

**HANFORD TANK WASTE TREATMENT
AND
IMMOBILIZATION PLANT**



**BIDDER REQUEST FOR INTEREST &
PRE-QUALIFICATION PACKAGE**

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May be exempt from public release under the Freedom of Information Act
(5 U.S.C. 552), exemption number and category: 4.

Commercial/Proprietary

Department of Energy Review required before public release

Name/Org: Jose Velasquez/ P&S Date: 12/28/2023

Guidance (if applicable): N/A

Requisition No. 24590-QL-MRA-MKE0-TBD1

**Melter Wet Electrostatic Precipitator
(WESP)**

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BIDDER REQUEST FOR INTEREST & PREQUALIFICATION CRITERIA AND RESPONSE

1.0 Introduction

Bechtel National Inc., herein referred to as Contractor, intends to issue a Request for Proposal (RFP) for Permanent Plant Equipment - **Wet Electrostatic Precipitators and Power Supplies, [Qty. 2 each]** for the Hanford Waste Treatment and Immobilization Plant (WTP) project in Richland, WA. Companies must be pre-qualified by Contractor to be included on the bid list. To support the pre-qualification evaluation process, the prime potential bidder (1st tier subcontractor) must provide the requested information and respond to questions within this document. The Experience Statement should include relevant information for both the prime bidder and any planned lower-tier supplier or subcontractor. Additional supporting documentation such as brochures and company profiles may also be submitted.

***Please note that additional supporting documentation will be required as part of the formal RFP process.**

2.0 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.

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

3.0 Scope of Work

Requisition Number: **24590-QL-MRA-MKE0-TBD1**

Quality Level: **QL**

Award Type: **Fixed Price with Economic Price Adjustment**

Estimated RFP Date: **March 2026**

The goal of posting Request for Interest (RFI) document packages online in advance of the anticipated solicitation date is to proactively engage Suppliers that may intend to bid on the scope of work outlined in this request. The WTP project intends to produce specifications and

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requirements documents for procurement award that closely align with standard commercial applications, for those items that do not have a nuclear safety function. WTP encourages feedback from interested Suppliers relative to things that can reduce delivery duration, item complexity, and unplanned costs from awarded value (examples: Document submittals that are in excess of what would normally be required for commercial application, special tests that duplicate available data, excessive oversight, size of requirements document set, and conflicts in specifications).

For components that have a nuclear safety function, WTP intends to consider both Suppliers with NQA-1-2022 programs and Suppliers that have other QA programs (example: ISO 9001). For cases in which Supplier is not NQA-1 compliant, WTP will provide required testing, oversight, and source verification to demonstrate compliance with NQA-1-2022.

We encourage interested Suppliers to contact WTP (per website contact info/directions) to set up meetings with WTP engineering and procurement staff to ask questions, discuss areas that could be adjusted to simplify the procurement process, resulting in a fit for purpose specification that aligns with what the supply chain produces (buy what they make) and recommendations for how best to develop a mutually beneficial collaborative partnership.

- 3.1** Design and Fabricate two Wet Electrostatic Precipitator (WESP) vessels for use in the High Level Waste (HLW) facility at WTP. The WESP vessels are used on the melter offgas treatment system, downstream of submerged bed scrubbers, to remove radioactive particulate and aerosols as described in the mechanical datasheet.

The WESP consists of:

- Vessel with a support skirt, mounting rings and anchor chairs
- Collector Surface and supports
- Discharge electrodes and supports
- Offgas distribution plate
- Internal flush water piping and distribution manifold
- High voltage insulators and housings including leads, and bushings
- Required nozzles
- HVAC Bib in exterior shell

- 3.2** The Buyer has designed the vessel body to meet ASME VIII, Division 1 requirements, which are provided in design proposal drawings (DPDs), shown in Attachment A. The

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internals of the vessel are conceptually modeled but the final design is requested from the Buyer. The WESP shall be floor mounted, using a circular support ring beam, to be designed by the vendor.

- 3.3** The vessels skirt and body will be installed in a space that has been designated as black-cell and hard-to-reach. The vessel head will be accessible through 15 x 14.7 foot shield plate. Internals of the vessel shall be designed to be removable through semi-remote means by removing the vessel head and lifting internals out with a tower crane or heavy lift crane.

Equipment and Materials Required

Work to include (but is not be limited to):

- Purchase of material and fabrication of two (2) WESP vessels
- Documentation services as necessary
- Enhanced factory acceptance testing to validate particulate removal efficiency and determine recommended parameters for washing vessel internals and insulator purge air rates and temperature
- Provide special equipment and tooling for installation/and or maintenance of the vessels
- Provide maintenance plan for replacement of vessel internals
- Provide startup procedures and testing recommendations
- ASME Section VIII, Division 1, UG-120 code analysis of vessel
- Pressure vessels U-stamped and registered with the National Board Inspection Code (NBIC)

Documentation:

Documentation including drawings, procedures, calculations shall be reviewed and concurred to by the Buyer prior to starting fabrication or tests, at specified hold points that will be identified in the material requisition (MR):

Documentation is to include (but not be limited to):

- All drawings and technical documents must be checked and signed off. Drawings include bill of materials, weld symbols, NDE for each weld, shop detail drawings. Locations of center of gravity, in all three directions
- Welding procedure specifications per ASME Section IX
- Procedures for storage and control of weld filler material shall be described in detail the procurement, receipt, storage, and dispersal (traceability) of fill material

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- Postweld heat treatment procedures including cleaning requirements, heating and cooling rates, thermocouple locations, and type of heating equipment
- For repair of weld either the original welding procedure specification (WPS) or one submitted as a designated repair WPS shall be used
- Repair plans that use welding for repairs of welds or base metals
- NDE procedures, including visual examinations, radiographic, liquid penetrant examination (etc.) meeting the requirements of ASME Sections V & VIII
- Test and inspection records and work plan
- All record pertaining to NDE, base materials, filler materials, fabrication and inspection shall be traceable to the area and part inspected
- Pressure testing reports
- Mechanical test reports
- Inspection and verification reports
- Test results for software
- Installation instruction manuals
- User manuals
- Storage and handling requirements
- Certificates of conformance
- Material certificates of compliance
- Records of positive material identification (PMI)

Optional:

3.4 The Buyer may supply two (2) vessel bodies for repair and re-work to bring into compliance with the new design. See Attachments B and C for details on existing vessel bodies and known non-conformances on the vessel body that require adjudication for use.

3.5 Additional Work may include or be subcontracted*:

- Design, fabricate, assemble, and test two high voltate (HV) DC, pulse-width modulated (PWM), power supply units including ancillary equipment for energizing WESPs.
- Control equipment, all controls and functions required for safe, reliable and continuous operation of the precipitator, its power supplies and ancillary equipment provided by the Seller. Seller shall provide the necessary hardware and software to integrate the controls into Buyer's integrated network (ICN).

****Note: For factory acceptance testing of the WESPs the Power Supplies are required, the Seller shall coordinate with subcontractors so that testing can be completed.***

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Power Supply and Control equipment includes but is not limited to:

- Transformers
- Rectifiers
- Current-limiting reactors (if required)
- Seller designed and supplied high voltage DC cables from the WESP vessel to the power supply. High voltage DC terminators at both ends, and DC circuit return path equipment
- Fully metal-enclosed high voltage termination housing surrounding the high voltage DC busings on the WESP vessel
- Control equipment, all controls and functions required for safe reliable and continuous operation of the precipitator, its power supplies and ancillary equipment provided by Seller. Seller shall provide the necessary hardware and software to integrate the controls into Buyer's integrated control network (ICN).

3.6 Codes

The following Codes and Standards shall be adhered to for design and fabrication of WESP vessels:

- AISC N690, 1994, Specification for the Design, Fabrication, and Erection of Steel Safety-Related Structures for Nuclear Facilities
- ANSI/ISA-7.0.01, Quality Standards for Air Instruments
- ASME Boiler and Pressure Vessel Code Section II, Material, American Society of Mechanical Engineers
- ASME Boiler and Pressure Vessel Code Section V, Nondestructive Examination, American Society of Mechanical Engineers
- ASME Boiler and Pressure Vessel Code Section VIII, Division I, Rules for Construction of Pressure Vessels, American Society of Mechanical Engineers
- ASME Section IX, Boiler and Pressure Vessel Code, Welding, Brazing, and Fusing Qualifications
- ASME B31.3, Process Piping, 1996¹, American Society of Mechanical Engineers
[¹1996 for design, latest edition for fabrication and procurement]

3.7 Codes

The following Codes and Standards shall be adhered to for design and fabrication of WESP Power Supplies and Control Equipment:

- National Fire Protection Association (NFPA) – NFPA 70 (2023), National Electrical Code, Article 250, Grounding
- NEMA 250, Enclosures for Electrical Equipment (1000 Volts Maximum)

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3.8 Standards

- IEEE 519, IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems
- NEMA ICS – 1 Industrial Control and Systems General Requirements
- UL, Underwriters Laboratories
- UL 94, Standard for Safety, Test for Flammability of Plastic Material for Parts in Devices and Appliances
- UL 508, Standard for Safety Electrical Industrial Control Equipment
- UL 1072, Standard for Safety Medium-Voltage Power Cables

Please note that this solicitation may result in material procurements and proposals greater than \$10,000 and must comply with FAR 52.225-11 Buy American Act – Construction Materials Under Trade Agreements (SEP 2010). If you cannot comply or foresee any issues with compliance, please provide a detailed explanation.

If your company is **interested** in this solicitation, see **Section 4.0** and complete the sections as requested. The BNI Acquisition Services Purchasing group is responsible for collection, evaluation, and internal publication of potential bidders' information for the purpose of pre-qualification for all solicitations.

4.0 Response Submittal

4.1 Submission Due Date: **11/14/2025 (or as extended)**

4.2 Submission Method: Electronic response (e-mail w/ attachments) is the preferred method of response and must be submitted no later than the due date to the Purchasing Representative, **Andrea Riste** via email at adriste@bechtel.us.

5.0 Pre-Selection Criteria

5.1 Company Response

Prime Subcontractor Company Name: _____

Address: _____

Pre-qualification Contact Name: _____

Phone Number: _____

E-mail Address: _____

DUNS No. (Dun & Bradstreet): _____

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5.2 North American Industry Classification System Code (NAICS)

The NAICS (**North American Industry Classification System**) code for this work is **333410**. The SBA size standard for this code is **500 employees**. For pre-qualification purposes, you are a small business if your company's employees do not exceed **500**.

Business Size Classification (according to
U.S. Small Business Administration Criteria)

☐ Small

☐ Small Disadvantaged Business

☐ Woman Owned Small Business

☐ HUBZone Business

☐ Veteran-Owned Small Business
Concern

☐ Service-Disabled Veteran-Owned
Small Business Concern.

☐ N/A – Registered as a Large
Business

5.3 Quality Assurance Requirements Program

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
☐	Nuclear Level Quality - Based on ASME NQA-1 2022

A. Does your Company have a written Quality Assurance Program?

☐ Yes ☐ No

B. Which QA standards does this program meet? _____

☐ DOE/RW/0333P ☐ ASME NQA-1 ☐ ASME Section VIII ☐ ISO-9000 ☐ Other

C. If selected "other" above, please furnish a copy of its QA Program Table of Contents and a brief summary identifying each of the requirements listed below. The

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level of rigor applied to the elements shall be commensurate with the risks associated with the Work.

- A description of the organizational structure, functional responsibilities, levels of authority, and interfaces for those managing, performing, and assessing the Work.
- Personnel Training and Qualifications
- Quality Improvement
- Control of Documents and Records
- Work Processes
- Design
- Procurement
- Product Identification and Traceability
- Inspection and Acceptance Testing
- Control of the Testing Equipment
- Control of Non-Conforming Product
- Corrective and Preventative Actions
- Handling, Storage and Shipping Procedures
- Management Assessment
- Independent Assessment

D. Your company has the option to submit their full Quality Assurance Plan with this interest.

5.4 Commercial Data

Potential bidders **are required** to register on the **Bechtel Supplier and Contractor Portal**: <https://www.Bechtel.com/supplier/> in order to be considered.

Date your company registered or updated its information on the Portal?

Date Updated: _____

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- A. Rough Order of Magnitude for Scope of Work (USD): \$ _____
- B. Estimated Delivery Schedule:
- i. Engineering/Design: _____ weeks
 - ii. Material Procurement: _____ weeks
 - iii. Fabrication: _____ weeks
 - iv. Delivery: _____ weeks
- C. Long lead items to be aware of? (if yes, please specify)
- _____
- _____
- D. Does your company have a suggested alternate offering/product that offers an improvement, is more cost effective, or offers shorter delivery (i.e. "buy what you make")?
- ☐ No, we will supply an identical or similar product.
- ☐ Yes, we have an alternate offering. **DESCRIPTION OF ALTERNATE:**
- _____
- _____
- _____
- E. What risks do you foresee with this procurement that BNI should be aware of and possibly mitigate?
- _____
- _____
- _____

5.5 Technical Criteria

Technical Criteria **Section 3.3**

- A. Question 1: **Do you have experience designing ASME VIII, Division 1 vessels?**
- ☐ Yes ☐ No
- Explanation:
- _____

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- B. Question 2: **Can you perform NDE of vessels and piping designed in accordance with ASME standards?**

☐ Yes ☐ No

Explanation:

- C. Question 3: **Do you have experience designing wet electrostatic precipitators?**

☐ Yes ☐ No

Explanation:

- D. Question 4: **Can you perform NDE of vessels and piping designed in accordance with ASME standards?**

☐ Yes ☐ No

Explanation:

- E. Question 5: **Do you excel in modular design of equipment?**

☐ Yes ☐ No

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Explanation:

- F. Question 6: **Do you have experience performing advanced factory acceptance tests?**

☐ Yes ☐ No

Explanation:

Technical Criteria **Section 3.4**

- G. Question 1: **Is your preference to repair existing vessels to re-use?**

☐ Yes ☐ No

Explanation:

- H. Question 2: **Is your preference to source vessel material and build new?**

☐ Yes ☐ No

Explanation:

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Technical Criteria Section 3.5

I. Question 1: **Do you have the capability to design Power Supplies?**

☐ Yes ☐ No

Explanation:

J. Question 2: **Will power supply design be subcontracted?**

☐ Yes ☐ No

Explanation:

K. Question 3: **Do you have the capability to design control equipment?**

☐ Yes ☐ No

Explanation:

L. Question 4: **Will power supply design be subcontracted?**

☐ Yes ☐ No

Explanation:

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- M. Question 5: **Is it the Suppliers preference to have WTP subcontract this work to other suppliers?**

☐ Yes ☐ No

Explanation:

- N. **Direct Relevant Experience Documentation:** If Respondent has answered “yes” to the questions above, provide a reference list of example projects over the last ten years, on the included Experience Statement, that demonstrate direct relevant project experience to support each “yes” response. Example projects should be detailed as to both the technical scope of the project and your participation in the project.

Column completion notes for the below, Experience Statement, to be completed by the Prime contractor:

A. Customer Name, Address, Contact Name and Phone No.- So that we may contact as a reference as needed.

B. Work Description and Location- Describe work scope and location, and then indicate if prime or subcontract.

C. Original/ Final Contract Value- Original award value and final closeout contract value.

D. Commencement/ Completion Dates- Provide starting date and actual completion (or forecast if still in progress) by month/year format (e.g., Jan 2006/Sept 2007)

Customer Name, Address, Contact Name and Phone No.	Work Description and Location	Original/Final Contract Values	Commence/ Complete Dates

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6.0 Pre-Qualification Document Checklist

Companies are encouraged to use this checklist to ensure their submittal is complete.

- ☐ Interest & Prequalification Criteria and Response Package (this document)
- ☐ QA Program Table of Contents and summary *or* a copy of QA Plan
- ☐ Responses to **TECHNICAL CRITERIA Section 5.5**
- ☐ Additional supporting documentation such as brochures and company profiles.
- ☐ Direct Relevant Experience Documentation (included in this document or provided as attachment)

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