

WASTE TREATMENT PLANT PROJECT REQUEST FOR INTEREST COLD COMMISSIONING TEST (CCT) SIMULANT SERVICE

Requisition Number: 24590-QL-SRA-W000-00301
Submit Interest By: March 28, 2019
Quality Level: QL
Award Type: TIME AND MATERIALS (BASED ON BEST VALUE/TRADE-OFF)

ESTIMATED SCHEDULE

Issue Request for Proposal: May 9, 2019
Award and Notice to Proceed: July 31, 2019

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.

During commission the facilities are tested to ensure they meet Contract, regulatory, and design requirements to support the Hanford Site mission for immobilization of legacy tank wastes. The testing sequence starts with simple component tests progressing to larger, more complex demonstrations at the system and facility level, culminating with integrated facility demonstrations with chemical simulants and ultimately radioactive wastes. This sequence includes readiness and management assessment activities at key points to ensure the WTP Project is ready to introduce new or more significant hazards. The series of activities that incrementally lead the WTP Project through the Commissioning phase is referred to as the commissioning sequence. The LAW commissioning testing starts with water and progresses to two different chemical simulants. The first chemical simulant, and the tuning simulant is specifically designed to avoid introducing new major facility hazards. The second chemical simulant, the cold commissioning test (CCT) simulant, emulates tank waste and introduces new chemical hazards to the facility.

This subcontract is for the development of a CCT simulant fabrication program. The fabrication program elements include development of mixing, sampling, storage, and transportation procedures as well as the procurement of associated support materials. It also includes fabrication of the CCT simulant using the developed program.

SCOPE OF WORK

SUBCONTRACTOR shall perform all the work necessary to support a Cold Commissioning Test (CCT) fabrication program. This includes development of supporting procedures for sampling raw materials, scaleup mixing of the CCT, storage of CCT to support delivery, and transportation of the CCT on a batch basis for delivery to the CONTRACTOR. The fabrication program will be used to produce an estimated six hundred thousand gallons (600,000) of CCT simulant to support commissioning of the CONTRACTOR's LAW facility.

The CCT simulant fabrication program includes the development of required submittals to support project specific quality requirements, sampling of raw materials, mixing of raw materials to fabricate the CCT simulant, sampling CCT simulant post fabrication, and storage and shipping of CCT simulant out to the CONTRACTOR's facility. The required submittals to support the CCT simulant program elements are listed below. The required content of each of these submittals are provided in the subsections below. Each of these submittals is listed in the G-321-E form as a contract deliverable and shall be reviewed and approved by the CONTRACTOR prior to fabrication of the CCT simulant.

Note: Additional submittals are required for bulk chemical and CCT simulant acceptance

Project Quality Plan

The SUBCONTRACTOR shall provide a written Project Quality Plan (PQP) for review and approval, which is required to address the QA requirements. The PQP shall address each applicable element of ASME NQA-1 2000 as it applies to the scope of work.

In addition, the PQP shall describe:

- The flow-down of quality requirements to SUBCONTRACTOR'S suppliers of equipment and services
- The use of surveillances, in-process verifications, and submittal reviews to ensure the quality of data and services

Sampling Procedures

The SUBCONTRACTOR shall provide a written sampling procedure for review and approval. The procedure shall establish the methods and criteria used in sampling the bulk chemicals as well as the final fabricated CCT simulant. The procedure shall state how the samples are obtained, handled, controlled, and transferred during the fabrication process and analysis process at associated laboratory.

Laboratory Analysis Procedures

The SUBCONTRACTOR shall submit for review and approval the laboratory procedures associated with analysis of the bulk chemicals and CCT simulant parameters. The procedures shall address the following elements:

- Purpose of the procedure
- Applicability and range of parameters that represent the boundary conditions for the procedure and associated equipment
- Responsibilities within the laboratory for sample handling
- Preparation and use of instrumentation
- Training requirements
- Prerequisites to equipment usage such as calibration, temperature, sample volume, etc.
- Description of the equipment used for analyses
- Operating procedures for equipment
- Data recording format and a description of the recorded data
- Data acceptance criteria
- Description of any rejected data and the reason for rejection
- Sample physical control, identification, and storage
- Error (uncertainty) associated with each analysis

Fabrication Procedures

The SUBCONTRACTOR shall provide written fabrication procedure for review and approval. The fabrication procedure shall include the following:

- Checklist of pre-fabrication verifications (raw material acceptance, equipment and calibration verification, etc.).
- Scope of Fabrication Sequence including critical operating parameters and steps required for fabrication and sampling. See Attachment D-1 for fabrication sequence and material addition.
- Templates use to record data and/or observations during the fabrication process. This includes at a minimum:
 - bulk chemical information and identification used in the fabrication (note any nonconformance reports (NCRs) against chemicals being used)
 - quantity or mass of bulk material used in fabrication (batch sheet)
 - process information if available such as temperature, density, etc.

- fabrication log tracking all major steps or observations during the fabrication process

Storage and Transportation Procedures

The SUBCONTRACTOR shall provide a written Storage and Transportation procedure for review and approval. The procedure shall establish the methods used to store bulk simulant materials and finished CCT simulant ensuring the material and simulant properties are not compromised, and requirements are being met. The procedure shall account for the proposed usage and provide a transportation and storage strategy that meets the needs of the CONTRACTOR and all applicable requirements.

WORK LOCATION

All procurement and storage of raw chemical are expected to be performed at SUBCONTRACTOR'S facilities. The SUBCONTRACTOR shall be responsible for all clean-up and closure requirements as applicable to a lease agreement and all local and state regulation in the state that the SUBCONTRACTOR is working to fulfill this contract.

The CONTRACTOR reserves the right to physically inspect the SUBCONTRACTOR'S office, raw chemical storage, mixing, product storage, loading, and transportation facilities. Any visit to SUBCONTRACTOR'S facilities will be conducted at a mutually beneficial time with at least a 24-hr. notice.

If access to WTP offices or the WTP construction site is necessary, SUBCONTRACTOR shall comply with Project Security Program requirements. Any requested access must be coordinated through CONTRACTOR.

WORK SCHEDULE

The SUBCONTRACTOR shall perform work as needed to meet project schedule due dates or milestones, this could include nights and weekends. The schedule should never be negatively impacted due to waiting for delivery of simulant. Delivery of simulant shall be balanced with onsite storage capabilities and the volumes needed to maintain scheduled commissioning activities.

DELIVERABLES, SUBMITTALS AND ACCEPTABLE CRITERIA

Following is a list of submittals associated with this scope of work. The list of required submittals is broken into two types.

Type 1 submittals require review and approval by the CONTRACTOR. The review and approval will be coordinated per the STR (or logistics delegate) and shall be submitted to the CONTRACTOR 48 hrs. before the delivery of the CCT simulant. Approval of these submittals releases the corresponding batch for delivery to the facility.

Type 2 submittals are part of the quality verification documents and shall be submitted to the CONTRACTOR 48 hrs. before the delivery of the CCT simulant along with the Type 1 documents. Approval of these documents is not required to release shipment. The Type 1 documents shall be attached to the corresponding delivery paperwork to the CONTRACTOR facility.

Type 1 submittals include the following:

- Bulk Chemical Specification or COA on a per Lot Basis. Submitted before procurement of bulk chemical.
- Bulk Chemical Analysis Results on a per Lot or Delivery Basis. Submitted before use in CCT simulant fabrication.
- The Safety Data Sheets (SDS) for the CCT simulant that conforms to the global harmonization standards as well as the United States Department of Transportation Bulk Chemical Analysis Results. Submitted before first delivery of CCT simulant to CONTRACTOR's facility. First submittal covers all subsequent deliveries.

- Completed Fabrication Procedure Submitted before CCT batch shipment is released for shipment to CONTRACTOR's facility.
- Sample Chain of Custody Submitted before CCT batch shipment is released for shipment to CONTRACTOR's facility.
- Sample results Submitted before CCT batch shipment is released for shipment to CONTRACTOR's facility.

Type 2 submittal includes the following:

- Certificate of Conformance (COC) for each batch delivery to be included with the packing list. The items listed in the COC at a minimum shall include the following:
 - Subcontract Number
 - Quantity of CCT simulant shipped
 - Description of CCT simulant delivered
 - Certification that the CCT simulant was fabricated in accordance with program technical and quality requirements
 - Batch Number for CCT simulant with reference to Lot number of bulk materials used for CCT simulant fabrication

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 type="checkbox"/>	Commercial Quality - Based on DOE Order 414.1C
<input checked="" 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 AND STANDARDS

All chemicals/simulant shall be compliant with the provisions of the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS) and the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (HCS) described in 29 CFR 1910.1200, Hazard Communication, and incorporated by reference in 10 CFR 851.23(a)(3). Shipping of simulant - United States Department of Transportation 49 CFR parts 100 thru 185.

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>

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