DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND, PACIFIC
258 MAKALAPA DR., STE. 100
PEARL HARBOR, HI 96860-3134

Notice No. 5
8 January 2015

PRE-PROPOSAL QUESTIONS & ANSWERS
RFP NO. N62742-15-R-1308

FY15 P-1551 (DESC 1551) UPGRADE FIRE SUPPRESSION AND VENTILATION SYSTEMS RED HILL FUEL STOARGE FACILITY AT THE NAVAL SUPPLY FLEET LOGISTICS CENTER JOINT BASE PEARL HARBOR-HICKAM, PEARL HARBOR, HAWAII

NOTE: The following questions and answers are provided for INFORMATION ONLY. The RFP remains unchanged unless it is amended in writing on a Standard Form 30.

REVISED RESPONSES FROM NOTICE NO. 4 DATED 31 DECEMBER 2014

128. Section 1.5.4 of specification 01 45 00.00 20 shows that the QC FPE is required to be on site full time for the entire length of the project. Please clarify if this just full time during the Fire Alarm/Fire Suppression work or if it is full time from Mobilization to Substantial completion or if the QC FPE only needs to be onsite for testing and inspections.

REVISED ANSWER: QC FPE shall be onsite as required to perform duties and responsibilities as required by the specifications and drawings. The "full time" indication will be revised as part of amendment no. 0007.

NOTICE NO. 5

138. Please provide the basis of design manufacturer for the custom oil pressure resistant door.

ANSWER: The design of the oil pressure resistant door is based on the existing oil tight door manufactured by Williams Machine Works. Other possible manufacturers are: C&B Technology, Juniper Industries Inc. & Cen-Tex Marine.

139. Specification §316813-1.8 directs the contractor to "assume" the stipulated subsurface conditions described in this subsection. However, language towards the last part of this subsection appears to contradict this direction where "variations will not be considered . . . Differing Site Conditions." *Could you clarify whether subsurface conditions that vary from the conditions discussed in this subsection will be treated as Differing Site Conditions?*

ANSWER: Claims for differing site conditions are subject to the contract requirements, including the requirements in Section 31 68 13, Paragraph 1.8 and other parts of the contract.

140. Specification §316813-2.2.2 stipulates that the contractor must consider the "coupling diameter . . . to ensure full encapsulation of reinforcing bars with cement grout or resin." *Could you confirm/clarify whether encapsulation of the bars will satisfy this requirement or whether the "minimum 0.5 inch of grout cover" per Specification §316813-2.2.3 shall apply at those cross sections where couplings are employed?*

ANSWER: The "minimum 0.5 inch of grout cover" in Paragraph 2.2.3 is for cement grouted anchors only, specifications will be revised as part of amendment no. 0007.

141. Specification §316813-2.2.3 stipulates a "minimum 0.5 inch of grout cover" in addition to other requirements, and also prohibits the use of centralizers or spacers to satisfy this requirement "in rock anchors installed with resin cartridges."
The technical guidelines published by one manufacturer of resin-grouted anchor systems stipulates that various diameters of borehole, bolt (anchor) and resin (cartridge) may be combined "provided the annular space does not exceed ¼" to d". *Could you clarify whether an "annular space" or "minimum grout cover" of 0.5 inch shall be applicable to both cement-grouted and resin-grouted anchors, or will the manufacturer's recommendations for resin-grouted anchors be deemed applicable?*

ANSWER: Minimum grout cover for resin anchors based on the manufacturer's requirements are acceptable, specifications will be revised as part of amendment no. 0007.

142. Specification §316813-2.2.4 stipulates casing "shall be selected and sized . . . to permit proper drilling . . ." The smallest diameter casing available on a regular basis is 4½". This would provide an annular space of 1e" for the installations with the #10 bars, and an annular space of 1-9/16" for the installations with the #11 bars. As noted in the preceding RFI, this annular dimension exceeds the manufacturer's annular space limitation from ¼" to d" for resin-grouted anchors. *Will it be permissible to grout the upper length of the resin-grouted anchors with cement grout where unstable borehole/soil conditions mandate the employment of casing?*

ANSWER: Provide casing if needed, as specified in Section 31 68 13, Paragraph 2.2.4.

143. Specification §316813-3.2.7.3 stipulates that "Payment for use of the gyrocompass will be made at the contract unit price per day." There is no line item on the Price Proposal Schedule for the referenced Unit Price. *Will the Price Proposal Schedule be amended to insert the applicable line item?*

ANSWER: The unit cost of the gyrocompass shall be included in the unit price for the rock anchors, specifications will be revised as part of amendment no. 0007.

144. Specification §316813-3.3.3 stipulates "Insertion of resin-grouted anchors shall be in accordance with the resin manufacturer's written recommendations and recommendations for hole diameter, cartridge selection, and tendon installation and rotation prior to installing the anchors. *Further to the preceding RFIs relative to the hole diameter for resin-grouted anchors, will the manufacturer's recommendations take precedence over the Project Specifications, or will the Project Specifications take precedence over the manufacturer's recommendations?*

ANSWER: See responses to question nos. 140 and 141.

145. Reference: CCTV Camera.

Questions:

a) Please provide information regarding the existing head end equipment so we can determine what type of cameras to provide that are compatible.

b) Does the existing head end equipment have the capability to add cameras?

c) Who is responsible for termination at the head end and programming?

d) There are no mounting details for the cameras. Please provide details for wall or ceiling mount.

ANSWER:
a) Camera specifications added as part of amendment no. 0006.
b) Yes, existing head end will have capability to add cameras.
c) User is responsible for termination at the head end programming.
d) Detail to be provided as part of amendment no. 0007.

146. Specification Section 26 23 00 paragraph 2.2.2.1 calls for the switchboard enclosure to be Nema type 3R, yet it is installed in the same room as the ATS, DT XFMR and panel '2FP' which are Nema type 1. Please clarify if the enclosure for 'SWBD-1' shall be Nema type 3R or can it be Nema type 1.

ANSWER: The switchboard located indoors within the fire pump building can be NEMA type 1, this shall be revised as part of amendment no. 0007.

147. Specification Section 26 23 00 paragraph 2.2.2.4 says that the distribution sections shall consist of individually mounted, insulated-case circuit breakers as indicated. Plan view on sheet EB102 doesn't show rear access for individually mounted insulated case breakers. Most breakers are 125A, so insulated case type is not available. Please clarify.

ANSWER: Group mounted and molded-case circuit breakers suitable in a front-access only switchboard shall be provided, this shall be revised as part of amendment no. 0007.

148. Specification Section 26 23 00 paragraph 2.2.3.1 calls for the main breaker to be electrically operated, but the one-line diagram does not define how this is to be accomplished. Please clarify.

ANSWER: Electrically operated breakers are not needed. Manually operated is sufficient. This shall be revised as part of amendment no. 0007.

149. Specification Section 26 23 00 paragraph 2.2.3.2 calls for electrically operated branch breakers. Is this really necessary for (2) 15AT breakers feeding JP-1 & JP-2 and (1) 125AT breaker feeding the DT Xfmr for panel '2FP' and the 800AT breaker for panel 'PP-1'. Please clarify.

ANSWER: Electrically operated breakers are not needed. Manually operated is sufficient. This shall be revised as part of amendment no. 0007.

150. Reference: 03 30 00 Cast In Place Concrete, Section 1.6.4.4 Aggregates pertaining meeting ASTM C1260 "Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)"

Question: Our local concrete supplier "Hawaiian Cement – Technical Department" firmly believes C1260 is not the most suitable test and we offer the results of ASTM C1293 "Standard Test Method for Determination of Length Change of Concrete Due to Alkali-Silica Reaction" and ASTM C227 "Standard Test Method for Potential Alkali Reactivity of Cement-Aggregate Combinations (Mortar-Bar Method)" as alternate test reports. Hawaiian Cement has supplied many Pearl Harbor projects over many years and recently NAVFAC has accepted these alternate test methods for numerous projects on Oahu including: NOAA Pacific Region Bldg 130 – Sea Animal Research Center, P173 Comm. Center, Wideband Satellite Operations Center and Hawaii Regional Security Operations Center.

Looking at ASTM C1260 "Standard Test Method for Potential Alkali Reactivity of Aggregates (Mortar-Bar Method)" there are several important statements to be aware of. Section 4.1 states *"However, it (C1260) does not evaluate combinations of aggregates with cementitious materials nor are the test conditions representative of those encountered by concrete in service. 4.3 When excessive expansions (see Appendix X1) are observed, it is recommended that supplementary information be developed to confirm that the expansion is actually due to alkali-silica reaction. Sources of such supplementary information include: (1) petrographic examination of the aggregate (Guide C 295) to determine if known reactive constituents are present; (2) examination of the specimens after tests (Practice C 856) to identify the products of alkali reaction; and (3) where available, field service records can be used in the assessment of performance. 4.4 When it has been concluded from the results of tests performed using this test method and supplementary information that a given aggregate should be considered potentially deleteriously reactive, the use of mitigative measures such as low-alkali portland cement, mineral admixtures, or ground granulated blast-furnace slag should be evaluated (see last sentence of 4.1)".*

ASTM C1260 is an extreme test which does not represent the conditions encountered by the concrete in service. This test method subjects the concrete aggregate to extreme conditions (high temperature, high pH, high alkali content solution) which are far beyond the conditions encountered by the aggregates in the typical concrete environment. When test method C1260 was first introduced as an experimental test method, P 214, 75% of the quarries in the United States failed the test and 95% of those failed sources had never experience ASR in their history (That calculates to 71% false positive test results). Clearly, the high percentage of false positive ASR test results makes this method a poor choice for final evaluation of a potential aggregate source. This is the driving force for the "field service record" statement in C1260, so that viable aggregate sources with acceptable history are not eliminated unnecessarily.
Hawaiian Cement's Halawa Quarry has a long history (started in 1939) of supplying aggregates to the Oahu construction industry. In all those years, there has never been an alleged or documented case of alkali – silica reactivity (ASR). There are three requirements to have ASR: 1) reactive silica in aggregates, 2) alkali metals (sodium or potassium) from the concrete materials (cement, aggregate, water, admixtures) or from the environment (deicing salts, sea spray, soils, etc) to form gel with reactive aggregate and 3) moisture to cause expansion of gel. Hawaii is surrounded by an endless source of alkali metal in the Pacific Ocean and many corrosion studies indicate that the salts in sea water are carried 10 miles or more inland causing corrosion. This information indicates that if ASR were a problem with Halawa aggregates, we would see significant ASR deterioration in the leeward side of H3 near the tunnel and Wheeler AAF (very wet environment). The various pavement and structures placed at Pearl Harbor / Hickam AFB / Honolulu International Airport would also display significant ASR (wet due to ocean spray). Again, there has never been a case of ASR with Halawa material or anywhere in Hawaii. A partial list of Halawa Quarry projects is attached, as well as a letter from SEAoH indicating there are no document ASR issues in Hawaii.

The first approach to ASR mitigation is to use low alkali cement. Hawaiian Cement has supplied high quality Type I-II low alkali cement for the State of Hawaii for years.
Although this is not an airfield pavement, the specifications still require aggregates to meet C1260/ C1567. Our understanding was the US COE was going to use C1293 for acceptance on non-airfield work and collect additional info on C1260 & C1293 during the projects.

Therefore, we respectfully request the design team to accept C1293 for aggregate ASR qualification on this and future non-airfield pavement projects.

RESPONSE: For ground floor slabs, concrete exposed to earth, or concrete exposed to weather, follow the aggregate testing requirements indicated in the specification. See amendment no. 0007.

151. Reference: ATS Switches. The fire pumps are specified as having Automatic Transfer Switches for switching to back-up power. The AFFF specs do not call for Switches, but the electrical plans appear to indicate such would be provided. Shall the foam concentrate pump controllers be equipped with Automatic Transfer Switches (similar to the fire pumps)?

ANSWER: Yes, there shall be automatic transfer switches in accordance with Section 21 13 24.00 10 Aqueous Film Forming Foam AFFF Fire Protection System, 2.15.4 and in accordance with the one line diagram, EB402.