

## 94784- APPENDIX A - TECHNICAL SPECIFICATIONS

### HEAT TRACE INSTALL ON OIL PIPING BETWEEN TURBINE BLDG AND VALVE FARM NORTHSIDE GENERATING STATION (NGS)

#### Scope:

Bidder shall furnish all equipment, supervision, labor, transportation, tools and expendables to complete the scope of work that includes the installation of Thermon HPT power Limiting 480 Volt Heat Trace Cable, or equivalent, and the 480V 3-Phase Power and disconnects in the Electrical Scope. The contractor must employ the heat trace manufacturer's service technician or field engineer for a complete inspection and sign off/approval of the installation before the system is energized.

- 1) Fuel Oil Supply Line is approximately 1,100 ft of 10-inch Pipe with 78 supports and 4 valves requires approx. 1,400 ft of Thermon HPT15-4-OJ heat trace cable.
- 2) Fuel Oil Return Line is approximately 1,100 ft of 4-inch Pipe with 78 supports and 2 valves and requires approximately 1,400 ft of Thermon HPT5-4-OJ heat trace cable.

Quality System: The heat-tracing manufacturer shall be ISO-9001 certified. Contractor must install the heat trace to manufacture's specifications. Contractor shall supply the JEA project manager a copy of the installation specifications from the approved manufacturer.

Contractor shall furnish, install, and test the following Heat Trace material and equipment that includes but is not limited to the following:

- A. Thermon HPT power-Limiting 480 Volt Heat Trace Cable
  - 1) Fuel Oil Supply Line is approximately 1,100 ft of 10-inch Pipe with 78 supports and 2 valves requires approx. 1,400 ft of Thermon HPT15-4-OJ heat trace cable.
  - 2) Fuel Oil Return Line is approximately 1,100 ft of 4-inch Pipe with 78 supports and 2 valves and requires approximately 1,400 ft of Thermon HPT5-4-OJ heat trace cable.
    - a. Thermon Dual Circuit Controllers with RTD feedback, (2 ea), and Documentation
    - b. Thermon DP: Power Junction Box Enclosures Qty 4
    - c. Thermon DE-B : Illuminated End of Line Lights, Qty 4
    - d. Thermon RTD: Ambient, Qty 4
    - e. Thermon TCM2 480 Volt Heat Trace Controllers, Qty 2
      - Furnish: Complete Panel Design and Layout
      - Furnish: Single Line Electrical Drawings
      - Furnish: Panel Layout Drawings
      - Individual Circuit Control:
      - Controller Construction: for FM Class I, Division 2,
      - Enclosure Material: Resign reinforced polymer
      - Lockable:
      - Process Display: Digital
      - Local Configuration:
      - Password Protection:
      - Circuit Diagnostics:
      - Alarm Diagnostics:
      - Alarm Outputs:
      - Control Outputs: Solid State
      - Control Feedback:
      - Control: (On-Off)
      - Number of Circuits as designed: 4 ea.
      - MODBUS to Ethernet Integration: No
    - f. Thermon Dual Circuit Controllers with RTD feedback, (2 ea), and Documentation
    - g. Thermon DP: Power Junction Box Enclosures Qty 4
    - h. Thermon DE-B : Illuminated End of Line Lights, Qty 4
    - i. Thermon RTD: Ambient, Qty 4
    - j. Thermon TCM2 480 Volt Heat Trace Controllers, Qty 2

## 94784- APPENDIX A - TECHNICAL SPECIFICATIONS

### HEAT TRACE INSTALL ON OIL PIPING BETWEEN TURBINE BLDG AND VALVE FARM NORTHSIDE GENERATING STATION (NGS) (Cont'd)

- Furnish: Complete Panel Design and Layout
- Furnish: Single Line Electrical Drawings
- Furnish: Panel Layout Drawings
- Individual Circuit Control: Yes
- Controller Construction: for FM Class I, Division 2
- Enclosure Material: Resign reinforced polymer
- Lockable:
- Process Display: Digital
- Local Configuration:
- Password Protection:
- Circuit Diagnostics:
- Alarm Diagnostics:
- Alarm Outputs:
- Control Outputs: Solid State
- Control Feedback:
- Control: (On-Off)
- Number of Circuits as designed: 4 ea.
- Communications Protocol: Optional

All Insulation and Jacketing of piping will be provided by JEA and is not included in the scope of work.

#### **GENERAL INSTALLATION REQUIREMENTS**

##### **Receiving, Storage and Handling:**

Check the cable to make sure the proper types have been received. All cables are marked with part number, voltage rating and watt output. Visually inspect for damage incurred during shipment.

Cables should be kept in a clean and dry environment. Cables should be handled with care to avoid crushing, twisting or kinking.

##### **Installation:**

The entire installation should be in accordance with the drawing and specifications as outlined in the provided document package. Before installing the heating cable, make sure all piping and equipment to be traced is completely installed and tested. Equipment surfaces should be reasonably clean. Any loose scale, oil or rust should be removed. Any coatings on pipe must be dry before the heating cable is installed.

Typical installation procedure for the heating cable consists of attaching the cable to the pipe using banding tape on twelve (12) inch centers.

Install the cable in a general manner which permits removal of any serviceable equipment such as valves, pumps, filters, etc.

Scheduling the fitting of the thermal insulation as soon as possible after the heating cables have been satisfactorily installed and tested.

## 94784- APPENDIX A - TECHNICAL SPECIFICATIONS

### HEAT TRACE INSTALL ON OIL PIPING BETWEEN TURBINE BLDG AND VALVE FARM NORTHSIDE GENERATING STATION (NGS) (Cont'd)

#### Test Procedures:

All heater cables and associated components shall be tested in accordance with the requirements set forth herein. The following tests shall be performed on the heating cables and equipment.

- 1) An initial insulation resistance measurement shall be made on the reel of cable immediately after receipt at site.  
**Insulation Resistance Test:** Using a 500 V dc Megger, measure between cable core and external metallic sheath. Minimum resistance reading of 20 megohms should be recorded. Refer to the Installation and Testing Manual (attached) for specific details.
- 2) After the heating cable is installed but before the thermal insulation is installed, the insulation resistance test shall be repeated.
- 3) After installation is complete (thermal insulation installed), repeat the insulation resistance test as part of the pre-commissioning checks. Next, apply rated voltage to the heat tracing circuit(s). The voltage and current shall be measured and recorded. The recorded value shall be compared to the manufacturer's product specifications.
- 4) Make sure all the junction and/or controllers (including glands) are closed so that no moisture can penetrate.
- 5) Two hundred and twenty (220), "Caution Electric Heat" Trace labels must be supplied to JEA for install by the insulation contractor.

APPENDIX B MINIMUM QUALIFICATIONS FORM

94784 – HEAT TRACE INSTALL ON OIL PIPING BETWEEN TURBINE BLDG AND VALVE FARM  
NORTHSIDE GENERATING STATION (NGS)

**GENERAL**

**THE MINIMUM QUALIFICATIONS SHALL BE SUBMITTED ON THIS FORM. IN ORDER TO BE CONSIDERED A QUALIFIED BIDDER BY JEA YOU MUST MEET THE MINIMUM QUALIFICATIONS LISTED BELOW, AND BE ABLE TO PROVIDE ALL THE SERVICES LISTED IN THIS SOLICITATION.**

**THE BIDDER MUST COMPLETE THE BIDDER INFORMATION SECTION BELOW AND PROVIDE ANY OTHER INFORMATION OR REFERENCE REQUESTED. THE BIDDER MUST ALSO PROVIDE ANY ATTACHMENTS REQUESTED WITH THIS MINIMUM QUALIFICATIONS FORM.**

**PLEASE SUBMIT THE ORIGINAL AND ANY REQUESTED ADDITIONAL DOCUMENTATION WITH THE BID SUBMISSION.**

**BIDDER INFORMATION**

COMPANY NAME: \_\_\_\_\_

BUSINESS ADDRESS: \_\_\_\_\_

CITY, STATE, ZIP CODE: \_\_\_\_\_

TELEPHONE: \_\_\_\_\_

FAX: \_\_\_\_\_

E-MAIL: \_\_\_\_\_

PRINT NAME OF AUTHORIZED REPRESENTATIVE: \_\_\_\_\_

SIGNATURE OF AUTHORIZED REPRESENTATIVE: \_\_\_\_\_

NAME AND TITLE OF AUTHORIZED REPRESENTATIVE: \_\_\_\_\_

**MINIMUM QUALIFICATIONS:**

- Bidder must have a current Electrical Contractor License in the State of Florida.
- Bidders must have successfully completed, as the Primary Contractor, three (3) projects of similar size of scope within the last three (3) years ending, May 30, 2018 and the total for **each** project must be \$50,000.00 or greater.







APPENDIX B - BID FORM  
 94784 - HEAT TRACE INSTALL ON OIL PIPING BETWEEN TURBINE BLDG AND VALVE FARM  
 NORTHSIDE GENERATING STATION (NGS)

Submit via e-mail to: Elizabeth Ann Ellis-Moore, moorea@jea.com along with other required forms.

Company Name: \_\_\_\_\_

Company's Address \_\_\_\_\_

Electrical Contractor License No. (State of Florida): \_\_\_\_\_

Phone Number: \_\_\_\_\_ FAX No: \_\_\_\_\_ Email Address: \_\_\_\_\_

**BID SECURITY REQUIREMENTS**

- None required
- Certified Check or Bond, Five Percent (5%)

**TERM OF CONTRACT**

- One-Time Purchase
- Annual Requirements
- Other, Specify \_\_\_\_\_

**SAMPLE REQUIREMENTS**

- None required
- Samples required prior to Response Opening
- Samples may be required subsequent to Bid Opening

**SECTION 255.05, FLORIDA STATUTES CONTRACT BOND**

- None required
- Bond required 100% of Bid Award

**QUANTITIES**

- Quantities indicated are exacting
- Quantities indicated reflect the approximate quantities to be purchased Throughout the Contract period and are subject to fluctuation in accordance with actual requirements.

**INSURANCE REQUIREMENTS**

**Insurance required**

**PAYMENT DISCOUNTS**

- 1% 20, net 30
- 2% 10, net 30
- Other \_\_\_\_\_
- None Offered

Enter your Bid for the Services	Lump Sum Price
TOTAL BID PRICE	\$

**I have read and understood the Sunshine Law/Public Records clauses contained within this solicitation. I understand that in the absence of a redacted copy my proposal will be disclosed to the public "as-is".**

**BIDDER'S CERTIFICATION**

By submitting this Bid, the Bidder certifies that it has read and reviewed all of the documents pertaining to this Solicitation, that the person signing below is an authorized representative of the Bidder's Company, that the Company is legally authorized to do business in the State of Florida, and that the Company maintains in active status an appropriate contractor's license for the work (if applicable). The Bidder also certifies that it complies with all sections (including but not limited to Conflict Of Interest and Ethics) of this Solicitation, and that the Bidder is an authorized distributor or manufacturer of the equipment that meets the Technical Specifications stated herein.

We have received addenda

\_\_\_\_\_ through \_\_\_\_\_

\_\_\_\_\_ Handwritten Signature of Authorized Officer of Company or Agent \_\_\_\_\_ Date

\_\_\_\_\_ Printed Name and Title