GUAM POWER AUTHORITY
ATURIDÅT ILEKTRESEDÅT GUAHAN
P.O. BOX 2977 HAGATNA, GUAM U.S.A. 96932-2977

September 01, 2010

AMENDMENT NO.: II

TO

REQUEST FOR INVITATION FOR BID NO.: GPA-061-10

FOR

SMOKE STACK ASSEMBLY REPLACEMENT FOR DEDEDO COMBUSTION TURBINE NO. 1 POWER PLANT

Prospective Bidders are hereby notified of the following response to the inquiry received from TEMES:

Dated August 26, 2010 Question:

QUESTION:

1. Request GPA for an extension for two (2) weeks for sourcing out the material specification and availability of the original materials for the silencers and expansion joints.

ANSWER:

Please refer to Amendment I.

QUESTION:

2. Request GPA to waive the GCC application for the Apprenticeship program. This is a contract for the repair work and scheduling of completion has no room for training.

ANSWER:

The Guam Community College Apprenticeship is made available for those contractors interested with the training Apprenticeship Program.

QUESTION:

3. Request GPA if we can submit an LC from our bank instead of the surety bond from the insurance company for the bid bond.

ANSWER:

Yes, LC is acceptable, please refer to page 233 of 238 Government of Guam, General Terms and Conditions, 11. Bid Guarantee

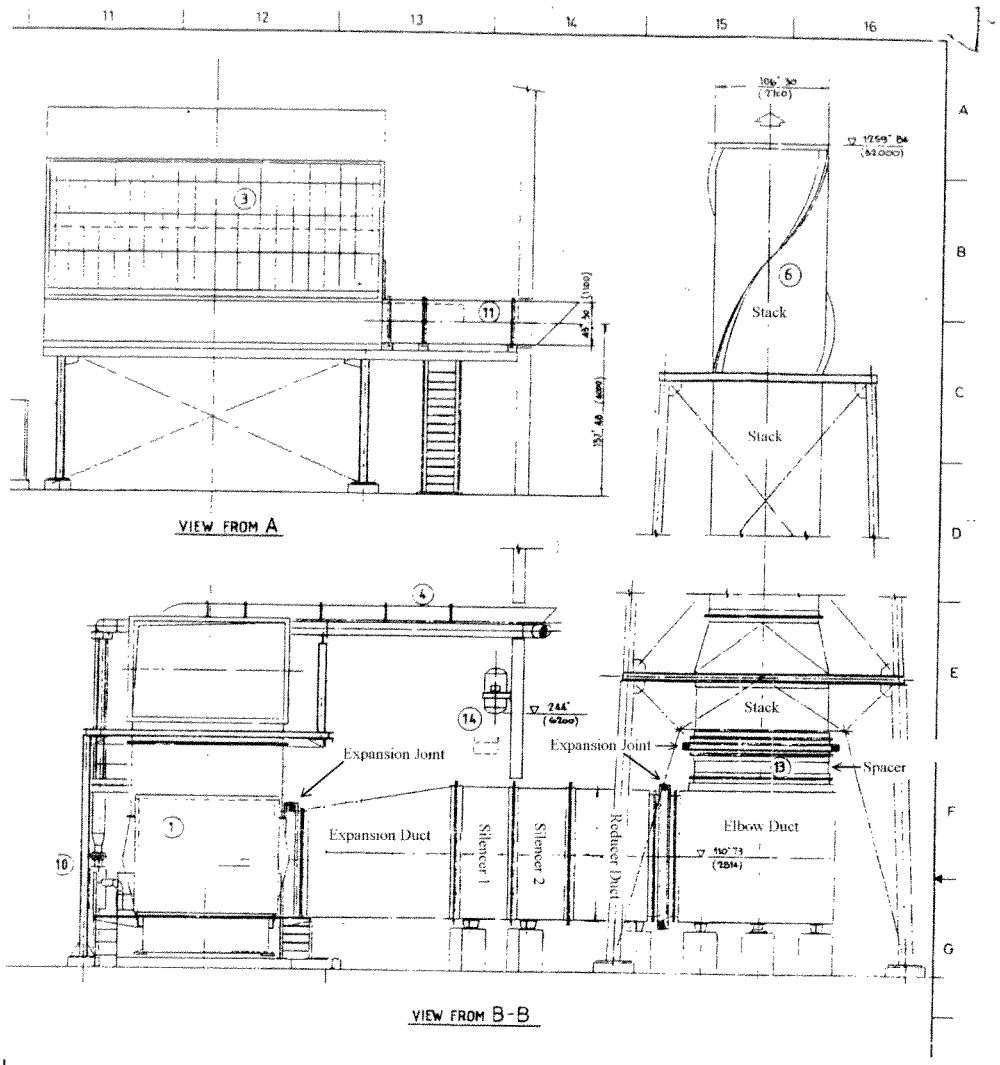
QUESTION:

4. How many Exhaust Ducts need to replace or repair?
   We scan the drawing # 0022A4001 page 117 of 238 then edit and put the name for each duct as shown below. Base on the sight of site visit, the Expansion Duct, Silencer Ducts, Reducer Duct, Elbow Duct and Space Duct all of them need to replace or repair? The Expansion Duct, Reducer Duct, Elbow Duct and Space Duct seems be in good condition and the two sections of silencer already burn through. Please clarify which exhaust duct(s) need to replace?
   Note: The name we put for each duct might not be the same as original definition.

ANSWER:

Original Scope of Works (SOW), page 84 of 238, item no. 4 calls for the replacement of the entire exhaust ducts, and item no. 5 of SOW, same page, new fiberglass insulation for ducts with 3/16 inch thick mild steel cover, supply new silencers and expansion joints. After confirming from Asst. Plant Superintendent, Anthony Santos and GPA Generations Manager, management agreed and recommends the following to reduce the cost.

a) The two silencers must be totally replaced because it is beyond repair. Repairing theses silencers will cost more.
b) All three (3) old expansion joints must also be replaced entirely by new ones.
c) Re-use the expansion duct, reducer duct, elbow duct, and spacer duct. (Refer to drawing section B-B below). Upgrade and repair expansion duct, reducer duct, elbow duct and spacer duct. Sandblast the duct interiors nearly to white metal cleanliness, SSPC-SP10/NACE 2, until at least 95% of the surface is free from rust and corrosion. Repair the ducts by patching where minimal thickness are evident before installing the new 6-inch thick fiberglass insulation and secure with 3/16 inch thick mild steel cover. Duct exterior surfaces shall be sandblasted conforming to SSPC-SP-10/NACE 2, and painted with epoxy paint that can withstand 1100 °F exhaust temperature.



QUESTION:

5. Page 83 EXHAUST SYSTEM
   Stack Material: COR-TEN, ASTM FE 410
   According to ASTM COR-TEN material can be divided COR-TEN A (ASTM A242) and COR-TEN B (ASTM A588), there is no such material COR-TEN FE-410 specified on ASTM. We found the standard IS 3589 that have such specification about COR-TEN Fe 410 material, it describe the characteristic of FE-410 as below

   Structural Steel should be of standard quality steel grade Fe 410 and have minimum following requirements,
   Yield Stress ³ 250 N/mm²
   Tensile Strength ³ 410 N/mm²
   Elongation ³ 23 %
   The acceptable tolerance of the geometrical dimensions of the steel sections is limited to the ± 2.5%.

The original A 242 alloy has a yield strength of 50,000 pounds per square inch (340,000 kPa) and ultimate tensile strength of 70,000 psi (480,000 kPa) for light-medium rolled shapes and plates up to 0.75 inches (19 mm) thick. It has yield strength of 46,000 psi (320,000 kPa) and ultimate strength of 67,000 psi (460,000 kPa) for medium weight rolled shapes and plates from 0.75–1 inch (19–25 mm) thick. The thickest rolled sections and plates – from 1.5–4 in (38–100 mm) thick have yield strength of 42,000 psi (290,000 kPa) and ultimate strength of 63,000 psi (430,000 kPa).
Note: 1 MPa □ 1 N/□²
A242 Yield strength = 340,000 kPa > FE-410 Yield strength 250,000 kPa
A242 Tensile strength = 480,000 kPa > FE-410 Tensile strength 410,000 kPa
There is another material SCR-TEN2 that characteristic can match the requirement too.
SCR-TEN2 Yield strength = 325,000 kPa > FE-410 Yield strength 250,000 kPa
SCR-TEN2 Tensile strength = 440,000 kPa > FE-410 Tensile strength 410,000 kPa

Base on the above comparison, we propose COR-TEN A□ASTM A242□or SCR-TEN2 to be the stack material that can fit the FE-410 requirement.

ANSWER:

Use CORTEN "A" (ASTM A242) which exceeds FE-410 yield strength and tensile strength properties.

QUESTION:

6. Diameter of Stack (O.D.) 94.5 inch
The stack diameter indicated on specification drawing #0022B4031 is bigger than 94.5 inch and each section is different diameter. The top section diameter is Ø2790 mm (109.84 inch)□the second section is Ø2860 mm (112.595 inch)□the third section is Ø2930 mm (115.354 inch) and the forth section is Ø3000 mm (118.11 inch). Please clarify which data shall be followed?

ANSWER:

Utilize the tapering smoke stack diameter dimensions provided on the "As-built drawing," page 119 of 238 of the technical specifications.

QUESTION:

7. Stack plate thickness 0.11 inches
The stack thickness indicated on specification drawing #0022B4031 is "Thk 6 (TYP)", it supposed be 6 mm (0.236 inch) and bigger than 0.11 inch). Please clarify which data shall be followed?

ANSWER:

Follow the 6mm ~ (1/4 inch) typical smoke stack plate thickness dimensions provided on the "As-built drawing" on page 119 of 238 of the technical specifications.

QUESTION:

8. Supply and install new fiberglass insulation for entire ducts with 3/16 .....
The temperature rating for fiberglass insulation can not sustain 1100 °F, can we use ceramic insulation for the exhaust duct instead?

ANSWER:

The existing exhaust ducts is equipped with fiberglass insulation material. OEM utilized 6mm fiberglass insulation covered with 3/16 inch thick mild steel cover.

QUESTION:

9. Lightning protection grounding system with connections at the base of stack.
According to standard NFPA 578 that specify lightning protection method is different based on the metal structure thickness is less than 3/16 inch (4.8 mm) or greater. Can you clarify this section so that we can meet NFPA'S requirements?

ANSWER:

Follow what NFPA's requirement calls for lightning protection grounding system.

QUESTION:

10. Page 84
Shop painting of stack, flues, & re-painting of existing steel structures, exhaust ducts and accessories.
If we proposed to assemble every stack section on site (Dededo CT) including welding plate by plate, sand blasting and painting, that will be violation with this specification term?

ANSWER:

We strongly specify that the smoke stack assembly be primed and factory shop painted at the manufacturing plant. Based on past experiences, bare metals not factory primed and painted arrived at the jobsite with heavy corrosions and pitting because of the salty conditions endured during cargo shipment thru ocean freight. Pitting and corrosions on the new smoke stack plates are not acceptable.

QUESTION:

11. Page 88
6.1.2.5 Expansion joints materials shall be multi-layer type manufactured by Keld Ellentof or approved equal.
Please provide the technique data information of Keld Ellentof expansion joint to us to inquiry the expansion joint.

ANSWER:

No technical data information available for expansion joint manufactured by Keld Ellentof. Keld Ellentof is the OEM supplier for expansion joint, however you can substitute this by an approved equal material based on your design. Submit data and catalog for approval.

QUESTION:

12. Page 90
6.2.2.4.1 Fiberglass shall be rated to withstand > 1100□
The temperature rating for fiberglass insulation can not sustain 1100 □, can we replace with ceramic insulation?

ANSWER:

Same answer as in Question 8.

QUESTION:

13. Page 90
6.2.2.4.2 Insulation layers shall be held onto exhaust.....
6.2.2.4.3 Fiberglass insulation shall be secured in place by 3/16 inch thick mild steel cover
6.2.2.5 Jacketing shall be held onto insulation with spring-loaded stainless steel banding..

The description of above three items is regarding the external insulation method, but we did not find any stack or exhaust duct is external insulation. Please clarify the insulation specification for stack or exhaust duct that is interior insulation?

ANSWER:

Sub-par. 6.2.2.4.2 and 6.2.2.4.3 refers to internal duct insulation which has the same answer as in Q5 and Q9.
However, par. 6.2.2.5 refers to jacketing of exterior duct insulation which is not applicable to this project, because we don't have any.

QUESTION:

14. Page 90
6.2.3.2 Minimum exhaust duct thickness shall be 0.11 inches.
The thickness 0.11 inches for exhaust duct seems too thin, we recommend to use 6 mm thickness steel for exhaust duct, will GPA accept this?

ANSWER:

Duct thickness is not a concern since existing exhaust ducts shall be re-used repaired and painted. Refer to answer to Q1.

QUESTION:

Page 91 Exhaust Silencer
The drawing #0022B4006 page 119 of 238 is for silencer design data, the two silencers are the same design or not? It has to be OEM product or approved equivalent? It's necessary to provide the design calculation sheet and drawing for approval before manufacture? Is the shop test report necessary?

ANSWER:

"As-built drawing" of silencer is on page 121 of 238 of the technical specs. The two silencers are identically the same. It is either OEM or approved equal. Yes, it is necessary to provide the design calculations for approval prior to manufacture and shop test report must be submitted for confirmation and approval.

All other Terms and Conditions in the IFB package remain unchanged and in full force.

JOAQUIN C. FLORES, P.E.
General Manager