages 9 thru 12 of 25, the pipe schematics show black lines and blue colored lines. The color does not mean anything whether new or not.

Government Response: Black lines indicate pipe. Blue arrows indicate dried air. Green arrows indicate undried air.

8) **Contractor Question:** Regarding SOW page 10 of 25, the top left schematic at 11 o'clock shows inlet called "undried compressed air to new air dryers"-on page 9 is called "dry compressed air from existing air dryers". If this is a new pipe now, what size and where is it running from to come into this exterior manifold.

   Government Response: The "Undried Compressed Air to New Air Dryers" at the 11 o'clock position in Figure 2 should read "Undried Compressed Air from Flasks." This air, leaving the flasks will bypass the existing air dryers (via existing valves) and enter the exterior manifold. This is not a new pipe. Revision 2 of the SOW corrects Figure 2.

9) **Contractor Question:** SOW page 10 of 25: top left schematic at 10 o'clock shows outlet called "undried compressed air". Since this is a new pipe now if you refer to page 9, what size and where is it running to from this exterior manifold.

   Government Response: The "Undried Compressed Air" at the 10 o'clock position in Figure 2 should read "Undried Compressed Air to New Air Dryers." Revision 2 of the SOW corrects Figure 2. This is one of the new 10" pipes, which via a reducer, will tie into the existing valve that is currently closed and blanked off. The pipe will exit the exterior manifold, turn 90 degrees, penetrate the wall of the Power Plant and follow the approximate path shown on Page 3 of Attachment (1) to the SOW.

10) **Contractor Question:** Regarding SOW page 12 of 25: para 2.3.3.3: You reference a piping flexibility and expansion requirement in accordance with ASME B31.3 (process piping section). Are you expecting a third party design analysis. Temperature variations appear minimal and usually sufficient elbows as required by the runs shown on drawing M101 dismiss the stress. Since design build, and this element is totally unknown upstream in the bidding, any surprise extra "gingerbread" that may come out of downstream design is not included in the bid. Or should you give us a cushion allowance for the bid.

    Government Response: The Government concurs that if the path for the new (shown on drawing M101) piping is followed there are sufficient elbows in the piping runs to adequately mitigate thermal stress. A third party analysis of thermal and cushion to account for "gingerbread" are not necessary. Although there is a design element, this project is classified as a "Design Bid Build" as defined by the Brooks Act.

11) **Contractor Question:** Regarding SOW page 12 of 25: para 2.3.3.4: You reference to provide pipe hangers and/or supports engineered for this project per ANSI/MSS SP-58. Are you expecting a third party design analysis for the hangers for the dry/undried air mains? Since design build, and this element is totally unknown upstream in the bidding, any surprise extra "gingerbread" that may come out of downstream design is not included in the bid. Or should you give us a cushion allowance for the bid.

    Government Response: Third party analysis of the hanger design is not required, however PWD-ME will review the contractor submittals to ensure compliance with the requirements of the SOW and ANSI / MSS SP-58. There are multiple commercial hanger manufacturers that supply products that are stated to comply with MSS SP-58 (the hanger design is already engineered). Although there is a design element, this project is classified as a "Design Bid Build" as defined by the Brooks Act.

12) **Contractor Question:** Regarding SOW page 8 of 25: para 2.3.1 line 5: You reference air dryers to be connected in parallel, which is find. We assume that each dryer will be provided with their own shut off valves for isolation. Also on the drips, would you be expecting additional gingerbread such as flex connectors, check valves, remote temperature or pressure gages. No detail or specs were given. We will assume none other than the isolation valves, if specific listing is not given in RFI answer. Also, these units will sit directly and be bolted down on housekeeping pads since located on ground floor building slab.

Government Response: Whether they are supplied by the contractor or the equipment manufacturer, each air dryer assembly shall be supplied with the appropriate valves to completely isolate it from the supply and return air lines. The contractor or the equipment manufacturer shall provide(s) adequate temperature and pressure gages on the air dryer assembly to monitor system performance and to perform trouble shooting on various portions of the system per the manufacturer's recommended suggestion. The SOW has been revised to include this requirement. The air dryers shall be supported/ shimmed / mounted per the manufacturer's direction, including an equipment pad if necessary. At a minimum the air dryers should be bolted down to the surface on which they sit.

13) **Contractor Question:** Regarding SOW page 12 of 25, para 2.3.3 line 10: You reference the contractor to perform this work "without interrupting the plant itself". Owner/Navy will need to give us a step by step procedure once we are ready to do any demo/disconnects/reconnects.

Government Response: All manipulations of valves that will modify the existing flow configuration within the air system will be made by B72 Power Plant operations personnel only. The contractor will coordinate with the Construction Manager and the Power Plant General Foremen when there is a need to manipulate the existing valves.

14) **Contractor Question:** Regarding SOW page 18 of 25: para 3.0: You reference heat exchangers, but no reference to location and accessibility.

Government Response: The heat exchangers shall be located in the same area as the air dryers and shall be arranged to allow their disassembly (for maintenance purposes) to be performed without the disassembly of surrounding equipment. The SOW has been updated to reflect this clarification. If the heat exchangers cannot be located in the space (due to dimensional constraints) with the air dryers, the contractor shall propose a suitable space (nearby) to locate the heat exchangers.

15) **Contractor Question:** Regarding SOW page 18 of 25: para 3.1.1 line 1: You reference that "each air dryer will use steam heat exchangers" and use the plural on "exchangers". What are you expecting here as to redundancy/ proportion. Does using the steam heat exchangers now preclude the electric regeneration requirement so electric regen is deleted from dryers. Or is the steam the primary and electric the fall back. There may be a control issue on this concept, unknown at this time.

Government Response: The steam heat exchangers provided in Option #1 shall replace the electric heaters used for desiccant regeneration. One steam heat exchanger will be provided per air dryer. The SOW has been updated to reflect this clarification.

16) **Contractor Question:** Regarding SOW page 18 of 25: para 3.1.2 line 5: You reference tapping into the upstream side of the steam reducing station of 200PSI. Why not the downstream side? This makes the pressure ratings of all equipment, pipe and valves to be set at 300 psi instead of normal ratings of 150 psi.

    Government Response: During initial discussions with the manufacturer of the Power Plant's existing air dryers, the manufacturer expressed a desire for 150 psi steam or higher, which exists on the upstream side of the pressure reduction valve. If the equipment manufacturer selected by the contractor is able to provide equipment that will extract adequate heat from the steam, at 125 psi, to completely regenerate the desiccant, while meeting the remainder of the requirements in the SOW, then steam from the downstream side of the pressure reduction valve may be used in lieu of the 200 psi steam.

17) **Contractor Question:** Regarding SOW page 18 of 25: para 3.1.2 line 5: You reference "tap into steam". We assume when time comes downstream to connect into the existing steam system, this system can be shut down.

    Government Response: The contractor will need to request and schedule West Side steam outage. The request for this outage shall be made through the construction manager and coordinated with the Power Plant General Foreman. This outage should not occur during the Shipyard's heating season.

18) **Contractor Question:** The air dryer manufacturer will be expecting progress payment in full before shipping out any equipment due to major cost of multiple hundreds of thousands of dollars involved. Due to this large prepayment expectation and companies do not have this extra huge money on hand, can we expect the Navy to prepay costs when they are due? This payment needs to be paid in full prior to the factory releasing the equipment.

    Government Response: The Government will not provide advanced payments with this contract.

19) **Contractor Question:** For drawing requirements, please advise of the following: a. Are piping drawings and P&ID's required, or is a P&ID acceptable.

    Government Response: Drawings and P&IDs are required.

20) **Contractor Question:** For drawing requirements, please advise of the following: b. If piping drawings are required, are single line drawings acceptable, or are double line drawings with elevation view required.

Government Response: Plan view, single line drawings are acceptable. At the contractors request, an electronic copy of the drawing used to create the M101 drawings (attached to the SOW) can be provided.

21) **Contractor Question:** For specification requirements, are full specifications required, or are specifications on the drawings for all specific components of project acceptable.

Government Response: The contractor may provide specifications on the drawings for the specific components provided if the quantity, exact model number, and manufacturer of each component is included. The contractor shall still provide O&M documentation and /or cut sheets for these items, as applicable.

22) **Contractor Question:** In the Panel Boards section of the RFP, paragraph 2.5.6.5.1 states the DOR shall provide breaker settings with electronic analysis. This is something we've done after performing a short circuit study (2014 NFPA 70 paragraph 110.10). However, the project is relatively small and an electronic analysis is probably overkill for determine settings. Would hand calculations be sufficient or do we need to provide a full computer modeled short circuit analysis. Alternatively, has the shipyard perform a short circuit study and are they able to provide the results to determine protection settings.

Government Response: The Government will provide the electronic analysis and will provide the circuit breaker settings. The SOW has been modified to address this issue.

23) **Contractor Question:** "Bid Plans (Sheet E101) shows specific panelboard requirements. They show (3) 90 amp breakers for Air Dryers 1-3 and (3) 200 amp breakers for Electric Heater Air Dryer 1-3, split between 400 amp panelboards LP-1 and LP-2. These panels are fed from existing switchboard 400 amp breakers.

The manufacturer of the existing dryers has provided details for the new dryer requirements, one of which is each dryer has a single point power connection with an FLA of 242.27 Amps, and if the steam option is accepted, the FLA will reduce by about 54 amps.

At 242.27 FLA, you would probably need 300 amp breakers to feed them.

Please confirm the electrical requirement intent, or possibly the basis of design manufacturer the design was based around where the bid documents appear to differ from what is actually required."

Government Response: The Government concurs that the design as provided on sheet E101 is not appropriate for the new air dryers if each of the new air dryers has a single feed. The government desires the contractor supply the appropriate hardware to power the air dryer units selected by the contractor. Note that there is an 800 amp feed available at the switchboard to supply power to these air dryers. The contractor shall supply breakers and panel boards suitable for the air dryer equipment they select. System characteristics are 480 VAC 3-phase, 3-wire (grounded). Provide equipment rated 65 KAIC.

24) **Contractor Question:** Refer SOW para 2.1.6. According to manufacturer, only the electric or steam heater and piping immediately downstream will be insulated. Is this sufficient?

Government Response: All piping that can cause a burn to personnel if they contact it should be insulated. If piping is inaccessible to personnel during operation and maintenance, there is no need to insulate solely to prevent injuries to personnel. In addition to the piping immediately downstream of the electric or stream heaters, all steam and condensate lines should be insulated to minimize thermal losses as well.

25) Contractor Question: Refer to SOW para 2.1.24. According to manufacturer, the desiccant is shipped in 50 pound bags. Is this an issue?

Government Response: Delivery of the desiccant via 50 lbs. is not an issue.

26) Contractor Question: Refer to SOW para 2.1.26. There appears to be a space issue for the specified work platforms/stairs. Please delete this requirement or provide an allowance for all bidders to carry for this.

Government Response: It is recommended that bids capture all costs associated with individual means and methods to deliver quality end product to meet the requirements which include performance and maintenance/operational capabilities per the SOW and standards of the EM385.

27) Contractor Question: Refer to SOW para 2.2.2/2.2.3 & dwgM101. Please list the restrictions on using the overhead crane (lifting points, advance notice days, etc).

Government Response: Detailed discussion of the requirements for utilizing PNSY Lifting and Handling services and requirements for lifting points / lifting plans are provided in the Government Response to RFI #2, Question #5. Note that only PNSY Lifting and Handling personnel will operate / utilize Navy owned lifting and handling equipment.

28) Contractor Question: Refer to SOW para 2.2.5 & dwg M101. Please confirm the govt will be performing the scope noted in this paragraph (removing & replacing stairs, etc).

Government Response: If removal of the stairs is required to access the air dryer area, all actions described in paragraph 2.2.5 shall be performed by the contractor (not the Government). Note that the four existing concrete equipment foundations in the new air dryer area / on one of the path into the air dryer area will be removed by the Government.

29) Contractor Question: Refer to SOW para 2.2.8. Please provide the material requirements for the new grating.

Government Response to Question #6: The replacement grating shall cover an area that is approximately 4’ x 8’ 5 1/2”. The contractor shall verify the dimensions of the actual area prior to construction to ensure a good fit for the new grating in the sill. The new grating shall be galvanized steel, 1 ½” deep with ¼” wide bars set apart 1 3/16” on center. Cross bars shall be no less than 4” on center. Note that this area is currently covered by two pieces of 2’ wide grating (which is acceptable for the new grating too), however if the grating can be provided a single piece, that would be preferred.

30) **Contractor Question:** Refer to SOW para 2.5.6.1 & 2.6.7. According to manufacturer, circuit breakers are not needed as the blower, heater, xfrmr, and controls are protected via fuses. Please
clarify.

Government Response: The paragraphs cited identify performance and suitability purposes. The equipment is required to have a means of disconnect integrated into the control panels. The Government requires that there is feeder and branch circuit protection and proper local disconnects for personnel operating the equipment. It will be incumbent on the contractor to execute alternative means and methods consistent with the intent of the contract in order to implement the installation per the selected equipment. The Government will provide a single 800 Amp breaker called out in the response to RFI question #5. All proposals from the contractor shall be submitted in full for government approval prior to purchase of equipment which meet the minimum required standards.

31) **Contractor Question:** Refer to SOW para 2.5.6.5.1. Whom is the DOR? Please specify if Ktr is to carry funds for design.

Government Response: The designer of record referenced in the aforementioned paragraph is the PWD ME Electrical Engineering Branch. Note that this paragraph has been renumbered in the SOW to paragraph 2.6.6.5.1. Also note that the SOW has been updated to clarify that PWD ME will provide the circuit breaker settings and the electronic analysis of the system.

32) **Contractor Question:** Refer to SOW para 3.0, Option 1 and 7.0. According to manufacturer, if this is exercised, this will impact engineering and delivery times. Will the CCD be changed if the Option is exercised?

Government Response: Consideration will be given for long lead time on option material.

33) **Contractor Question:** Refer to SOW para 12.3. Is this concrete para applicable and if so, what is the area. It is our understanding the concrete scope was deleted (see question #5 above).

Government Response: If the contractor intends to remove the staircase (shown in drawing M101) to provide a path to enter the air dryer area, the concrete footing will need to be demolished by the contractor and subsequently replaced once all of the air dryer equipment has been moved into the new air dryer area.

34) **Contractor Question:** Refer to SOW para 20.0. Please confirm this paragraph is n/a as this is a "stand alone" contract.

Government Response: The paragraph entitled “Order of Precedence” has been deleted from the SOW.

35) **Contractor Question:** Refer to spec section 01 20 00.00 20-1.3. Is a cost loaded schedule required or can a standard form 4300 schedule of prices/values suffice?

Government Response: A cost loaded schedule is not required for this project. A standard form 4300 schedule of prices / values will suffice.

36) **Contractor Question:** Refer to spec section 01 32 17.00 25-1.4. In lieu of Oracle P6, is MS Project software acceptable?

Government Response: The MS Project schedules are acceptable in lieu of using the Primavera P6 software. Note that specification 01 32 17.00 25 has been removed from the SOW document and replaced with 01 32 16.00.20.

37) **Contractor Question:** Refer to spec section 01 78 00.00 22, Closeout.
   a. Please list any required spare parts.
   b. Please identify what training is required (type, duration, etc)

Government Response:
   a. The contractor shall consult the manufacturer to determine recommended spare parts and provide this list to the Government as a submittal prior to BOD.
   b. The training requirements requested by the contractor are specified in paragraph 22 of the Revision 2 of the SOW (Paragraph 23 of Revision 1).

38) **Contractor Question:** Please confirm that Govt will provide temp lighting to work areas.

Government Response: The Government has installed temporary lighting to illuminate the new air dryer area.

39) **Contractor Question:** Please confirm that there will be no downtime for the air supply and that re-routing per plan will be needed.

Government Response: The existing air dryers will supply dried air to the Shipyard for the duration of this project. Air service to the Shipyard shall not be interrupted during this time. When it comes time to bring the new air dryers and the new portions of the air piping online, the contractor will schedule an outage via the Construction manager and Shipyard will take appropriate actions to isolate vital operations from the Shipyard air system until it can be confirmed that the supplied air is within spec.

40) **Contractor Question:** "In the Memorandum dated 8/26/16, page 12 of 25 has Figure 4 - New Configuration of Interior Air Distribution Manifold (copy attached). The sketch shows that the dry air piping from the exterior air distribution connecting to the inlet side of the existing pilot operated pressure reducing valve. There is very little pipe between the inlet side of the PRV and the existing isolation valve which means that the new dry air piping is right before the PRV. Typically, PRV's require a certain amount of straight pipe on the inlet side for it to operate properly. Connecting between the existing isolation valve and PRV as shown in Figure 4 would probably make the PRV operate erratically.

The piping and valve assembly should be moved away from the inlet side of the PRV to provide the required straight pipe distance.

Is moving the piping and valves the intended requirements of the documents ? If yes, moving this assembly will require an extended shut down. What are the shutdown limitations for this tie in ?

Is it possible to move the PRV as hand drawn on the sketch ? A shut off valve could be added downstream of the PRV as well."

Government Response: After further evaluation of the existing PRV referenced by the contractor, this PRV will be removed from the manifold and it will not be replaced. This eliminates the need to extensively modify the manifold, other than replacing the PRV with a tee. The existing isolation valves also allow this work to be performed without shutting down air to the Plant or to the branch line that connects to Yard East. The SOW has been modified to show the new arrangement without the PRV.

41) Contractor Question: Solicitation drawing M101 indicates a proposed path for the dryer exhaust (6" purge exhaust vent) that is shown to penetrate the exterior west wall of the Boiler Room, utilizing existing wall penetrations. In addition to this purge exhaust vent pipe, each of the dryers has two tower tanks and one steam heat exchanger (bid option) that have pressure relief valves that will need to vented to the exterior of the building as well. Is it the requirement of the solicitation to have these vent pipes terminate at or above the high boiler room roof level? If not, what is the acceptable height above grade?

Government Response: All of exhaust and relief vents should terminate above the roof level of the compressor bay. All exhaust and vent lines shall utilize vent caps and/ or downturned elbows (as appropriate [direction in paragraph 2.1.15 of the SOW for the moist air exhaust piping] and the manufacturer's directions), designed to prevent, insects, birds, and water from entering the exhaust / vent piping.