



Statement of Work (SOW)
Ventilated Modular Wet Cleaning Bench
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CHANGE HISTORY

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00	Initial Issue	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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1. INTRODUCTION

UT-Battelle, LLC (the Company), is the Management & Operations contractor for the Oak Ridge National Laboratory (ORNL) located in Oak Ridge, TN. In support of a Department of Energy (DOE) funded project, the company is currently constructing a new facility and to expedite production capabilities within the facility, the company is procuring the necessary components in parallel with facility construction.

2. SCOPE

The scope of this Statement of Work (SOW) includes design, material procurement, fabrication, assembly, assembly and installation instructions, inspection, testing, and delivery of one (1) Ventilated Modular Wet Cleaning Bench. The required delivery schedule will be finalized at time of purchase order award, however when this document was issued, the estimated delivery required was March of 2026.

The Ventilated Modular Wet Cleaning Bench has been conceptualized by the Company to accept certain Company owned equipment and to fit within a designated space in the facility, utilizing the Company's facility exhaust system for generation of the exhaust flow. An integrated or additional exhaust fan is not envisioned to be required. The Ventilated Modular Wet Cleaning Bench functions as both a multiple side-access fume hood similar to an Instructional Fume Hood and a Wet Cleaning Bench for cleaning parts and equipment. It will consist of base cabinets, a work surface capable of supporting equipment to be cleaned, a liquid rinse collection and drain system employing 5 gallon carboys in the base cabinets, a ventilation enclosure that functions like a fume hood with vertical and horizontal split sash enabling work access on four sides, lights, 120V 60Hz electrical outlets, compressed air/inert gas outlets, process water fixtures, exhaust flow alarm capability, overhead exhaust connection(s) and a shroud. The equipment specification, conceptual drawings & conceptual 3D CAD models outline physical & functional requirements of the assembly, defines the process for refining the final design, and identifies minimum required verification tests. Seller shall also be responsible for complying with listed codes & standards as well as codes and standards normally required for this type of equipment but not identified by the Company and providing any ancillary items necessary to successfully complete required inspections & tests (e.g., external exhaust ventilation source for testing, etc).

Items and work not included in this scope: installation at Company facility.

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3. REFERENCES, ACRONYMS AND APPLICABLE DOCUMENTS

3.1 References

Codes & Standards:

- Applicable OSHA Standards and Regulations
- National Electric Code NFPA No 70-2020
- AWS Structural Welding Code - Steel AWS D1.1/D1.1M:2020
- AWS Structural Welding Code - Stainless Steel AWS D1.6/D1.6M:2017
- ASME Section IX -2021 Welding, Brazing and Fusing Qualifications
- ASNT SNT-TC-1A Personnel Qualification and Certification in Nondestructive Testing
- ANSI/ASHRAE 110-1985 Standard for Testing Performance of Fume Hoods
- ANSI/ASHRAE III Testing and Balancing
 - ASHRAE 110 Test Compliant “As Manufactured” and “As Installed”
- ASTM E84 Standard Test Method for Surface Burning Characteristics of Building Materials
 - ANSI/ASSP Z9.5-2022, Laboratory Ventilation
 - NFPA 45, Standard on Fire Protection for Laboratories Using Chemicals
 - UL 19805, Laboratory Hoods and Cabinets
 - UL 723, Test for Surface Burning Characteristics of Building Materials

3.2 Acronyms & Definitions

ASHRAE	American Society of Heating, Refrigeration, and Air-Conditioning Engineers
ASME	American Society of Mechanical Engineers
ASNT	American Society for Nondestructive Testing
ASSP	American Society of Safety Professionals
ASTM	American Society for Testing and Materials
AWS	American Welding Society
BOM	Bill of Material
Company	UT-Battelle, LLC
COTS	Commercial, Off-The-Shelf
CRN	Contractor Release Note
DOE	Department of Energy
GS	General Project Specification
IP	Installation Plan
MIP	Manufacturing and Inspection Plan
NDE	Non-Destructive Examination
NEC	National Electric Code
NFPA	National Fire Protection Association
NRTL	Nationally Recognized Testing Laboratory
ORNL	Oak Ridge National Laboratory
PO	Procurement Officer
POC	Point of Contact

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PQR	Procedure Qualification Record
QA	Quality Assurance
Seller	Provider of Goods or Services under this Contract (includes Seller contracted sub-suppliers)
SOW	Statement of Work
TPO	Technical Project Officer
TS	Technical/Equipment Specification
UL	Underwriter Laboratories
WHMA	Wiring Harness Manufacturer's Association
WPS	Welding Procedure Specification

3.3 Applicable Documents

- EX-05-ES00115 – Technical Specification - Ventilated Modular Wet Cleaning Bench
- EX-00-ES00086 – General Project Specification
- SE-02-00310.pdf – Ventilated Modular Wet Cleaning Bench-Drawings and Schematics (PDF binder of all drawings and schematics)
- SE-02-00310.sldprt – Ventilated Modular Wet Cleaning Bench Solidworks 3D Model
- Appendix A, Document Submittal Schedule

4. PERFORMANCE REQUIREMENTS

4.1 Work Tasks

4.1.1 General

Seller shall use the Company provided conceptual design drawings, model and Specification to create a working design and fabrication/shop drawings as required for manufacturability of the Ventilated Modular Wet Cleaning Bench. All documentation submittals identified as required prior to fabrication by Appendix A must be provided by the Seller and receive written approval by the Company prior to start of any fabrication activities unless a deviation has been approved (see Section 5.3). Approvals will generally be provided by the Company to the Seller within 1 to 2 weeks, depending upon the complexity of the request.

The Seller shall also obtain separate, written approval of any deviations to the Sellers final design which was approved by the Company per Section 5.3 of this SOW before proceeding with such deviations. Approval of a design document does not constitute approval of a deviation and does not relieve Seller of meeting a design requirement.

The Company is the owner of all designs, documentation, and electronic models produced for this project. This design cannot be fabricated or sold to third parties without written authorization.

4.1.2 Work Task 1: Evaluation of Conceptual Design of the Ventilated Modular Wet Cleaning Bench

Seller shall evaluate the Company's conceptual design of the Ventilated Modular Wet Cleaning Bench in the TS, drawings and models to include conformance with relevant standards and codes.

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4.1.3 Work Task 2: Propose Design of the Ventilated Modular Wet Cleaning Bench

The Seller shall propose an overall design including scope and function based on the Company's conceptual design and required modifications based on Work Task 1 and obtain written approval from the Company prior to progressing to Work Task 3.

4.1.4 Work Task 3: Final Design of the Ventilated Modular Wet Cleaning Bench

Seller shall develop a final design of the Ventilated Modular Wet Cleaning Bench based on the agreed upon scope and function developed in Work Task 2. Seller shall obtain written approval from the Company prior to progressing to Work Task 4.

4.1.5 Work Task 4: Procure, Fabricate and Test Ventilated Modular Wet Cleaning Bench

- 4.1.5.1 After approval by the Company of the design provided in Work Task 3, Seller shall procure all materials and components necessary to complete the design, fabrication, assembly and testing of the Ventilated Modular Wet Cleaning Bench and provide a fully functional system. Seller is also responsible for procuring all items and services needed to fully inspect and test the assembly per specification requirements. Seller shall also ensure all requirements set forth in this contract are passed down to all sub-suppliers and is responsible for obtaining the necessary information, supplying required documentation to the Company for approval, and requesting approval for any deviations to sub-supplier items. All components must be new, unused, and traceable to the original equipment manufacturer to reduce risk of suspect/counterfeit items.
- 4.1.5.2 Fabrication shall include base cabinets, a work surface capable of supporting equipment to be cleaned, a liquid rinse collection and drain system employing 5 gallon carboys in the base cabinets, a ventilation enclosure that functions like a fume hood with vertical and horizontal split sash enabling work access on four sides, lights, 120V 60Hz electrical outlets, compressed air/inert gas outlets, process water fixtures, exhaust flow alarm capability, overhead exhaust connection(s) and an upper shroud.
- 4.1.5.3 All equipment provided by the Seller shall conform to applicable Occupational, Safety, and Health (OSHA) and National Electrical Code (NEC) regulation which are in force at the time the contract is signed.
- 4.1.5.4 The Seller shall perform a Factory Acceptance Test that demonstrates all functionality of the equipment to include, but limited to, flow stream/ventilation performance, low sash flow velocity alarm, sash operation, lighting, electrical circuits, and fluid circuit integrity.
- 4.1.5.5 Equipment must have a NRTL certification to U.S. standards. It will be Seller's responsibility to coordinate with vendors to perform NRTL inspection/testing or coordinate Field Evaluations prior to final acceptance and delivery.
- 4.1.5.6 All welding and weld inspections shall be performed per applicable standards listed in Sec 3.0 of the GS and/or Section 2.0 of the TS. All welders/operators and weld inspectors shall be certified for weld type, materials, sizes, and standards being applied and qualifications must be provided to, and approved by, the Company prior to performing any welds. Documentation requirements to support welding operations are defined in the GS, & Appendix A (Submittal Schedule).

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- 4.1.5.7 Electrical equipment, cables, etc. shall be protected from exposure to weather and moisture throughout the duration of fabrication, assembly and shipping. Fluid tubing and fittings shall be shipped and stored with end caps in place.
- 4.1.5.8 Periodic inspection and review of fabrication, partial assembly and the Factory Acceptance Test(s) shall be available for participation by Company representatives. Photo and video reviews of progress and tests may also be requested.

4.1.6 Work Task 5: Post Fabrication Design Changes of the Modular Wet Cleaning Bench

If substantial design changes affecting the use, accessibility, specifications, footprint, useable interior space, etc. are required due to issues discovered in the fabrication and/or testing of the Ventilated Modular Wet Cleaning Bench, the Seller shall notify the Company of the required changes and shall obtain written approval prior to incorporating the changes.

4.1.7 Work Task 6: Post Fabrication Documentation Package of the Modular Wet Cleaning Bench

The Seller shall develop the following documentation for supply to the Company:

- As-built design drawings
- As-built bill of materials list
- Installation and assembly instructions
- Maintenance/Operations Requirements

4.1.8 Work Task 7: Disassembly, Packaging and Shipment of the Modular Wet Cleaning Bench

Upon successful testing and certification of the Modular Wet Cleaning Bench and Approval by the Company, the Seller shall disassemble, package and ship the system to the Company. Prior to shipment, the Seller shall provide a shipping plan to the Company for Approval. See Section 6.2 for specific requirements.

4.2 Project Management

Seller shall also comply with the Project Management requirements defined in GS, Section 6.0.

4.2.1 Project Pricing

Project pricing will be fixed-price and will be based on Delivery-At-Place (DAP) Oak Ridge, TN. The Seller is thus responsible for all shipment coordination, cost, and liability to the delivery destination of the Company.

4.3 Data Management

Seller shall also comply with Data Management requirements defined in GS, Section 7.0

4.3.1 Documentation

All documentation associated with this contract that is under the control of the Seller will become the property of and must be made available to the Company as requested. Documentation shall be provided to the Company for the Ventilated Modular Wet Cleaning Bench as identified in TS & GS and defined in Appendix A, Submittal Schedule. Approval is required to deviate from the submittal schedule. This schedule also defines the timeline for documentation submittal, identifies documents that require approval, required format, technical specification references, and indicates what documentation is required to be included with shipment.

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5. QUALITY ASSURANCE

Seller shall also comply with Quality Assurance requirements defined in GS, Section 5.0

5.1 Process Monitoring

- 5.1.1 The Seller shall prepare a Manufacturing and Inspection Plan (MIP) to include procedures, plans and schedules that will be executed to accomplish the design, fabrication, Factory Acceptance Testing and shipping of the equipment by the contractual date. Documentation required to support Seller activities will be defined in the TS, GS and in Appendix A, Submittal Schedule. Plans and schedules must be approved by the Company prior to the activity occurring.
- 5.1.2 The MIP shall include and indicate in-house work as well as outsourced work.
- 5.1.3 Manufacturing may not begin until notice is received that the MIP has been approved by the Company. The requirement for a MIP shall be flowed down contractually from the Seller to the Seller's suppliers and subcontractors unless the requirement is waived in writing on a case-by-case basis by the Company.
- 5.1.4 Inspections & tests may require individuals to be certified for the specific activity per the TS, GS, codes or regulations. Results of all inspections and tests including Factory Acceptance Tests are required to be submitted to the Company prior to shipment.

5.2 Access for Source Surveillance Inspections

As part of the Company's quality assurance program, source surveillance activities may be conducted at the Seller's facility or any sub-tier seller facility that the Company determines necessary to ensure quality objectives are met. See section 5.1 of GS for additional information.

5.3 Seller-Requested Deviations

The Seller may propose deviations from the specifications, drawings, or other technical requirements from this procurement. See section 5.2 of the GS for additional information on how to request a deviation.

5.4 Non-Conformances

The Seller shall report nonconformance per the requirements in GS, section 5.3 and using Form ORNL-311.

5.5 Contractor Release Note

Prior to shipment and delivery, the Seller shall submit a Contractor Release Note per the requirements identified in GS Section 8.10. The equipment will not be released for shipment until the CRN has been submitted to and approved by the Company.

6. DELIVERABLES

The Seller shall prepare the following deliverables and submit them to the TPO and the PO in a timeframe and manner that supports the approved schedule for the tasks.

6.1 Documentation

Required documentation is summarized in Appendix A, Submittal Schedule with additional guidance contained in the TS & GS.

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6.2 Packaging, Shipping, Storage and Delivery

Additional requirements are presented in the GS and the TS.

6.2.1 Transportation

The Seller is responsible for packaging, storage, loading of the equipment, and shipment of all items covered by this scope of work. General shipping and packaging information can be found in the GS, while specific shipping configurations for the items within this scope of work is located in the TS.

Equipment shall be shipped by soft ride conventional enclosed motor freight. The Seller shall package and skid mount equipment in a manner that facilitates movement, loading, and unloading with a fork truck. The equipment shall be shipped in shock-resistant packaging as appropriate. Instructions for handling upon receipt by the Company shall be provided by the Seller.

6.2.2 Storage and Delivery

The Seller shall store the finished Ventilated Modular Wet Cleaning Bench per the requirements presented in the GS, Section 13.0. The Company, at its discretion, may require the Seller to postpone the date of shipment by up to 60 days from the agreed upon date of shipment and the Seller shall, at no additional cost, store finished products in a safe and secure manner that protects their condition and preserves the integrity of all components and packaging. If shipment is delayed and storage is required beyond 60 days, Seller agrees to good faith negotiation of extended storage terms.

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Appendix A: Document Submittal Schedule

PO #				PO Description: Ventilated Modular Wet Cleaning Bench			
Supplier							
Doc # Reference	Section Reference	Document Type/Title	Submittal Schedule	Format	Approval Req'd to Proceed	Hard copy to be included w/ shipment	Notes:
EX-00-ES00086	6.1	Project Plan	30 calendar days after award	Electronic	No	No	
EX-00-ES00086	6.2	Project Schedule	Monthly	Electronic	No	No	
EX-05-ES00116	4.1.3	Design Proposal	30 calendar days after award	Electronic	Yes	No	
EX-05-ES00116 EX-00-ES00086	5.1 5.4, 8.9	Manufacturing and Inspection Plan	Prior to Fabrication	Electronic	Yes	No	
EX-05-ES00116 EX-00-ES00086	4.1.4 14.0	Final Design	Prior to Procurement / Fabrication	Electronic	Yes	Yes	Final Design documentation shall include both drawings and complete Bill of Materials list
EX-05-ES00116 EX-00-ES00086	4.1.5.6 8.6, 10.5	Welding Documentation	Prior to Use / Prior to Shipment	Electronic	Yes	No	Procedures, Specs, Records required prior to use Post-Weld reports required prior to shipment

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EX-05-ES00116	5.1.4	Specialized Staff and Subcontractor Certifications	Prior to Fabrication	Electronic	Yes	No	e.g. NDE certification, Testing and Balancing, NRTL
EX-05-ES00116 EX-00-ES00086	4.1.8, 6.2 8.7, 13.0	Shipping / Packaging Plan	Prior to Use	Electronic	Yes	No	
EX-05-ES00116 EX-00-ES00086	4.1.5.4, 5.1.4 12.0	Factory Acceptance Test Results	Prior to Shipment	Electronic	Yes	No	Full functionality test
EX-05-ES00116 EX-00-ES00086	4.1.5.5 10.1	NRTL Certification	Prior to Shipment	Electronic	Yes	No	Includes all electrical equipment and field evaluations (as needed)
EX-05-ES00116	4.1.7	Finished As-Built Drawings / Bill of Materials List	Prior to Shipment	Electronic	Yes	No	As-Built documentation shall include both drawings and complete Bill of Materials list
EX-05-ES00116 EX-00-ES00086	5.5 8.10	Contractor Release Note	Prior to Shipment	Electronic	Yes	No	
EX-05-ES00116 EX-00-ES00086	4.1.7 8.8, 14.0	Installation and Assembly Instructions - Operations/Maintenance Requirements	Prior To Shipment	Electronic	No	Yes	
EX-05-ES00116 EX-00-ES00086	4.1.1, 4.1.6 5.3, 5.4 5.2, 5.3	Final Design - Deviations and Non-Conformances	As Needed	Electronic	Yes	No	Changes to final design to meet FAT, codes, and regulations

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Appendix A: Document Submittal Schedule (cont.)

Notes:

1. One document submittal may satisfy multiple documents listed above. Indicate on each submittal what category it is intended to satisfy.
2. Document # and Section Reference is the location(s) that discuss the document and can provide additional information regarding the requirement and/or expectation.
3. Submittal Schedule provides the required timeframe when that document is expected. This can be expressed as a # of days after award, or prior to an activity. For documents that need approval to proceed, it is recommended these documents be provided at least 30 calendar days ahead of the need date to ensure the approval process does not negatively impact Supplier schedule.
4. Deviations to this submittal schedule shall be approved by the Company. All requested documentation shall be submitted and given a Code 1 or 4 status before release for shipment can occur. Exceptions may be granted on a case-by-case basis and will be noted on the CRN.
5. For additional guidance regarding documentation submittals, see EX-00-ES00086, Section 7.6.