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**STATEMENT OF WORK**  
**FOR**  
**HVAC Exhaust Dams and Snorkel System**  
**FOR THE 300-296 Remote Soil Excavation Project**  
  
**Requisition # 00304980**

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Attachment 1 – Submittal Registry

## **1.0 INTRODUCTION / BACKGROUND**

This Statement of Work (SOW) is being issued for work in support of CH2M Hill Plateau Remediation Company (CHPRC) 300-296 Remote Soil Excavation Project. CHPRC is a prime contractor to the Department of Energy (DOE) and all work on this SOW will be performed in support of the CHPRC contract with DOE.

This SOW, along with the Functional Requirements Document (FRD) and Performance Specification (PS) listed below, are for design, procurement, and delivery of the HVAC Exhaust Dams and Snorkel System.

Functional Requirements Document:

- PRC-SRP-00115 Rev 0

Performance Specification:

- PRC-SRP-00114 Rev 0

## **2.0 DESCRIPTION OF WORK – GENERAL**

CHPRC (also referred to as the Buyer) requires a Contractor to design, procure materials and hardware, fabricate, assemble, inspect, test and deliver and support installation of a HVAC Exhaust Dam and Snorkel System in accordance with the requirements of this SOW.

The Contractor shall provide and manage the labor, equipment, material and services required to complete the tasks and deliverables identified herein. The design and fabrication work shall be performed at the Contractor's facilities. On-site technical support will be at CHPRC facilities.

The Contractor is responsible for execution of the work in accordance with the quality standards and requirements specified herein.

All equipment to be fabricated in this SOW is Quality Level 3 and General Service.

## **3.0 DESCRIPTION OF WORK – SPECIFIC**

The Contractor shall utilize the CHPRC provided drawings, analysis and reports identified in both the PS, (PRC-SRP-00114 Rev 0), the FRD (PRC-SRP-00115 Rev 0) and this SOW. All Contractor initial design media (drawings, analysis and reports) shall be submitted to the buyer for review and approval prior to initiation of the procurement of materials without written approval from the buyer.

The Contractor shall prepare a fabrication traveler for each of the components prior to the start of fabrication in accordance with the Submittal Registry, Attachment 1, and submit to the Buyer for review and approval.

The Contractor shall identify any equipment or material procurements with greater than a six week lead time, and include any options for expediting those procurements. The Contractor shall submit the long lead items list to the Buyer for review and approval.

The Contractor shall perform a Factory Acceptance Test (FAT) in accordance with the PS. The FAT procedure shall be submitted to the Buyer for review and approval prior to initiation of testing.

The Contractor is responsible for all packaging and delivery cost with the delivery of equipment to the 324 Building, 300 Area, Richland, WA or to a location directed by the Buyer. This section identifies the major work elements only; the Contractor is responsible to determine the complete scope from this SOW, the PS and the FRD. This section identifies the major work elements only; the Contractor is responsible to determine the complete scope from the referenced drawings and this SOW.

This section identifies the major work elements only. The Contractor is responsible to determine the complete scope from this SOW, the FRD and the PS. The work products and services to be provided by the Contractor for the successful completion of this work scope is included below.

Design of the HVAC Exhaust Dams and Snorkel System for A/C/D Cells must provide a provision for remote installation of the HVAC Dams and Snorkel System into the cells. Entry into the cells will not be permitted. The HVAC Exhaust Dams and Snorkel System must provide a zero leakage seal in accordance with the requirements of the PS and FRD to prevent leakage during grouting activities.

The Contractor shall provide the following equipment and quantities as shown:

	<u><b>Task</b></u>	<u><b>Quantity</b></u>
Task – 1	Complete Design A/C/D-Cell HVAC Dam and Snorkel System	AR
Task – 2	Procure, Fabricate and Assemble Equipment	
Task – 2.1	East A-Cell HVAC Dam and Snorkel	1
Task – 2.2	West A-Cell HVAC Snorkel	1
Task – 2.3	C/D-Cell HVAC Dam and Snorkels (2 each cell)	4
Task – 3	Factory Acceptance Test (FAT) of HVAC Exhaust Dams and Snorkel System	6
Task – 4	Contractor Technical Support	AR

### **3.1 Complete Design (Task-1)**

The Contractor is required to review the HVAC Exhaust Dams and Snorkel System design documents in the Functions and Requirements Document 300-296 Remote Soil Excavation Project HVAC Exhaust Dams and Snorkel System, PRC-SRP-00115 Rev 0 and the Performance Specification 300-296 Remote Soil Excavation Project HVAC Exhaust Dams and Snorkel System, PRC-SRP-00114 Rev 0. Based on this review, the Contractor shall submit the completed design to the Buyer for review and approval.

The Contractor shall identify any equipment or material procurements with greater than six (6) weeks lead time and include any options for expediting those procurements. The Contractor shall submit the Long Lead items list to the Buyer for review and approval.

### **3.2 Procure, Fabricate and Assemble Equipment (Task-2)**

The Contractor shall develop Fabrication, Inspection and Test Plans (Shop Travelers) and submit to the Buyer for review and approval. The Contractor shall procure materials and equipment and fabricate the HVAC Exhaust Dams and Snorkel System components per the approved design. The equipment that the Contractor is required to fabricate are as follows:

#### **3.2.1 HVAC Exhaust Dam and Snorkel System (Task-2.1)**

The Contractor shall design, procure materials, fabricate, inspect and test, HVAC Exhaust Dam and Snorkel System for the A/C/D-Cells, that meet the requirements of this SOW. The Contractor shall reference the PS (PRC-SRP-00114 Rev 0) for all fabrication inspection and testing requirements for the East A-Cell HVAC Dam and Snorkel System.

3.2.1.1 Task-2.1 Summary of Inspection and Testing Requirements East A-Cell HVAC Dam and Snorkel System shall be tested, at a minimum but not limited to the following:

- Final visual inspection of all welding by Certified Weld Inspector (CWI) per AWS D1.1
- Magnetic particle testing of welds for lifting bails/eyes
- Load Test equipment lifting bails/eyes (125% of Frame Assembly section weight)
- Post magnetic particle test of lifting bails/eyes.
- East A-Cell HVAC Dam and Snorkel System Factory Acceptance Test
- Verification of dimensions, labeling and weight

3.2.1.2 Task-2.2 Summary of Inspection and Testing Requirements West A-Cell HVAC Snorkel System shall be tested, at a minimum but not limited to the following:

- Final visual inspection of all welding by Certified Weld Inspector (CWI) per AWS D1.1
- Magnetic particle testing of welds for lifting bails/eyes
- Load Test equipment lifting bails/eyes (125% of Frame Assembly section weight)
- Post magnetic particle test of lifting bails/eyes.
- West A-Cell HVAC Snorkel System Factory Acceptance Test
- Verification of dimensions, labeling and weight

3.2.1.3 Task-2.3 Summary of Inspection and Testing Requirements C/D-Cell HVAC Dam and Snorkel System shall be tested, at a minimum but not limited to the following:

- Final visual inspection of all welding by Certified Weld Inspector (CWI) per AWS D1.1

- Magnetic particle testing of welds for lifting bails/eyes
- Load Test equipment lifting bails/eyes (125% of Frame Assembly section weight)
- Post magnetic particle test of lifting bails/eyes.
- C/D Cells HVAC Snorkel System Factory Acceptance Test
- Verification of dimensions, labeling and weight

**3.3 Factory Acceptance Testing (Task 3)**

The Contractor shall perform an integrated Factory Acceptance Tests (FAT) per the PS (PRC-SRP-00114 Rev 0). The Contractor may have to perform component testing, such as the mechanical linkage testing, prior to the integrated Factory Acceptance Testing to ensure equipment operates correctly in the integrated FAT. The major components that shall be demonstrated in the Factory Acceptance Testing shall include, but not limited to the following:

- 3.3.1 Equipment handling
- 3.3.2 Equipment Installation
- 3.3.3 Equipment Operation (Zero Leak Testing)
- 3.3.4 Hose management system

**3.4 Technical Support (Task-4)**

The Contractor is requested to provide Technical Support for the 324 Building to support installation and operations of the HVAC Exhaust Dams and Snorkel Systems. The Contractor will not be authorized to perform work directly in the 324 Bldg. but to only provide technical support direction. The Contractor technical support personnel shall be knowledgeable on the Installation, Operation and Sealing Systems and had been involved in the Fabrication, Inspection and/or Factory Acceptance Testing of the equipment. After delivery of equipment, the Buyer shall direct the Contractor to support Task-4 based upon the type of support and when the support is required. If technical support personnel are required to travel from outside the Tri Cities area, provide per diem costs for travel that do not exceed the maximum per diem rates in effect at the time of travel as set forth in Federal Travel Regulations (FTR). Contractor is expected to take reasonable steps to minimize the amount of travel expenses. Links to the FTRs and current per diem rates can be found on the GSA web site ([www.gsa.gov](http://www.gsa.gov)). The following is an example of how the Contractor should show the labor mix and number of hours:

<b>Discipline</b>	<b>Hours</b>
Mechanical Engineer (PE)	40
Structural Engineer (PE)	40
Mechanical Engineer	40
Senior Designer	40
Fabrication Manager	80

### **3.5 Special Requirements**

The PS (PRC-SRP-00114 Rev 0) provides the basis of requirements for the HVAC Exhaust Dams and Snorkel System which is driven by the FRD (PRC-SRP-00115 Rev 0), the design analysis, drawings and reports

### **3.6 Acceptance Criteria**

The acceptance criteria for the work products and services provided are identified in the PS (PRC-SRP-00114 Rev 0) and include, but are not limited to the following:

- Design Approval
- Approval of fabrication travelers
- Acceptance of qualification testing/analysis
- Completed Factory Acceptance Testing (FAT)
- Dispositioned Nonconformance and Test Deficiencies
- Acceptable source inspection, if exercised by the buyer
- Acceptable receipt inspection

### **3.7 Organizational Interfaces**

The contractual interface for this work is the CHPRC Contract Specialist Sammy Ernst 509-376-7174 (or designee) and [Samantha J Ernst@rl.gov](mailto:Samantha.J.Ernst@rl.gov) . The CHPRC Buyer Technical Representative (BTR), Ron Myers, or designee, will act as the technical point of contact. His contact numbers and e-mail address are (509) 373-6948 (office), (509) 438-1651 (cell), and [Ron A Myers@rl.gov](mailto:Ron.A.Myers@rl.gov) .

### **3.8 Work Not Included**

Hands on installation in the 324 building is not included in this contract.

### **3.9 Buyer Furnished Materials and Equipment**

CHPRC does not plan to furnish any materials or equipment to the Contractor under this contract, but may in the future if it's determined beneficial to the overall project and execution of this contract

### **3.10 Site Coordination Requirements**

If onsite access is required, site visitation shall be coordinated through the Contract Specialist

## **4.0 TECHNICAL REQUIREMENTS**

If onsite access is required, site visitation will be coordinated through the Contract Specialist. Contractor will perform all work in strict accordance with requirements, design criteria, national, state and local codes and standards, specifications, drawings, exhibits, and any other documents, which by reference are made a part of this Statement of Work.

Upon request, the Buyer shall make available to the Contractor any of the design documents in native file format, if available



CHPRC reserves the right to perform source inspections before and during fabrication. Inspections will be arranged jointly by CHPRC and the Contractor.

**4.1 Codes and Standards**

The latest version of the codes, standards, and requirements are listed in PS (PRC-SRP-00114 Rev 0) and are hereby incorporated into and made a part of this Contract, to the extent indicated in this SOW and attachments.

**4.2 Specifications**

The latest version of the PS is hereby incorporated into and made part of this Contract, to the extent indicated in this SOW.

**4.3 Drawings**

See PS, PRC-SRP-00114 for the current list of drawings. The drawings referenced in the PS (PRC-SRP-00114) are provided as “FOR INFORMATION ONLY”.

**4.4 Exhibits**

The Forms shown in the following table are hereby incorporated into and made a part of this Contract. These forms are available at <http://chprc.hanford.gov/page.cfm/SubmittalsFormsDocs>.

**Table 4.4 Exhibits List**

Form No.	Title
Form A-6004-757	Contractor Document Submittal
Form A-6004-833	Request for Clarification/Information (RCI)
Form A-6007-382	Contract Change

**4.5 Design Changes**

The Contractor shall review all design media provided in the FRD and PS. If the Contractor determines that a design change is necessary and does not impact the requirements in the FRD and PS, the Contractor shall affect that design change and submit to the Buyer for review and approval. If the design change impacts the FRD and/or PS, the Contractor shall immediately submit a Request for Clarification/Information to obtain approval for the change prior to implementing the change. Once the proposed design is approved by the Buyer, any further design questions or issues shall be documented and submitted via a Request for Clarification/Information (RCI) and reviewed and approved by CHPRC.

The Contractor shall control changes in accordance with their change control processes and procedures. Any proposed changes (materials, welding, dimensions, finish, fit, function, etc.) to Buyer or Contractor design media must be approved by the Buyer. The Contractor shall submit a copy of their change (e.g., redline) process to the Buyer for approval. Any redline changes shall be approved and initialed by a Buyer’s Design Authority (designee) prior to execution of the change.

The Contractor shall submit the final redline drawings to the Buyer prior incorporation into the as-built drawings. Final acceptance by the Buyer requires that the actual configuration of each item matches the approved drawing redline changes.

RCIs are used by the Contractor to receive clarification from CHPRC at any time during execution of the contract. The RCI form is not used to document a contract modification, engineering change, or nonconformance. CHPRC's response to an RCI does not constitute authorization to perform a change to the Contract.

## **5.0 PERSONNEL REQUIREMENTS**

### **5.1 Training and Qualification**

The Contractor shall provide appropriately trained and qualified staff to perform the type of work specified.

### **5.2 Work Hours**

The CHPRC work schedule is 6:00AM to 4:30PM PST, Monday through Thursday, except holidays. The Contractor shall be available between these hours.

## **6.0 ENVIRONMENTAL, SAFETY, HEALTH, AND QUALITY REQUIREMENTS**

The Contractor shall perform work safely, in a manner that ensures adequate protection for employees, the public, and the environment, and shall be accountable for the safe performance of work. The Contractor shall comply with, and assist CHPRC in complying with Environmental, Safety, Health, and Quality (ESH&Q) requirements of all applicable laws, regulations and directives.

The Contractor shall flow down ESH&Q requirements to the lowest tier subcontractor performing work, commensurate with the risk and complexity of the work.

### **6.1 Safety Requirements**

The Contractor shall comply with their facility specific safety requirements in the execution of this work.

### **6.2 Quality Assurance and Control**

The Contractor shall maintain a documented Quality Assurance Program and implementing procedures. The Contractor shall submit a copy of their QA Program with their proposal for review and approval prior to beginning work. If the Contractor's QA Program has been evaluated by MSA, Inc., and is listed on the current Hanford Evaluated Supplier's List for the required scope, then the Contractor need only reference the ESL listing.

The Contactor Quality Assurance Program shall contain the elements equivalent to the following:

1. Design Control
2. Procurement Document Control
3. Document Control
4. Control of Purchase items
5. Control of Process
6. Inspection
7. Test Control and Reports

- 8. Control of Measuring and Test Equipment
- 9. Handling, Storage and Shipping
- 10. Control of Nonconforming items
- 11. Quality Assurance Records

The Contractor is responsible for performing quality work in compliance with the requirements of this contract. The Contractor is responsible to pass down to any sub tier contractor the applicable requirements of this contract. The Contractor must allow access to their facility, work site, or sub-contractors facility or worksite at any time during this contract for CHPRC personnel to perform inspections or surveillances

**6.3 Assurance Procurement Requirements**

The Contractor shall comply with the Hanford Site Procurement Quality Clauses listed in Table 6.3.

**Table 6.3 Procurement Quality Clause List**

QA Clause	Description
6.3.1	Fabrication/Inspection/Test Plan
6.3.2	Supplier Use of Commercial-Off-The-Shelf Software (COTS)
6.3.3	Source Inspection
6.3.4	Nonconformance Documentation and Reporting
6.3.5	Certified Welding Inspector
6.3.6	Welding Procedures and Qualifications
6.3.7	Nondestructive Examination Process
6.3.8	Identification of Items
6.3.9	Identification and Traceability of Items
6.3.10	Identification of Age Control Items
6.3.11	Certified Material Test Report
6.3.12	Inspection and Test Report
6.3.13	Nationally Recognized Testing Laboratory (NRTL) Listed or Labeled
6.3.14	Control of Graded Fasteners
6.3.15	Procurement of Potentially Suspect or Counterfeit Items
6.3.16	Certificate of Conformance
6.3.17	Recommended Spare Parts Listing
6.3.18	Packaging/Shipping Procedure

**6.3.1 Fabrication/Inspection/Test Plan**

The Contractor shall prepare a detailed fabrication/inspection/test plan (Traveler) for insertion of Buyer-designated source inspection/witness notification points. Prior to starting work, the plan shall be submitted to the Buyer for review, approval and insertion of Buyer's designated

inspection/witness notification points unless otherwise specified in procurement documents.  
The plan shall include the following:

1. Traceability to Buyer's Contract Order document number.
2. Description of items to be fabricated/tested/inspected (e.g., components, subassemblies, assemblies).
3. Sequential fabrication/process steps.
4. Sequential points for inspection and tests to be performed during fabrication/processing.
5. Method/procedure to be used for performance of inspection/test/fabrication, including:
  - a. Each characteristic or attribute to be evaluated,
  - b. The report form to be utilized,
  - c. Specific Codes/Standard requirements as specified by procurement documents i.e., ASME, ASTM, ANSI, etc., and
  - d. Sampling plans for final characteristics (e.g., AQL, lot size, inspection level), where applicable.

Subsequent revisions/modifications to the fabrication/inspection/test plan document require review and approval by the Buyer prior to implementation of the change. When subcontracting any portion of this Contract Order, the Contractor is required to invoke the applicable quality assurance program requirements on the subcontractor.

### **6.3.2 Supplier Use of Commercial-Off-The-Shelf Software (COTS)**

The Supplier shall submit the following documentation for all engineering analysis/design, data analysis/reduction, and engineering/environmental modeling commercial-off-the-shelf (COTS) software<sup>1</sup> (application) used in the performance of work listed in the procurement documents.

1. Description of the COTS software, including:
  - a. Manufacture's name and address,
  - b. COTS application's title and version identifier
  - c. Operating system and hardware platform that will be used,
  - d. Manufacture's Technical Specifications or other published description of the COTS application's theoretical basis of operation or conceptual/mathematical models.
2. Standard data set(s) used to verify operation of the COTS application.
  - a. Data sets shall cover each function or mode of operation which will be used during the performance of the work listed in the procurement documents.
  - b. When the COTS application's range of operation cannot be verified by a single data set, the Supplier shall submit, as a minimum, data sets covering the upper and lower thirds of its range.
3. The results expected from the standard data set(s) including the basis for accepting the standard data expected results, such as:
  - Comparison with hand calculations,
  - Comparison with calculations using comparable proven problems,

- Comparison with information from published data,
  - Comparisons with other validated computer programs, or
  - Comparisons with experiments and tests.
4. The output generated by the COTS application using the standard data set(s). This output shall include a statement warranting that the output accurately reflects the use of the standard data set(s) with the COTS application. The statement shall be on the Supplier's letterhead and signed, with printed name, by an authorized agent of the Supplier.

When required by the procurement documents verification of the COTS application operation using the submitted standard data set(s) shall be witnessed a Buyer's representative.

One copy of the documentation, unless otherwise specified, shall be submitted for review and approval.

COTS software refers to an existing application which will be implemented on a standard operating system without the need for modification of its executable/object code

### **6.3.3 Source Inspection**

All items are subject to inspection at the Contractor's facility or Contractor's subcontractor's facility by a Buyer's quality assurance/quality control representative. Contractor shall notify Buyer at least 5 working days in advance of the time items will reach any inspection hold point established by the Buyer in the procurement package.

### **6.3.4 Non-conformance Documentation and Reporting**

Any nonconformance identified at the Contractor's facility with a proposed disposition of "Accept" or "Repair" shall be approved by the Buyer before any corrective action is taken by the Contractor on the nonconformance.

Accept: A disposition that a nonconforming item will satisfactorily perform its intended function without repair or rework.

Repair: A disposition requiring the processing of a nonconforming item so that its characteristics meet the requirements listed in the disposition statement of the nonconformance report.

Rework: A disposition by which an item is made to conform to original requirements by completion or correction.

A Contractor Nonconformance exists when;

- (1) A Buyer's technical or material requirement, or a requirement in a Buyer approved Contractor document is violated; and
- (2) The nonconformance cannot be corrected by continuation of the original manufacturing process or by rework; or

- (3) The item does not conform to the original requirement but can be restored to a condition such that the capability of the item to function is unimpaired.

Nonconformances shall be documented by the Contractor on the Contractor's nonconformance form. After documenting the nonconformance, disposition and technical justification, the form shall be forwarded to the Buyer.

After the recommended disposition has been evaluated by the Buyer, the form shall be returned to the Contractor with a disposition of approval or rejection. The Contractor may take corrective action on the nonconformance only after the form is approved.

The Contractor's nonconformance form shall be shipped with the affected item.

### **6.3.5 Certified Weld Inspector (CWI)**

Contractor personnel performing weld inspections shall be certified as a Certified Weld Inspector (CWI) in accordance with the requirements specified in AWS QC-1.

The following documentation shall be submitted prior to the start of fabrication:

1. Current AWS CWI certificates.
2. Current and valid visual acuity examination. The examination must be performed annually.
3. Visual weld inspection procedures.

Approval shall be obtained from the Buyer prior to start of fabrication.

### **6.3.6 Welding Procedures and Qualifications**

Welding procedures and personnel shall be qualified in accordance with the applicable AWS or ASME specifications as specified in the Contract order. The Contractor shall submit copies of all welding procedures, Procedure Qualification Records, and Welder Qualification Records to be employed in the performance of this Contract Order. Buyer approval is required prior to the start of fabrication.

Changes and revisions to welding documentation shall be submitted to the Buyer for review and approval prior to use. When subcontracting any portion of this Contract Order, the Contractor is required to invoke the applicable quality assurance program requirements on the subcontractor.

### **6.3.7 Nondestructive Examination Process**

Nondestructive examination (NDE) personnel shall be qualified and certified in accordance with the recommended guidelines of the American Society of Nondestructive Testing's (ASNT) ANSI/ASNT CP-189 or ASNT SNT-TC-1A, unless otherwise specified in the ordering data.

The Contractor is not authorized to begin fabrication until the following documentation has been reviewed and approved by the Buyer:

- a. NDE qualification and certification procedures
- b. Personnel Level I, II, and III qualifications and certifications which include objective evidence of NDE training, formal education, examinations, experience, date of hire, and current eye examination
- c. NDE method/examination procedures that are in accordance with the applicable codes/standards specified in procurement documents.

All NDE reports and radiographs shall be traceable to the item examined, include all essential examination parameters, and signed and dated by the NDE examiner. All NDE reports and radiographs shall accompany or precede shipment of material. Radiographs, and radiographic technique and examination reports shall be subject to approval by the Buyer prior to shipment of completed items.

When subcontracting any portion of this Contract Order, the Contractor is required to invoke the applicable quality assurance program requirements on the subcontractor.

#### **6.3.8 Identification of Items**

All Items shall be identified with the part number/model number. Identification shall be on the item or the package containing the item. When the identification is on the item, such marking shall not impair the service of the item or violate dimensional, chemical, or physical requirements.

The Supplier shall submit a legible copy of the product data sheet (e.g., drawing, catalog page, brochure) that provides adequate information to enable the Buyer to verify the form and function of the articles procured.

One copy of the documentation, unless otherwise specified, shall accompany the applicable item(s) shipped.

#### **6.3.9 Identification and Traceability of Items**

All items shall be identified with the part, heat, batch, or serial number and the Purchase Order and line item number. Identification shall be on the item or the package containing the item. Where identification is on the item, such markings shall not impair the service of the item or violate dimensional, chemical, or physical requirements.

#### **6.3.10 Identification of Age Control Items**

The Contractor shall identify each item, assembly, package, container, or material, having limited shelf life, with the cure date or date of manufacture and the expiration date. The Contractor shall specify any storage temperatures, humidity and environmental conditions which should be maintained. Material shall NOT be furnished having less than 75 percent of total shelf life available at time of shipment.

#### **6.3.11 Certified Material Test Report**

The Certified Material Test Report (CMTR) shall include actual results of all chemical analysis, tests, examinations, and treatments required by the material specification and this Purchase



Order/Contract order. The CMTR shall be legible, reference applicable specification number and year of edition, and be traceable to the material furnished by heat or lot number. All reports are subject to review and acceptance by the Buyer.

One copy of the documentation, unless otherwise specified, shall accompany the applicable item(s) shipped.

### **6.3.12 Inspection and Test Report**

The Contractor shall submit legible, reproducible copies of Inspection/Test Reports.

The report(s) shall include the following:

1. Identification of the applicable inspection and/or test procedure utilized.
2. Resulting data for all characteristics evaluated, as required by the governing inspection/test procedure.
3. Traceability to the item inspected/tested, (i.e., serial number, part number, lot number, etc.).
4. Signature of the Contractor's authorized representative or agency which performed the inspections/tests.

One copy of the documentation, unless otherwise specified, shall accompany the applicable item(s) shipped.

### **6.3.13 Nationally Recognized Testing Laboratory (NRTL) Listed or Labeled**

1. All electrical equipment installed as part of this contract must comply with the National Electric Code (NEC), NFPA 70 and where applicable ANSI C2 (NEC). The Buyer reserves the right to inspect electrical equipment and installations. Contractor is responsible for Electric motors shall be manufactured and tested in accordance with NEMA MG-1 as applicable, or listed by an organization currently recognized by OSHA as an NRTL. Documentation of NEMA MG-1 compliance shall be made available to the Buyer upon request.
2. Electrical equipment and devices for which there is a UL category code identifying product categories must be Listed or Labeled by an OSHA recognized NRTL.
  - a. The Canadian Standard Association (CSA) marking is currently recognized by OSHA as an NRTL when the label includes "US" or "NRTL" subscript.
  - b. The European Union "CE" marking, Directive 93/68EEC, is not currently recognized by OSHA as an NRTL marking.
  - c. The International Electro-Technical Commission (IEC) Standard 60529 for enclosures, is not currently recognized by OSHA as an NRTL label.

Note: for a list of approved NRTLs, see <http://www.osha.gov/dts/otpca/nrtl/>

3. Electrical equipment for which there is no listing category must be evaluated or tested using a method submitted to and approved by the Buyer prior to delivery of the equipment. A Field Evaluation performed by an NRTL prior to delivery is the preferred method for Buyer approval.
4. Electrical equipment for which there is no listing category must be evaluated or tested using a method submitted to and approved by the Buyer prior to delivery of the equipment. A Field Evaluation performed by an NRTL prior to delivery is the preferred method for Buyer approval.



Electrical equipment is also subject to the “Counterfeit Suspect Item Program”.

#### **6.3.14 Control of Graded Fasteners**

The provisions stated below are the minimum DOE requirements for high strength graded fasteners produced in compliance with national consensus standards (e.g., SAE, ASTM, ASME).

1. Fasteners shall exhibit grade marks and manufacturer's identification symbols (headmarks) as required in the specifications referenced in the CO.
2. Any fasteners supplied with headmarks matching those displayed on the attached Suspect/Counterfeit Fastener Headmark list, or facsimiles thereof, shall be deemed to be unacceptable under the terms of this CO.
3. When requested by the Buyer, the Contractor shall provide a legible and reproducible copy of the manufacturer's CMTR. These CMTRs shall report the values of the actual chemical and physical tests performed on the represented fastener lot/material heat. Fastener packaging/labeling shall be traceable by lot number or other positive means to the CMTRs.
4. Fasteners shall be inspected to verify compliance with the CO requirements. Additionally, fasteners may also be subjected to destructive testing.
5. When requested by the Buyer, the Contractor shall provide a Certificate of Conformance (CoC) which must certify conformance and traceability of supplied materials to the subject Contract Order. The document must be legible and reproducible.

#### **6.3.15 Procurement of Potentially Suspect or Counterfeit**

Notwithstanding any other provisions of this agreement, the Contractor warrants that all items provided to the Contractor shall be genuine, new and unused unless otherwise specified in writing by the Contractor. Contractor further warrants that all items used by the Contractor during the performance of work for the Hanford Site, include all genuine, original, and new components, or are otherwise suitable for the intended purpose. Furthermore, the Contractor shall indemnify the Contractor, its agents, and third parties for any financial loss, injury, or property damage resulting directly or indirectly from material, components, or parts that are not genuine, original, and unused, or not otherwise suitable for the intended purpose. This includes, but is not limited to, materials that are defective, suspect, or counterfeit; materials that have been provided under false pretenses; and materials or items that are materially altered, damaged, deteriorated, degraded, or result in product failure.

Types of material, parts, and components known to have been misrepresented include (but are not limited to) fasteners; hoisting, shackles, turnbuckles, cable clamps, wire rope, rigging, and lifting equipment; cranes; hoists; valves; pipe and fittings; electrical equipment and devices; plate, bar, shapes, channel members, and other heat treated materials and structural items; welding rod and electrodes; and computer memory modules. The Contractor's warranty also extends to labels and/or trademarks or logos affixed, or designed to be affixed, to items supplied or delivered to the Contractor. In addition, because falsification of information or documentation may constitute criminal conduct, the Contractor may reject and retain such

information or items, at no cost, and identify, segregate, and report such information or activities to cognizant DOE officials.

Contractor shall provide a written statement that “all items furnished under this Contract Order are genuine (i.e., not counterfeit) and match the quality, test reports, markings and/or fitness for use required by the Contract Order.

The statement shall be on Contractor letterhead and signed by an authorized agent of the Contractor.

Any materials furnished as part of this Contract Order which have been previously found to be suspect/counterfeit by the DOE shall not be accepted.

For further information on suspect/counterfeit items, reference the DOE Guidance at: <http://energy.gov/ehss/policy-guidance-reports/databases/suspectcounterfeit-and-defective-items>.

Additional information may also be found by referring to: Managing Suspect and Counterfeit Items (SCI) in the Nuclear Industry; International Atomic Energy Agency Guide [IAEA-TECDOC-1169](#).

#### **6.3.16 Certificate of Conformance (CoC)**

The Contractor shall provide a legible/reproducible CoC. Contractor’s authorized representative responsible for quality shall sign the CoC.

This CoC shall, as a minimum:

1. Identify the appropriate Contract Order number under which the material, equipment, item or service is being supplied.
2. Each Order/shipment shall include a CoC unique to that shipment.
3. The quantity of each Line Item shipped shall be identified on the CoC.
4. The CoC shall identify the specific procurement requirements to be met by the purchased item or service. The procurement requirements identified shall include any approved changes, waivers, or deviations applicable to the item or service.
5. The CoC shall be signed or otherwise authenticated by a Contractor’s representative who is responsible for this QA function and whose responsibilities and position are described in the Contractor’s QA program.

One copy of the documentation, unless otherwise specified, shall accompany the applicable item shipped. For subsequent shipments on this Contract Order, reference may be made to documentation provided with earlier shipments, instead of duplicating such documentation.

#### **6.3.17 Recommended Spare Parts Listing**

The Contractor shall submit, with or prior to item shipment, a recommended spare parts list. The list shall provide the name and address of the original supplier of the replacement part, and

the part's drawings, specification, or catalog identity including applicable change or revision information.

### **6.3.18 Packaging/Shipping Procedures**

The Contractor shall prepare and submit for approval, prior to use, a procedure or plan for the packaging and shipping of items during the performance of this Contract Order. The procedures shall include as appropriate cleanliness inspections prior to packaging, use of preservatives and coatings, descriptions of specially designed shipping containers, handling and rigging procedures, final inspections, and the type of transfer and shipping vehicles, as applicable to work scope. Examples of the packing and shipping inspection forms shall be included in the procedure or plan.

### **6.4 Quality Assurance Inspection Plan**

The Buyer will perform source inspections utilizing Acquisition Verification Services (AVS). AVS shall observe the Contractors packaging process of sealing and/or crating equipment such that containers do not require unpacking upon receipt inspection.

### **6.5 Operation and Maintenance Manual**

The Contractor shall provide operations and maintenance (O&M) manuals for the HVAC Exhaust Dams and Snorkel System. Each manual shall provide: a system description, including the functional capabilities and physical features of the equipment; general safety precautions for handling and operation; installation procedures; operations procedures; troubleshooting guide; and, cleaning and maintenance procedures. The O&M manual shall also include as attachments any O&M and installation manuals provided with any purchased equipment.

## **7.0 MEETINGS AND SUBMITTALS**

### **7.1 Meetings**

Contractor shall participate in the following meetings:

1. Project Kickoff meeting. This meeting will be held after contract award to review contract requirements and processes, establish protocols for communications and interfaces, introduce key personnel and their roles and responsibilities, and review the project schedule. The agenda for the meeting will be provided by the Buyer.
2. Weekly Progress meeting. This meeting will be coordinated with the Contractor to occur at a day/time acceptable to both the Buyer and the Contractor. The Contractor shall provide a two-week "look ahead" schedule, updated weekly, one day prior to each schedule meeting." In addition, for Time and Material contracts, the Contractor shall provide the weekly hours expended (by the contract approved labor categories) and a one week forecast for the upcoming period. Any variances between the hours expended and forecast hours shall be explained and justified.
3. Any other meetings requested by the Buyer during the course of work as necessary.

The person or persons designated by the Contractor to attend all meetings shall have all required authority to make decisions and commit Contractor to technical decisions made during meetings.

## **7.2 Submittals**

The Contractor shall provide the submittals identified in Attachment 1, Submittal Registry.

1. CHPRC distribution, review, routing, return for re-submittal, if required, and approval of all Contractor submittals shall be based on CHPRC's 4x10 schedule. For example, submittals received by CHPRC after 13:00 PM on Thursday will be distributed and reviewed beginning the following Monday, and will have the complete duration of review time as stated in the submittal register (See Attachment 1).
2. The Contractor submittals identified herein on the Submittal Register, Attachment 1, shall be submitted by the Contractor using the Contractor Document Submittal Form (CDSF) A-6004-757 (available at <http://chprc.hanford.gov/page.cfm/SubmittalsFormsDocs>). Instructions for completion of the CDSF are included with the form.
3. If the Contractor is using submittals previously approved by the Buyer, the Contractor may declare no changes have taken place since last submittal and ask for approval based on previous referenced submittal.
4. CHPRC's Document Management Control System (DMCS) shall be used to electronically manage document submittals and RCI's for this contract. The address to transmit submittals and RCI's to is, [SRPCDC@rl.gov](mailto:SRPCDC@rl.gov), a courtesy copy (cc) shall be sent to the Buyer and the BTR.

## **7.3 Final Data Package**

The Contractor shall submit a final data package for each task containing the quality records identified in this SOW and in the PS.

Items to be included in the final data package, included but is not limited to, the following:

- Completed NCR's, as applicable
- Completed Fabrication Traveler (including weld maps and weld inspection records)
- Inspection and test reports
- Certified Material Test Reports
- Certificate of Conformance [for assemblies and materials that do not have Certified Material Test Reports]
- Redline Process documentation including log and marked up drawings/documents
- Dimensional inspection report(s) and Final As-Built

## **8.0 DELIVERABLES, PROJECT CONTROLS, MILESTONES, AND PERFORMANCE SCHEDULE REQUIREMENTS**

### **8.1 Deliverables**

The Contractor shall deliver fully functional systems that have been designed, fabricated, tested, and accepted by CHPRC. The system includes, but is not limited to, control systems, mounts, applicable software, carriage assembly/assemblies, installation tools and equipment, and electrical interfaces.

The Contractor does not need to provide H-3 formatted drawings. The Contractor needs to provide a complete set of red-line incorporated shop fabrication drawings that are not proprietary. These drawings shall be provided as AutoCAD files that are compatible with Version 2014.

The Contractor shall deliver all material as part of this work scope. Delivery location for the equipment outlined in this SOW is the 300 Area of the Hanford Site, approximately 10 miles north of Richland, Washington.

For delivery on the Hanford site using a commercial motor vehicle the contractor must meet all of the Department of Transportation requirements if the Federal Motor Carrier Regulations parts 40, 382,383,387 and 390-397.

### **8.2 Project Controls**

The Contractor shall submit a onetime baseline schedule 5 days after award that reflects the actual award date. Subsequent schedules shall be provided a minimum of 24 hours in advance of the weekly meetings for the duration of the Contract. The schedule should be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the contract period of performance. Identify critical path activities, including logical sequence and relationship of activities for engineering, design, submittals, procurement, fabrication, inspection, testing, and delivery for work covered by this Contract. The schedule shall include the following data elements:

- Activity ID
- Activity Description
- Original Duration
- Remaining Duration
- Start
- Finish
- % Complete
- Total Float
- Predecessor
- Successor
- Activity Budget

The Contractor shall provide a detailed fabrication schedule. The schedule shall include as a minimum the following contents for each of the above Tasks and Sub-Tasks:

- Schedule shall include the original baseline Start and Finish dates vs. the project Start and Finish dates
- Fabrication Traveler
- Prefabrication submittals
- Material Order and Receipts
- Fabricate Assembly or Unit (should be provided in some level of progress steps)
- Any special processes not defined above (e.g., heat treatment, machining)
- Factory Acceptance Test

- Package and Prepare for Shipment
- Approved Final Data Package
- CHPRC review time for submittals
- Delivery to CHPRC.

### **8.3 Performance Schedule**

This contract shall be effective from time of award through final acceptance of deliverables. Equipment shall be delivered no later than 7/10/2018.

### **8.4 Equipment Storage**

The Buyer may wish to temporarily store the fabricated equipment at the Contractors Facility after equipment fabrication. This would be handled as a change to the contract via the change order process.

If CHPRC requests storage, mechanical equipment shall be stored with covered overhead and sufficiently protected from rain and snow. All electrical equipment shall be stored in a controlled environment to preclude extreme temperatures, moisture and windblown debris (temperature control to 30°F to 90°F).

The Contractor should assume that equipment acceptance will remain the same as if the equipment was not stored and that any storage cost would only commence after the date for scheduled delivery.

The Contractor shall meet the required schedule and provide the documents specified in accordance with the following submittals.

Contract Number:					Revision: A			
1. No.	2. Type, and Number of Copies	3. Technical Submittal	4. Vendor Information	5. Description / Document Title	6. Submittal Date CD-Calendar Days WD Work Days	7. Approver Organization	8. CHPRC Review Time (WD)	9. Contract Paragraph or Requirement Reference
<b>100- PROJECT CONTROLS</b>								
101	APW PDF/N	Yes	No	Baseline Schedule	A+ 5 WD	PC	8	8.2
<b>200 – PROCUREMENTS</b>								
201	AP PDF/N	No	No	Long Lead Procurements List	PW	Eng.	8	3.1
<b>300- QUALITY</b>								
306	APW PDF/N	Yes	No	Fabrication/Inspection/Test Plan (Task-1)	PF	Eng.	8	3.1, 6.3.1
308	AP/PDF	Yes	No	Supplier Use of Commercial-Off-The-Shelf Software	Z	QA	4	6.3.2
309	AP/PDF	Yes	No	Source Inspection	Z	QA	4	6.3.3
313	AP/PDF	Yes	No	Nonconformance Documentation and Reporting	Z	QA	8	6.3.4
314	APW/PDF	Yes	No	Certified Weld Inspector Documentation – (CWI)	PF (-8WD)	SME	8	6.3.5
315	APW/PDF	Yes	No	Welding Procedure Specification (WPS)	PF (-8WD)	SME	8	6.3.6
316	APW/ PDF	Yes	No	Welding Procedure Qualification Records (PQR) - To be submitted separately for each qualified PQR	PF (-8WD)	SME	8	6.3.6



Contract Number:					Revision: A			
1. No.	2. Type, and Number of Copies	3. Technical Submittal	4. Vendor Information	5. Description / Document Title	6. Submittal Date CD-Calendar Days WD Work Days	7. Approver Organization	8. CHPRC Review Time (WD)	9. Contract Paragraph or Requirement Reference
317	APW/PDF	Yes	No	Welding Performance Qualification Records (WPQR) - To be submitted for each qualified welder	PF (-8WD)	SME	8	6.3.6
318	AW/PDF	Yes	No	NDE Qualification and Certification Procedures (Employer's written practice)	PF (-8WD)	SME	8	6.3.7
319	APW/PDF	Yes	No	NDE Procedures and Personnel Qualification Records - To be submitted separately for each NDE method and qualified inspector respectively	PF (-8WD)	SME	8	6.3.7
322	AP/PDF	Yes	No	Identification of Items	Z	QA	4	6.3.8
323	AP/PDF	Yes	No	Identification and Traceability of Items	Z	QA	4	6.3.9
324	AP/PDF	Yes	No	Identification of aged controlled items	Z	QA	4	6.3.10
326	AP/PDF	Yes	Yes	Certified Material Test Report (CMTR's)	Z	Eng.	4	6.3.11
327	AP/PDF	Yes	No	Inspection and Test Reports	Z	QA	4	3.1, 6.3.12
332	AP/PDF	Yes	No	Nationally Recognized Testing Laboratory (NRTL) Listed or Labeled	Z	QA	4	6.3.13
336	AP/PDF	Yes	No	Control of Graded Fasteners	Z	QA	4	6.3.14



Contract Number:					Revision: A			
1. No.	2. Type, and Number of Copies	3. Technical Submittal	4. Vendor Information	5. Description / Document Title	6. Submittal Date CD-Calendar Days WD Work Days	7. Approver Organization	8. CHPRC Review Time (WD)	9. Contract Paragraph or Requirement Reference
337	AP/PDF	Yes	No	Procurement of Potentially Suspect or Counterfeit Items	U	QA.	4	6.3.15
338	AP/PDF	Yes	No	Certificate of Conformance (COC)	Z	QA	4	6.3.16
340	AP/PDF	Yes	No	Recommended Spare Parts List	PS	Eng.	4	6.3.17
343	AP/PDF	Yes	No	Packaging and Shipping Procedure	PS (-8) WD	Eng.	4	6.3.18
345	AP/PDF	Yes	No	Change Control Process (Redline Drawing Procedure)	PF	Eng.	4	4.5
346	AP/PDF	Yes	No	Final Data Package	PS	Eng.	8	7.3
<b>400-ENGINEERING/DESIGN</b>								
401	AP PDF/N	Yes	No	System Design, Drawings, Product Data and Supporting Analysis	A + 30 CD	Eng.	8	3.0
403	AP/PDF	Yes	No	Final drawing redlines for incorporation by CHPRC	With Final Data package	Eng.	8	8.1
404	AP PDF/N	Yes	No	Final As-Built	With Final Data Package	Eng.	8	7.3
405	AP/PDF	No	Yes	Operation and Maintenance Manual and Trouble-shooting Guide	PS	Eng.	4	6.5
<b>500-OTHER TECHNICAL SUBMITTALS</b>								
501	AP PDF/N	Yes	No	Factory Acceptance Test Procedure	PT (-) 8 WD	Eng.	4	3.1,6.3.12

Contract Number:					Revision: A			
1. No.	2. Type, and Number of Copies	3. Technical Submittal	4. Vendor Information	5. Description / Document Title	6. Submittal Date CD-Calendar Days WD Work Days	7. Approver Organization	8. CHPRC Review Time (WD)	9. Contract Paragraph or Requirement Reference
502	AP PDF/N	Yes	No	Factory Acceptance Test Report	PS	Eng.	8	3.1,6.3.12
<b>600 – OTHER ADMINISTRATIVE PROCEDURES</b>								

- Typically a numerical sequence (i.e., 1, 2, 3,...). However, other numbering systems may also be used. Skipped numbers indicate submittals are not applicable.
- Submittal type, number of copies and format:

Submittal Type		Format	
<b>APW</b>	Approval Required Prior to Work (CHPRC must approve the Contractor's submittal prior to the Contractor being authorized to proceed with any activity/work associated with the submittal).	<b>N</b>	Native File (An AutoCAD drawing*, SolidWorks, MathCad, Word, Excel, Power Point, Primavera, Project, etc.)
<b>AP</b>	Approval Required (CHPRC must approve the Contractor's submittal; however, work associated with the submittal may proceed prior to CHPRC approval).	<b>PDF</b>	Adobe Acrobat (Portable Document Format)
		<b>GEN</b>	General or Open Format/Media
		<b>H#</b>	Hardcopy reproducible to three (3) times

\* using the Hanford standard formatting (See CHPRC-00263, *Off-Site Vendor Instructions for the Preparation and Control of Engineering Drawing*)

- Technical submittals are Engineering or Quality affecting submittals. A Yes in this column designates the need for formalized comments, and a formalized comment disposition process by the Contractor. Examples of Technical Submittals would include Engineering or Fabrication Drawings, or Certificates of Conformance.
- Vendor Information for project record purposes.
- Description / Document Title. Describe submittal.
- Required submittal date or its relationship to project milestones. CD = Calendar Days. WD = Work Days. Example: are Award (A) + 15 CD

<b>A</b> Date of Award	<b>PT</b> Prior to Testing	<b>U</b> Prior to Use
<b>NTP</b> Notice to Proceed	<b>Z</b> As Required	<b>FD</b> Final Design Complete
<b>CD</b> Conceptual Design Complete	<b>PP</b> Prior to Purchase	<b>EC</b> End of Contract
<b>PD</b> Preliminary Design Complete	<b>PF</b> Prior to Fabrication	<b>SC</b> Per S/C Schedule
<b>PW</b> Prior to Commencing Work	<b>PS</b> Prior to Shipment	

- Approver Organization. Examples:

<b>BTR</b> Buyer Technical Representative	<b>PR</b> Procurement	<b>RC</b> RadCon
<b>ENV</b> Environmental Compliance/EPL	<b>QA</b> Quality Assurance	<b>SH</b> Safety & Health
<b>ENG</b> Engineering Services	<b>IH</b> Industrial Hygiene	<b>SME</b> Subject Matter Expert
<b>FP</b> Fire Protection	<b>PC</b> Project Controls	<b>WM</b> Waste Management

- The number of Work Days required for review of the submittal.
- Contract Reference: Cross reference to the Contract requirement that defines this submittal.

**NOTE: SKIPPED NUMBERS OR "N/As" INDICATE RESERVED SUBMITTAL NUMBERS NOT APPLICABLE TO THIS CONTRACT**