WASTE TREATMENT PLANT PROJECT REQUEST FOR INTEREST

High Level Waste Facility HVAC System

Requisition Number:	24590-QL-SRA-MDHM-00010
Submit Interest By:	January 31, 2023
Quality Level:	QL (NQA-1-2000)
Award Type:	Firm Fixed Price / Fixed Unit Price

ESTIMATED SCHEDULE

Issue Request for Proposal:	March 2024
Award and Notice to Proceed:	June 2024

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

This Scope of Work is specific to the High Level Waste (HLW) facility. The HLW Facility is a five-level structure, with a basement footprint of approximately 100,000 square feet and a three-story annex building of approximately 22,000 square feet. The building consists of a (-) 21-foot basement constructed of 3 to 5-foot thick concrete walls supporting the other floors. The 0-foot level also includes two (2) truck bays for import and export of containers. The 14-foot level is essentially a mezzanine. Each floor is made of poured concrete over steel beams. Above ground, the building walls are covered with metal panels. The annex building houses the control room, management offices, and electrical distribution equipment and is constructed of metal panels on steel frame. The main building roof is at 91-foot elevation.

SUBCONTRACTOR's work shall include, but shall not be limited to, the design, procurement and installation of all ductwork materials, supports, hangers, expansions joints for thermal expansion and/or stress reduction, inline components identified on the data sheets and orthographic drawings, the seismic qualification of those items and components to furnish, install, and test the HVAC ductwork systems and inline components in the HLW facility., shop drawings and related schedules and budgets, testing, technical support services, transportation, documentation and other work necessary. Performance of this Scope of Work will be executed in two distinct parts consisting of:

1. <u>Design:</u>
    a. Full and complete design resulting in issuance of Issued for Fabrication (IFF) document package for the procurement and fabrication of structural supports, ductwork, inline components and miscellaneous ductwork accessories associated with described installation work scopes/packages;
    b. Engineering support for CONTRACTOR/SUBCONTRACTOR to validate installed (completeness) commodities by others for design evaluation/development by SUBCONTRACTOR;
    c. Field verifications of installed and future installation of ventilation system in the HLW and;
    d. Development (assembly) of Issued for Installation (IFI) erection drawings/work packages.
    e. Provide all necessary materials, services, detailed shop drawings, labor, and tools (for fabrication);
    f. Provide consumables, equipment, supervision, technical support, quality control, and all incidentals necessary to fabricate HVAC and ventilation exhaust systems (both stainless steel and galvanized ductwork);
    g. Provide any missing duct sections, in-line components and ductwork accessories, including expansion joints, duct supports, flexible connectors, grilles, registers, and diffusers; balancing, backdraft, and fire dampers; access doors, exhaust stacks as required, extractors, turning vanes, and other items normally considered part of a complete duct system. Refer to individual Specific Scopes of Work (SSW)s;

h. Provide seismic qualification for all Seismic Category III & IV ductwork, supports, and inline components supplied by SUBCONTRACTOR as defined in applicable Ductwork Construction and Installation Specifications. Provide seismic qualification for all Seismic Category I & II inline components supplied by SUBCONTRACTOR as defined in applicable ductwork construction and installation specifications.
i. For Quality Level Q/AP and CM designated as air permit affecting ductwork, seismic analysis shall be performed in accordance with ASME AG-1, Paragraph AA-4312 and as identified in applicable Duct Construction Specification. For Quality Level CM ductwork, the duct construction and supports shall be designed to withstand the lateral restraining loads identified in the Engineering Specification for Structural Design Loads for Seismic Category III & IV Equipment and Tanks;
j. Locate and install ports/access in ductwork for duct mounted instrumentation per CONTRACTOR'S penetration detail drawings;
k. Provide design and seismic qualification of inbleed smoke detectors and smoke dampers designated as Important to Safety and Seismic Category I;
l. Provide coordination of all Seismic Category III & IV ductwork supports with CONTRACTOR Plant Design personnel for inclusion into CONTRACTOR's 3-D model.
m. Temporary beneficial air modification to existing and future duct work to provide for a stable environment throughout the facility.

2. Installation: SUBCONTRACTOR shall construct the HVAC System in accordance with the CONTRACTOR approved design, and SUBCONTRACTOR approved Issue for Installation (IFI) drawings/work Package.
    a. Supply all construction equipment including non-powered cranes, man lifts, tools, air compressors, generators, consumables, safety supplies/equipment and monitoring equipment for job-site work.
    b. Provide all equipment and labor necessary for lifting and transporting materials from the building location to the point of installation. SUBCONTRACTOR shall also be responsible for obtaining confined-space entry permits and provide personnel and monitoring equipment**.**
    c. Physical installation of all ductwork, dampers, inline components, and miscellaneous ductwork accessories shown on IFI erection drawings/work packages;
    d. Perform HVAC ductwork structural capability testing and/or leak testing;
    e. Provide consumables, equipment, supervision, quality control for all incidentals necessary to install HVAC and ventilation exhaust systems, both galvanized and stainless steel.
    f. Furnish and install quantities of ductwork, supports, and miscellaneous items. Note, pounds of supports include those designed by both CONTRACTOR and SUBCONTRACTOR with procurement and installation responsibility.
    g. Furnish and install instrument test ports for performing duct air balance traverse;
    h. Provide temporary facilities (site office trailers, storage trailers, etc.), and construction equipment (equipment for receiving and transporting of materials, non-powered cranes, man lifts, etc.) as needed to complete the work. Before mobilization, SUBCONTRACTOR shall provide a sketch detailing for CONTRACTOR approval the location of temporary facilities, material lay-down area, and work area required.

Major Ventilation Systems: SUBCONTRACTOR shall furnish and install the following:

1. C1/C2 supply systems
2. C2 exhaust systems
3. C3 supply and exhaust systems
4. C5 cave/cell exhaust systems
5. Local heating and cooling systems, C2 and C3 Fan Coil Unit (ductwork only)
6. C3 and C5 in-bleed supply systems, including through wall and floor transfers
7. Carbon Dioxide Gas (CDG) Ductwork
8. C3 Canister Storage supply and exhaust system (HLW)
9. Melter Assembly building
10. Ash Building

Work Excluded: The following Work is excluded from this subcontract:

- Design, furnish and installation of HVAC equipment, which includes the following:
    - Air handlers,
    - Fan coil units,
    - Large fans (does not exclude small fans identified on SSW data sheets),
    - HEPA filter housings,

    - Remote operated dampers, furnished with remote change HEPA filter housings,
    - Furnishing and installing of electric unit heaters,
    - Caulking, grouting, or fire sealing of annular space around duct penetrations through walls and floors
- Work In support of Startup
- Work in support of Operations
- Ventilation design.
- The design and seismic qualification of Seismic Category I & II ductwork and supports.
- The furnishing and installation of temperature and pressure instrumentation and controls, including pneumatic tubing.
- Chilled water, condensate, steam, and other piping.
- Electrical wiring, control wiring, and terminations.
- All control points for common supports, Seismic Category I & II ductwork and supports design, seismic qualification of all CONTRACTOR designed duct, supports, and procured items.
- Engineering drawings including V&IDs, duct orthographics, component and equipment data sheets, specifications, structural steel drawings to assist in SUBCONTRACTOR's design and placement of duct supports.

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

[ ]	Non-Permanent or Temporary Work - Generally no QA program required
[ ]	Commercial Quality - Based on DOE Order 414.1C
[X]	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.

GOMMERCIAL GRADE DEDICATION
The CONTRACTOR will review the SUBCONTRACTOR'S program for dedication of commercial grade items and services, including sub-supplier dedication activities. The program shall include requirements for inspection, test, or quality program review to perform dedication activities as appropriate for the item or service provided. The SUBCONTRACTOR shall submit for approval the SUBCONTRACTOR'S commercial grade dedication procedure and any sub-supplier's dedication procedure. In addition to the dedication procedure, specific SUBCONTRACTOR'S inspection and test plans shall be submitted to the CONTRACTOR for acceptance prior to use.

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
Bechtel National, Inc.
450 Hills Street
Richland, WA 99354
Attn: Garrett Prather
Phone: (509) 827-2071
Email Address: gtprath1@bechtel.com
Mailstop: MS10-E