

# WASTE TREATMENT PLANT PROJECT REQUEST FOR INTEREST

Requisition Number: 24590-CM-MRA-JF02-00004  
Submit Interest By: 2/12/18  
Quality Level: CM  
Award Type: Firm Fixed Price

## ESTIMATED SCHEDULE

Issue Request for Proposal: 2/19/18 (Forecast)

## PROJECT DESCRIPTION AND LOCATION

The Hanford Tank Waste Treatment and Immobilization Plant (WTP) is a complex of radioactive waste treatment processing facilities designed and constructed by Bechtel National, Inc. for the Department of Energy (DOE). The facility will process the Hanford Site tank waste and convert the waste into a stable glass form.

The Project site is located in the 200 East Area of the Hanford Reservation near Richland, Washington, along the Columbia River. The site elevation varies from 662 to 684 feet above mean sea level. Ambient temperature range is -23 degrees F minimum to 113 degrees F maximum, with relative humidity of 5% minimum to 100% maximum. The project design life is 40 years.

## SCOPE OF WORK

SELLER shall preferably provide all the below equipment although partial interest will be considered and evaluated. BUYER reserves the right to make multiple awards, or divide the award among more than one OFFEROR if this is in the best interest of BUYER. Quantities of each instrument may vary and will be assessed through engineering.

### Venturi Flow Tubes

#### Instrument Description:

Venturi flow tubes shall consist of a section pipe with a cylindrical inlet, section with a converging conical entrance, straight throat, and a diverging recovery conical outlet. Flow tubes range in size from 4 in to 12 in. End connections shall be RF flanged for the flow tubes and NPT(F) threaded for the pressure taps. Any flanged connections shall meet the face finish, tolerances, dimensions, marking, and other applicable requirements of ASME B16.5. Minimum accuracy for the flow tubes shall be +/- 0.5% uncalibrated full scale. The pressure recovery shall be up to 90% of the pressure loss, depending on the beta ratio. Beta ratio range shall be between 0.3 and 0.8. The turn down ratio shall be 3 to 1. The discharge coefficient shall be between 0.93 and 0.98. The repeatability shall be +/- 0.25%. The material of the flow tubes shall be stainless steel or carbon steel as specified on data sheets. The throat and cone materials shall be stainless steel.

### Orifice Plates

#### Instrument Description:

Thin, concentric, square edged orifice plates shall be provided for liquid, gas, or steam service. Eccentric orifice plates should only be used to allow entrained gas or liquid in two phase flows to flow through the orifice plate instead of building up in front of the orifice plate. Segmental orifice plates should only be used for slurry services. All orifice plates, including paddle-type, shall be manufactured from barstock as a single piece. The only allowable welding for the construction of the orifice plate is welding the identification tab onto the outside edge of the orifice plate. The orifice plate supplied should be made of 316 SST. The orifice plate design and construction shall meet the requirements of the applicable ASME B31.3 (1996), and ASME MFC-3M/14M. Orifice bore diameters shall be selected so that the measured differential pressure across the orifice plate is 100 inches WC. The instrument data sheet will indicate if flange taps will be used. The beta ratio (d/D) shall not exceed 0.70 and shall not be less than 0.20. Beta ratio between 0.5 and 0.6 is desirable.

#### Brands/Models currently used at WTP:

- Foxboro/Imperial PT 10 series

## Averaging Pitot Tubes

### Instrument Description:

Averaging pitot tube flow elements will have an insertion double support assembly with a weld fitting plug. Flow elements will have flanged end connection and differential transmitters/local flow indicators are threaded. Any flanged connections shall meet the face finish, tolerances, dimensions, marking, and other applicable requirements of ASME B16.5. Flow elements will have 316L SST round cylinder sensor. Transmitter flow signals shall be FOUNDATION™ Fieldbus. TURCK connector for FOUNDATION™ Fieldbus signal termination shall be TURCK P/N

RSFV 49T-0.3M/14.5 or Buyer approved equivalent. For HVAC or other gas and vapor services, a multivariable transmitter may be used for transmitter output requiring temperature and pressure compensation for ACFM to SCFM unit conversion. The multivariable transmitter will calculate the flow directly from the three process variables of differential pressure, absolute pressure, and temperature. Temperature is measured via a platinum 100 Ohm RTD. Output signal accuracy of the averaging pitot tube and transmitter shall be at minimum  $\pm 2\%$  of the calibrated span. Changes in the voltage at the transmitter terminals shall have a maximum effect of  $\pm 0.005\%$  of calibrated span/volt. Transmitters shall have an integral LCD, 4 digit indicator. Duct mounted local flow indicators shall be provided for some HVAC pitot tubes. These local flow indicators have a differential open front (without relief) case and aluminum single-scale dials. Max measured flow is 0-30000 ACFM, as specified on individual data sheets. All of the differential pressure transmitters shall be provided configured for close couple connection with BUYER's 2 and 5-valve manifolds utilizing BUYER provided standard manifold mounting kits (flange seal and bolting).

### Brands/Models currently used at WTP:

- Meriam 25D series, Metron FTH-36 series

### Equipment and Materials Required

***Please see the above list of instrument descriptions as well as equipment currently being used on the WTP project.***

## QUALITY ASSURANCE (QA) REQUIREMENTS

Programmatic Quality Assurance (QA) requirements for subcontracts or purchase orders performed in the WTP Jobsite will be:

<input type="checkbox"/>	Non-Permanent or Temporary Work - Generally no QA program required
<input checked="" type="checkbox"/>	Commercial Quality - Based on DOE Order 414.1C
<input type="checkbox"/>	Nuclear Level Quality - Based on ASME NQA-1 2000

Bechtel may require, as an element of bidder pre-qualification, submission of a representative sample QA Program or Table of Contents copy. For Nuclear Level Quality subcontracts, the successful bidder's QA Program must be approved prior to award of the subcontract or purchase order.

## CODES

Codes and Standards will be developed and distributed to those selected for RFP process.

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## BIDDER REGISTRATION AND PRE-QUALIFICATION

The BNI Acquisition Services Subcontracts/Purchasing group is responsible for collection, evaluation, and internal publication of potential bidders' information for the purpose of pre-qualifying them to bid on any particular subcontract or purchase order.

As part of this process, BNI requires all potential offerors to register at the Supplier and Contractor Portal at: <https://www.Bechtel.com/supplier/>

If your company has registered previously, then only supplemental information should be sent to the Bechtel National, Inc. representative noted below.

Information to be provided by potential bidders must include:

- Dun and Bradstreet Number
- Company Name
- Company Address
- Contact Phone Number
- Contact Person
- Email Address
- Safety Data and Information
- Applicable Work Experience and Projects
- Size of Business (Small, Large)

### **WTP BACKGROUND**

Information about the WTP Project can be found on <http://www.hanfordvitplant.com>

### **CONTACT**

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