



**STATEMENT OF WORK
FOR
CONSTRUCTION**

Requisition #: 366140

CWC Fire Sprinklers Design/Build Selected Buildings

Revision Number: 0

Date: 5/25/23

Rev.	Date	Description
0	5/25/23	Initial issue for RFP -

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SECTION 01010 SUMMARY OF WORK

PART 1 – GENERAL

1.1 INTRODUCTION / BACKGROUND

Central Plateau Cleanup Company (CPCco, or Buyer) is a prime contractor to the Department of Energy (DOE). This work scope is in support of the Central Waste Complex (CWC) and provides direction for the engineering design of replacement dry pipe fire sprinkler systems at buildings 2402WE, 2402WF, 2402WG, 2402WH, 2402WI, and 2402WJ, which are located in the 200 West Area of the DOE Hanford Site.

Additionally, this statement of work (SOW) provides direction for an OPTIONAL task for demolition of existing systems, and procurement, NQA-1 Commercial Grade Dedication (CGD), and construction of the newly designed fire suppression systems.

The dry pipe risers, including the dry pipe valve, associated check valves, fire department connections, air compressors, and other associated riser appertuances were all designed and replaced in 2023. However, none of the overhead piping - extending from the top of the dry pipe valve extending up through the cross mains, feed mains, and branch lines throughout the building - were replaced during this iteration. Inspection of this piping revealed extensive corrosion and debris within the piping.

This Contract is for an NFPA 13 compliant design (Task 1) of buildings 2402WE, 2402WF, 2402WG, 2402WH, 2402WI, and 2402WJ, and:

(Optional Task 2) procurement, Commercial Grade Dedication (CGD), installation, and testing of the overhead sprinkler piping and supports in buildings 2402WE, 2402WH, and 2402WI, and:

(Optional Task 3) procurement, CGD, installation, and testing) of the overhead sprinkler piping and supports in buildings 2402WF, 2402WG, and 2402WJ.

In accordance with the facility fire protection drawings, HNF-36174, *Hanford Fire Protection Design Requirements*, and these Contract documents, the Contractor shall provide a complete and compliant NFPA 13 fire protection piping design from the top of the dry pipe valve and extending up into the ceiling area and encompassing all main and branch lines, to include the inspector test valve, any required auxillary drain valves, and corrosion inspection manifolds.

ASME NQA-1 Applicability:

Work performed under Task 1 (Design work) will require the design work to be performed by, or have oversight from, a design firm who is on the Hanford Evaluated Supplier List (ESL) for category (D) Design activities. The NQA-1 design contractor is responsible for “flow-down” or “subcontractor control” of all related NQA-1 requirements to sub-tier contractors.

Work performed under Task 2 and 3 (Construction) will require the construction activities be performed by, or have oversight from, a contractor who is on the Hanford Evaluated Supplier List for category (C) Construction activities. The NQA-1 construction contractor is responsible for “flow-down” or “subcontractor control” of all related NQA-1 requirements to sub-tier contractors.

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For the Purposes of this Statement of work:

TASK 1 is the **DESIGN WORK** for the 6 CWC buildings and all related activities to develop design documents and associated calculations. This task is considered the base scope of this project. Design work includes the development and approval of design drawings and all associated calculations.

TASK 2 is the **CONSTRUCTION WORK** for buildings 2402WE, 2402WH, and 2402WI. This work includes training of personnel, mobilization to the Hanford site, dismantling the existing systems, procurement of material, commercial grade dedication of the material, and installation and testing the designed systems, and performance of other construction associated activities. Task 2 is OPTIONAL work and BUYER is in no way obligated to award/execute this task. However CONTRACTOR must have the ability to perform Task 2 activities in order to be considered for Task 1 contract award. This work, if awarded, shall be commenced and completed no later than September 1, 2024.

TASK 3 is the **CONSTRUCTION WORK** for buildings 2402WF, 2402WG, and 2402WJ. This work includes training of personnel, mobilization to the Hanford site, dismantling the existing systems, procurement of material, commercial grade dedication of the material, and installation and testing the designed systems, and performance of other construction associated activities. Task 3 is OPTIONAL work and BUYER is in no way obligated to award/execute this task. However CONTRACTOR must have the ability to perform Task 3 activities in order to be considered for Task 1 contract award. This work, if awarded, shall be commenced and completed upon a date to be agreed upon with the Buyer.

In support of TASK 1, the Contractor shall:

- Provide evidence of
 - “State of Washington State Department of Labor and Industries (L&I) license and endorsements as a Fire Protection System Contractor and certification recognized within the State of Washington for fire protection subcontractors,
 - NICET Level III (minimum) qualification OR Registered Fire Protection Engineer license of design supervising employee(s)
 - Other evidence as documented in the submittals section of this Statement of Work
- Submit the design and associated design drawings and calculations as required by this Statement of Work.

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In support of TASK 2 (Optional) and TASK 3 (Optional), the Contractor shall:

- Procure major equipment as defined in this statement of work and perform Commercial Grade Dedication.
- Ensure training and medical evaluation of field crews are completed.
- Submit the submittals required by this statement of work.
- Provide workforce planning.
- Participate in work package development
- Provide workforce Supervision.
- Dismantle and remove existing fire protection system, Install new fire protection system, inspect/test/commission system, provide turnover, and demobilize.

Note: No radiological contamination, asbestos, respirable crystalline silica, hexavalent chromium is expected within this work scope. However, it is anticipated that Work performed under this SOW will require a Radiological Work Permit (RWP) to monitor dose from waste packages near the work site.

And perform other activities as specified in this Statement of work.

With proposal, Contractor should submit:

- Proposed Schedule, high level schedule including key activities for all tasks associated with this SOW. Task 1 and 2 **MUST** be completed no later than Sep 1, 2024. Task 3, if awarded must also be completed no later than Sep 1, 2024.
- Resumes of Key Project Personnel, (See Section 01150)
- Contractors proposed execution strategy – including subcontracting plan for lower-tier subcontractors. Execution strategy should state who is responsible for NQA-1 flow down and NQA-1 quality subcontract control for both category ‘C’ and ‘D’ activities.
- Contractor License, Personnel Qualifications (if available at time of proposal – Contractor may submit personnel qualifications later if necessary)
- Resume of Similar projects (See Section 01010, 1.5.1)
- Other submittals noted as due with proposal in submittal register.

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1.2 DEFINITIONS

- AHJ - Authority Having Jurisdiction: Any reference in the specifications or applicable codes to the "authority having jurisdiction" shall be interpreted to mean the CPCCo Deputy Fire Marshal.
- ASME - American Society of Mechanical Engineers
- ASTM - American Society of Testing and Materials
- AWS - American Welding Society
- BTR - Buyer's Technical Representative
- Buyer - Central Plateau Cleanup Company (CPCCo), acting as managing and operating contractor on behalf of the U.S. Department of Energy (DOE)
- Contractor - The successful bidder and qualified fire protection installer
- COTR - Contracting Officer Technical Representative
- CPCCo - Central Plateau Cleanup Company
- DOE - U.S. Department of Energy
- DFM – Deputy Fire Marshal
- FM - FM Global (Factory Mutual)
- FPE - Fire Protection Engineer
- Furnish - To supply the stated equipment or materials
- Impairment - A condition where a fire protection system or portion thereof is out of service, and the condition can result in the fire protection system or unit not functioning in a fire event. Impairments include but are not limited to the interruption of water supply, frozen or ruptured piping, and equipment failure.
- Install - To set in position and connect or adjust for use
- NFPA: National Fire Protection Association
- NRTL – Nationally Recognized Testing Laboratory
- NICET - National Institute for Certification in Engineering Technologies
- PDF – portable document format
- PE - Professional Engineer
- psi - pounds per square inch
- Provide - To furnish and install the stated equipment or materials
- Record Drawings - revised set of drawing submitted by a contractor upon completion of a project or a particular job. They reflect all changes made in the specifications and working drawings (shop drawings) during the construction process, and show the exact dimensions, geometry, and location of all elements of the work completed under the contract. Also called as-built drawings or just as-builts.

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- Shop Drawings - Detailed construction and fabrication drawings that show the proposed material, shape, size, and assembly of the parts and how the entire unit will be installed.
- UL: Underwriters Laboratories

1.3 DESCRIPTION OF WORK – GENERAL – TASK 1 (DESIGN WORK)

1.3.1 Work will be done in the principle/home offices of the Contractor. Visits to the site for walkdowns/information gathering will be coordinated with the BTR if required.

1.3.2 Work consists of providing 6 full and complete NFPA 13 compliant dry pipe sprinkler engineering designs and associated calculations for overhead piping for buildings 2402WE, 2402WF, 2402WG, 2402WH, 2402WI, and 2402WJ which are located at the CWC/WRAP facilities in the 200W area of the Hanford Site.

1.4 DESCRIPTION OF WORK – SPECIFIC – TASK 1 (DESIGN WORK)

1.4.1 Included Work: The following identifies major work elements only.

1.4.2 Provide and manage labor, and services required to develop and provide to Buyer 6 full and complete automatic dry-pipe sprinkler system designs for an NFPA 13, 2022 *Standard for the Design and Installation of Automatic Fire Sprinklers*, Ordinary Hazard Group 2 occupancy providing uniform distribution of water by hydraulic design to afford complete fire protection coverage throughout buildings 2402WE, 2402WF, 2402WG, 2402WH, 2402WI, and 2402WJ

1.4.3 Design (including hydraulic calculations) shall be prepared by a Washington State Certificate of Competency Holder NICET Level III or IV Technician (in automatic sprinkler system design) or a State of Washington Registered Professional Engineer (P.E.), licensed in Fire Protection Engineering. Qualifications of the designer must be submitted to Buyer for approval. The designer's NICET or P.E. stamp shall be present on each sheet of the working drawings

1.4.4 Design should include all overhead piping and associated appurtenances (sprinkler heads, Inspector Test Valves, etc.) from the TOP of the dry pipe valve, extending into the ceiling area and throughout the building. NOTE: Dry pipe risers were designed and replaced in 2023 and are not in the scope of this design. Design media for the dry pipe risers will be made available to the Contractor as necessary to aid in their own design activities.

1.4.5 Design the dry pipe sprinkler systems giving full consideration to obstructions, blind spaces, piping, electrical equipment, duct work and other construction and equipment in accordance with detailed drawings to be submitted for approval. Also consider future

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inspection and flushing of internal piping, as part of NFPA 25 inspection, testing and maintenance. Consider arrangement methods which reduce the potential of corrosion for potential low points in the system or remote areas which cannot be readily flushed.

- 1.4.6 Water Distribution: Design water density shall be uniform throughout the hydraulically most remote area that it is assumed the sprinkler heads will open.
- 1.4.7 Clearance from Electrical Equipment: Piping and automatic sprinklers are prohibited directly over electrical panels.
- 1.4.8 Fire sprinkler systems shall be designed for seismic protection in accordance with the requirements and recommendations of NFPA 13. NFPA 13 seismic calculations shall be provided to buyer for approval.
- 1.4.9 Location of Sprinklers: Sprinklers in relation to the ceiling and the spacing of sprinkler shall not exceed their listed area of coverage and shall be uniformly spaced on the branch piping. Locate sprinkler heads in a consistent pattern with roof structural members
- 1.4.10 Equipment, components, and assemblies for fire protection service shall be NRTL listed for use in dry pipe sprinkler systems.
- 1.4.11 Sprinkler Discharge Area: The design will utilize the criteria of NFPA 13 for Control Mode Density Area (CMDA), utilizing high temperature sprinklers with a K-factor of 8.0 or greater with sprinkler spacing in accordance with NFPA 13.
 1. Background: 2402 series building are identical in construction and utilize nearly identical fire systems with similar hydraulic characteristics. Because the original sprinkler design limited storage commodities and heights, an objective of Task 1 is to increase sprinkler density and operating area, per NFPA 13 to accommodate these greater fire challenges within the restrictions of the minimum available water supply.
 2. Design Consistency: To the extent practical, the Designer shall utilize a configuration which components, and assemblies that are identical to each other building designed within these Task 1 buildings to facilitate future inspection, testing, maintenance, and stocking of replacement parts.
 3. Design Density: The sprinkler discharge area shall be at a minimum density of 0.20 gpm/sq. ft. over the hydraulically most remote 1,950 sq. ft., which includes the increase for dry system, per NFPA 13. Remote area reductions permitted per NFPA 13 shall not apply. Calculation required for each of the 6 buildings
 4. Design Storage classification: NFPA 13, Section 21.2.2.2.1 New Systems for Storage Between 12 ft – 30 ft in Height permits for this level of protection:
 - Class I – IV commodity <12 ft high pile or shelf storage

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- Plastics A Commodity, <5 ft in piles, or <8 ft. in back-to-back shelving
5. Auxiliary Calculation A: An auxiliary hydraulic demand and water discharge calculation performed with a minimum density of 0.20 gpm/sq. ft. over the hydraulically most remote 2,600 sq. ft., which includes the increase for dry system, per NFPA 13. Calculation required for building 2402WE ONLY (bounding case)
This would support NFPA 13, Section 21.2.2.2.1 New Systems for Storage Between 12 ft – 30 ft in Height permits for this level of protection:
 - Class I – IV commodity 12-15 ft high pile or shelf storage
 - Plastics A Commodity, <5 ft in piles, or <8 ft. in back-to-back shelving
 6. Auxiliary Calculation B: An auxiliary hydraulic demand and water discharge calculation performed with a minimum density of 0.15 gpm/sq. ft. over the hydraulically most remote 1,950 sq. ft., which includes the increase for dry system, per NFPA 13.
This would support a comparison of the new system to the existing system's hydraulic demand. Calculation for building 2402WE ONLY (bounding case)
 7. The auxiliary calculations are for reference use and are not required to be satisfied by the available water supply.

1.4.12 Hose Allowances: System design shall include an allowance of 500 gpm for total combined inside and outside hose streams.

1.4.13 Hydraulic Calculations: Hydraulic calculations shall be in conformance with NFPA 13, HNF-36174, *Hanford Fire Protection Design Requirements*, and the following requirements:

1. Water Supply: Base hydraulic calculations on a static pressure of 109 psi with 1,300 gpm available at a residual pressure of 71 psi, effective at the water main. The lead-in pipes to these buildings are 4" diameter and up to 300 ft long. (Data from the June 6, 2021, 3WF hydrant flow test at the Central Waste Complex from the Sanitary water system with hydrant 2WF for residual pressure). A new test will be performed to support the final design.
2. Margin of Safety: The sprinkler system shall be hydraulically designed with a design margin of 10% additional flow rate, and a pressure demand at least 10 psi less than the available water supply at that adjusted flow rate.
3. Friction Losses: Calculate losses in piping shall be in accordance with the Hazen-Williams formula with "C" values as assigned by NFPA 13 or as

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provided from the manufacturer's listing or approval information for the pipe used.

4. Flow Velocity: Piping shall be sized so that the water flow velocity does not exceed 20 ft/sec (6.1 m/s) at any point in the system during maximum water flow. Flow velocity in each pipe segment is to be provided in the calculations.
5. Test Point: Calculations shall be brought back to the flow test point (refer to HNF-16788, *Solid Waste Operations Complex Facilities Sprinkler System Hydraulic Evaluation and Water Supply Analysis*)
6. Area of Coverage and Density: The area of coverage and density for each sprinkler shall be provided in the calculations.
7. Equivalent Lengths: The equivalent lengths for all types of fittings and valves used shall be provided.

1.4.14 Supply and Demand Graphs: A graph comparing the water supply and the hose stream demand for each remote area shall be provided. Pressure and flow values for the supply and demand curves are to be provided on N-1.85 graph paper.

1.4.15 Design the piping network to facilitate NFPA 25 5-year internal inspections and flushing, providing strategically located auxiliary drains, branch line and feed main end caps and/or valves to reduce the potential for dead-end debris accumulation and improve access for inspection and flushing.

1.4.16 Design system with a pipe arranged with a minimum pitch of ½ in. per 10 ft.

1.5 QUALIFICATION OF THE DESIGNER

1.5.1 With proposal, submit data for approval by Buyer, showing that the Contractor has successfully designed and installed automatic dry pipe fire extinguishing sprinkler systems of at least 200 sprinkler each, or there is a firm contractual agreement with a subcontractor having such required experience. The data shall include the names and locations of at least three (3) installations where the Contractor, or the subcontractor referred to above, has installed such fire sprinkler systems. The Contractor shall indicate the type and design of each fire sprinkler system and certify that each system has performed satisfactorily in the manner intended for a period of not less than 18 months.

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- 1.5.1.1 The designer shall be a Washington State Certificate of Competency Holder (NICET Level III or IV Technician) in automatic sprinkler system design or a state of Washington registered Professional Engineer (P.E.), licensed in Fire Protection Engineering. Qualifications of the designer must be submitted to Buyer for approval. The designer's NICET or P.E. stamp shall be present on each sheet of the working drawings.
- 1.5.1.2 Personnel shall be identified, and a copy of their license or certificate of competency provided to the Buyer prior to their start of work. Personnel shall hold their license or certificate of competency in good standing during performance of work.
- 1.5.1.3 The Contractor or subcontractor shall be licensed by the State of Washington as a Level 3 Fire Protection Sprinkler System Contractor. Provide Evidence to Buyer with proposal.
- 1.5.1.4 This work is QL-2/Safety Significant, therefore Contractor must be on the Hanford Site Evaluated Supplier List (ESL) for performance of category (D) design/engineering activities in accordance with NQA-1 or must be partnered with another organization who is authorized to perform NQA-1 engineering activities. Furthermore, if Task 2 is awarded, Contractor must be on the ESL for performance of category (C) construction activities or must be partnered with another organization who is authorized to perform NQA-1 construction activities. It is the responsibility of the NQA-1 qualified Contractor to flow down the applicable quality requirements to the non-NQA-1 entity.

1.6 NFPA STANDARD COMPLIANCE

- 1.6.1.1 Compliance with referenced NFPA codes and standards is mandatory unless specified otherwise. Applicable material and installation standards referenced in Annex A of NFPA 13 shall be considered mandatory the same as if such referenced standards were specifically listed in this specification.

1.7 FM AND NRTL COMPLIANCE

- 1.7.1 Comply with Factory Mutual "Approval Guide," and Loss Control Data Sheet 2-0.
- 1.7.2 Provide sprinkler piping, fittings, hangars, and devices with an NRTL listing.

1.8 EXCLUDED WORK:

- 1.8.1 Task 1:
 - 1.8.1.1 Construction of the Systems is not included in TASK 1. Procurement, Commercial Grade Dedication, Construction, and testing of the systems are TASK 2 and TASK 3 activities and is optional work to be awarded at the sole discretion of the Buyer.

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1.8.1.2 Dry Pipe Riser components were previously replaced in 2022-2023 are not part of the scope of this contract.

1.9 SUBMITTALS (TASK 1)

1.9.1 DRAWINGS

1.9.1.1 The Contractor shall submit electronic AutoCAD and portable document format (PDF) copies of shop drawings to the Buyer for review and approval. The design drawings shall bear the imprint stamp of the NICET Level III designer or Registered Fire Protection Engineer responsible for their preparation.

1.9.1.2 The location of sway bracing and flexible couplings shall be shown on all shop drawings submitted for approval in sufficient detail to verify their location, preferred arrangement, and conformance to NFPA 13. Provide drawings showing fire protection system hangers/supports/details.

1.9.1.3 Detail drawings shall conform to the requirements established for working plans as prescribed in NFPA 13. Drawings shall include plan and elevation views, which establish that the equipment will fit the allotted spaces with clearance for installation and maintenance.

1.9.1.4 The design must be reviewed, comments resolved, and approved by the Buyer and shall comply with NFPA 13 and FM Approval Guide requirements.

1.9.2 CALCULATIONS

1.9.2.1 Design Hydraulic Calculation: Hydraulic sprinkler discharge calculation with a minimum density of 0.20 gpm/sq. ft. over the hydraulically most remote 1,950 sq. ft. Provide for each of the 6 buildings

1.9.2.2 Auxiliary Calculation A: Hydraulic sprinkler discharge calculation with a minimum density of 0.20 gpm/sq. ft. over the hydraulically most remote 2,600 sq. ft. Provide only for building 2402WE (bounding case).

1.9.2.3 Auxiliary Calculation B: Hydraulic sprinkler discharge calculation with a minimum density of 0.15 gpm/sq. ft. over the hydraulically most remote 1,950 sq. ft. Provide only for building 2402WE (bounding case).

1.9.2.4 A set of NFPA 13 seismic calculations covering the utilized brace configurations.

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1.10 DESCRIPTION OF WORK – GENERAL – TASK 2 and TASK 3 (OPTIONAL work)

- 1.10.1 Work is in CWC/WRAP facilities in the 200 West Area of the Hanford Site and is located approximately 25 miles northwest of Richland, Washington.
- 1.10.2 Work consists of demolition of existing fire sprinkler piping, procurement of materials, commercial grade dedication, construction, and acceptance testing of new fire protection piping in buildings 2402WE, 2402WH, and 2402WI (Task 2) and buildings 2402WF, 2402WG, and 2402WJ (Task 3). This work will be done in accordance with the design documents created in TASK 1 and the requirements set forth in this statement of work.

1.11 DESCRIPTION OF WORK – SPECIFIC – TASK 2 and TASK 3 (OPTIONAL work)

- 1.11.1 Included Work: The following identifies major work elements only.
- 1.11.2 Provide and manage labor, equipment, material, and services required to complete fire sprinkler system installation. Labor includes participation of Contractor's employees in training and medical examinations required by Contract.
- 1.11.3 Contractor to demolish and replace the overhead sprinkler piping, hangers, supports, and associated test connections in CWC buildings 2402WE, 2402WH, and 2402WI (Task 2) and buildings 2402WF, 2402WG, and 2402WJ (Task 3). The entire fire sprinkler piping system will be replaced from the top of the dry pipe riser and to include all overhead piping, fittings, valves, hangers, supports, and associated piping/components.
(Note: Replacement of riser components occurred in 2022/2023 and is excluded work)
- 1.11.4 This work includes demolition and removal of existing overhead sprinkler piping, components, and hangers downstream of the top of the dry-pipe valve. In some cases this may be the top connection of the dry pipe valve.
- 1.11.5 Existing Overhead Sprinkler piping: All valves, piping, hangers, fittings, and other associated components shall be removed by the contractor and placed in a designated area for inspection and disposal by the Buyer.
- 1.11.6 Contractor shall procure materials and equipment and perform NQA-1 CGD in accordance with the critical characteristics and acceptance testing established in CPCC-00379, *CWC and WRAP Fire Suppression System Component Technical Evaluations to Support Commercial Grade Dedications*. See Part 2 – Products – for more information.
- 1.11.7 Contractor shall develop and submit for approval the Commercial Grade Dedication Plans for components as defined in CPCC-00379.

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- 1.11.8 Contractor will procure replacement valves and components (as applicable) that conform to the requirements of HNF-36174, *Hanford Fire Protection Design Requirements*, and the applicable Commercial Grade Dedication Plans.
- 1.11.9 Prior to beginning work, contractor shall perform a thorough walkdown of the facility and perform a constructability review of the design. Recommended changes shall be communicated back to the Buyer for incorporation into the design documents.
- 1.11.10 Restoration of the Fire Sprinkler System to operational condition shall be documented by the Contractor such that restoration may be verified by the Buyer. Restoration of safety related Fire Sprinkler Systems shall be witnessed by personnel designated by the Buyer.
- 1.11.11 Provide Buyer's QA 48 hour notice prior to performing QA inspections performed off-site to allow Buyer's QA the opportunity to witness the off-site QA inspections.
- 1.11.12 Contractor to submit a Construction Acceptance Test (CAT) plan to Buyer for approval.
- 1.11.13 Contractor shall perform and submit completed CAT testing documentation to Buyer.
- 1.11.14 Contactor Field Work Supervisor (FWS) will be expected to either already be a qualified CPCCo FWS or will be expected to complete the qualification prior to beginning work. FWS will be expected to perform all duties and tasks associated with this position, including daily interface with the facility shift office, obtaining daily work release, and independently managing all work at the job-site.
- 1.11.15 Contractor should plan to provide all equipment required for the performance of this scope – including articulating lifts and associated appurtenances required for material/pipe manipulation. Contractor will be expected to perform demo and installation of sprinkler piping in the facilities with minimal waste movement required.
- 1.11.16 Two weeks prior to demo/construction activities Contractor will perform a walkdown in the facilities and provide feedback to Buyer regarding any construction access issues. To the extent practical, Contractor should plan to perform all work in the facility without disturbing or requiring waste/material to be moved.

1.12 SUBMITTALS (TASK 2 AND TASK 3)

- 1.12.1 Prior to any installation or fabrication of the fire sprinkler system components, the Contractor shall submit electronic AutoCAD and portable document format (PDF) copies of shop drawings to the Buyer for review and approval. These drawing will be based on the final design drawings submitted in Task 1.

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- 1.12.2 Shop drawings shall conform to and include all items as set forth in NFPA 13.
- 1.12.3 Deviation from approved shop drawings: As-Built (Record) Working Drawings: Prior to deviating from approved shop drawings, obtain Buyer's approvals and perform redline markups on shop drawings and Buyer's engineering documentation. On a weekly basis, the Contractor Superintendent, in conjunction with the PM or BTR, shall review and record as-built conditions on a set of drawings maintained at the job site. After completion, but before final acceptance of the work:
- Make all necessary corrections to the drawings and furnish a set of as-built drawings for review and approval by the Buyer and record purposes.
 - The Contractor shall also provide hydraulic calculations justifying deviations affecting water flow.
- 1.12.4 Final Record Drawings: Final updated record drawings (PDF and AutoCAD) shall be submitted to CPCCo for approval after completion of the Final Tests. The shop drawings shall be updated to reflect as-built conditions after work is completed.
- 1.12.5 Commercial Grade Dedication packages for the applicable components. Submit for approval and submit completed packages at the end of construction.
- 1.12.6 Construction Acceptance Test shall be developed by Contractor and submitted for approval. The Construction Acceptance Test shall include a hydrostatic test procedure that conforms to the requirements of NFPA 13 for review and approval by the Buyer.
- 1.12.7 Hydrostatic Test Procedure and Reports: Contractor shall submit hydrostatic test procedure and final report documents conforming to the requirements of NFPA 13 for review and approval by the Buyer.
- 1.12.8 Certificates of Conformance: Material and Test Certificates for Aboveground Piping per NFPA 13 shall be submitted and accepted for the work covered by this specification prior to final acceptance of installation.
- 1.12.9 Punch List of Deficiencies: Deficiencies found in the system will be recorded on a punch list and delivered to Buyer. Correct punch list items within 2 weeks of receipt of punch list.
- 1.12.10 After testing is complete, completed Construction Acceptance Testing documentation shall be submitted to the Buyer.
- 1.12.11 Quality Control Traveler (QAIP). Contractor shall develop and submit for approval a quality control checklist (Traveler or QAIP) which capture key quality attributes applicable to this QL-2 work. Contractor Quality Assurance personnel should work with Buyer Quality Assurance personnel to identify key attributes to verify. Contractor

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Quality Assurance personnel are responsible for completion of document during construction activities.

1.12.12 Manufacturers' Data/Parts list: A complete list of all new system components being installed by the Contractor, including manufacturer's cut sheets for each component, shall be submitted for review and approval by the Buyer. Data shall indicate the name of the manufacturer of each item of equipment, model number, size, quantity to be used, options, etc. proposed for installation. Electronic copies are required. Annotate descriptive data to show the specific model, type and size of each item the Contractor proposes to furnish.

1.13 DRAWINGS, SPECIFICATIONS, AND CODES AND STANDARDS

1.13.1 DRAWINGS

Drawing No.	Rev.	Title
H-2-821884	7	2402WE – Fire Protection Sprinkler System
H-2-821885	6	2402WF – Fire Protection Sprinkler System
H-2-821886	6	2402WG – Fire Protection Sprinkler System
H-2-821887	6	2402WH – Fire Protection Sprinkler System
H-2-821888	7	2402WI – Fire Protection Sprinkler System
H-2-821889	6	2402WJ – Fire Protection Sprinkler System
ECR-23-000350		Replace Obsolete 2402WE Riser
ECR-23-000336		Replace Obsolete 2402WF Riser
ECR-23-000351		Replace Obsolete 2402WG Riser
ECR-23-000352		Replace Obsolete 2402WH Riser
ECR-23-000353		Replace Obsolete 2402WI Riser
ECR-23-000354		Replace Obsolete 2402WJ Riser

**SECTION 01010
SUMMARY OF WORK**

1.13.2 SPECIFICATIONS

Specification No.	Title
HNF-36174	Hanford Fire Protection Design Requirements
CPCC-00379	CWC/WRAP Tech Evals for CGD

1.13.2.1 Major Buyer work processes applicable to this scope of work are shown below. Refer to the Contract Document Part IV General Provisions (GP), paragraph 2.0, "Order of Precedence."

<u>No.</u>	<u>Title</u>
<i>CPCC-PRO-SH-40078, App F</i>	<i>Contractor Safety Processes – Appendix F, Safety Program Specification for Contractors</i>

1.13.3 CODES AND STANDARDS

1.13.3.1 The following regulatory requirements are applicable to the sprinkler system to the extent specified herein. All materials shall be provided in accordance with the following codes and standards. Any other year requires Contractor's approval.

American Society of Testing Materials (ASTM)

ASTM A53 Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-coated, Welded and Seamless

ASTM A135 Welded and Seamless Pipe

American Society of Mechanical Engineers (ASME)

ASME B16.3 Malleable Iron Threaded Fittings Class 150 and 300

ASME B16.5 Pipe Flanges and Flange Fittings NPS 1/2 Through NPS 24

American Welding Society (AWS)

AWS B2.1 Specification for Welding Procedure and Performance Qualification

Central Plateau Cleanup Company (CPCCo)

CPCC-PRO-CN-40354 Construction Document Control

CPCC-PRO-FP-40426 Fire Protection System Discrepancies

Factory Mutual Global (FM)

FM Approval Guide Fire Protection

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Property Loss Prevention Data Sheet 2-8 Earthquake Protection for Water-Based Fire Protection Systems

Hanford Site Procedures

DOE-0336 Hanford Site Lockout/Tagout Procedure
DOE-0359 Hanford Site Electrical Safety Program (HSESP)
HNF-36174, Hanford Site Fire Protection Design Requirements

National Fire Protection Association (NFPA)

NFPA 13 (2019) Standard for the Installation of Sprinkler Systems
NFPA 25 (2019) Standard for Inspection, Testing, and Maintenance of Water-Based Fire Protection
NFPA 70, 2020 National Electrical Code
NFPA 72, 2019 National Fire Alarm and Signaling Code
NFPA 170 (2021) Standard for Fire Safety and Emergency Symbols

National Institute for Certification in Engineering Technologies (NICET) Level III Water-Based Fire Protection Systems Layout

Underwriters Laboratories (UL)

UL Directory Fire Protection Equipment Directory
262 Gate Valves for Fire Protection Service
789 Indicator Posts for Fire Protection Service

Washington Administrative Code (WAC)

WAC 212-80 Fire Protection Sprinkler System Contractors

1.14 SEQUENCE OF WORK

- 1.14.1 For Task 1 (Design) work, design for buildings 2402WE, 2402WH and 2402WI should come first, followed by buildings 2402WF, 2402WG, and 2402WJ.
- 1.14.2 For Task 2 (Procurement, CGD, and Construction), if awarded, the sequence for construction shall be: 2402WE, followed by building 2402WH, followed by 2402WI. This sequence is subject to changed based on the needs of the Buyer.
- 1.14.3 For Task 3 (Procurement, CGD, and Construction), if awarded, the sequence for construction shall be: 2402WF, followed by building 2402WG, followed by 2402WJ. This sequence is subject to changed based on the needs of the Buyer.

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SECTION 01010
SUMMARY OF WORK

PART 2 – PRODUCTS

2.0 GENERAL

2.1 COMMERCIAL GRADE DEDICATION– (Task 2 and Task 3 only)

- 2.1.1 PROCUREMENT OF MATERIALS AND EQUIPMENT AND PERFORMANCE OF COMMERCIAL GRADE DEDICATION (CGD). This Section is only applicable to TASK 2 work.
- 2.1.2 Procure and perform Commercial Grade Dedication (CGD) on materials and equipment in accordance with the critical characteristics and acceptance testing established in CPCC-00379, *CWC and WRAP Fire Suppression System Component Technical Evaluations to Support Commercial Grade Dedications*.
- 2.1.3 Safety Significant/Quality Level 2 Items. Nuclear safety classification and Quality Level (QL) of each system is identified in this Statement of Work. Suppliers providing QL2 items or services to the Contractor are required to have their quality program evaluated and placed on the Contractor’s Evaluated Supplier List (ESL) or the component may be procured utilizing a commercial grade dedication process as described in this Statement of Work.
- 2.1.4 Contractor to submit a Commercial Grade Dedication Plan for approval that contains or provides structure for test procedures.
- 2.1.5 Contractor to submit CGD test procedures for review and acceptance prior to performing testing to support CGD (e.g., pressure testing)
- 2.1.6 Contractor to submit evidence of M&TE calibrations for testing apparatus.
- 2.1.7 Contractor to prepare and submit CGD packages for equipment and materials.
- 2.1.8 See Section 01400 for more information.

2.2 ACCEPTABLE MANUFACTURERS - (Task 2 and Task 3 only)

- 2.2.1 All products are subject to the following listed acceptable manufacturers. If the product is not addressed herein the product shall be from a US based manufacturer and listed for fire protection use. Where specified, products shall also be from Approved Components List in HNF-36174, *Hanford Site Fire Protection Design Requirements*.
- 2.2.2 Only new and approved pipe, fittings, sprinklers, and devices shall be employed in the installation of the automatic sprinkler system following the requirements of NFPA 13.

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2.2.3 Provide sprinkler piping, fittings, and devices with a NRTL listing. Exceptions will be made for products meeting an NFPA 13 material standard, or on a case-by-case basis for the products submitted as equals.

2.2.4 Fire Protection Valves and Drain Assemblies

- Per HNF-36174

2.2.5 Sprinklers

- Per HNF-36174

2.3 ABOVEGROUND PIPING SYSTEMS - (Task 2 and Task 3 only)

2.3.1 Provide fittings for changes in direction of piping and for all connections. Arrange piping such that all water can be drained at the main rise or to low point drains that are clearly identified and accessible from the floor level. Make changes in piping sizes through standard tapered, reducing pipe fittings; the use of bushings is not permitted. Perform welding in the shop; field welding is not permitted.

2.3.2 Jointing compound for pipe threads shall be either pipe dope or polytetrafluoroethylene (PTFE) pipe thread tape, applied on the male threads.

2.3.3 Pipe dope shall not be used in conjunction with PTFE pipe thread tape.

2.3.4 Lubricant used on gaskets shall be in accordance with manufacturer's instructions and product listing and approved by CPCCo Fire Protection Engineering and Industrial Hygiene with Safety Data Sheet (SDS) entered into the Hanford Site (SDS) database.

2.3.5 Sprinkler Pipe and Fittings: Provide in accordance with NFPA 13, except as modified herein. Steel piping shall be ASTM A53 Schedule 40 with black finish. ASTM A135, Schedule 40 piping may be used for pipe sizes less than 2 ½ inches (DN 65).

Galvanized piping and fittings are restricted to locations indicated per NFPA 13 or in the dry pipe manufacturer's trim assembly instructions.

Use seamless pipe or orient seams in the field to the 12 o'clock position to reduce corrosion.

2.3.6 Standard Installation:

- Nominal pipe sizes 4 inches or larger: Schedule 40 Pipe meeting ASTM A53 or A135 with factory- or field-formed cut-grooved or roll grooved ends.

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- Nominal pipe sizes smaller than 4-inches: Schedule 40 Pipe meeting ASTM A53 or A135 with factory- or field-formed threaded ends or rolled/cut grooved ends.
- 2.3.7 For connections between 4 inch and larger pipes on risers, feed mains, cross-mains and drain lines, the requirements are as follows:
- Grooved pipe couplings and fittings for grooved pipe. Cut grooves are preferred to rolled groove for piping fitting to reduce internal accumulations of trapped water.
 - Outlet coupling with connection for grooved pipe.
- 2.3.8 For connections from risers, feed mains, cross-mains, or drains to branch lines, the requirements are as follows:
- Welded outlet with screwed connection or threaded coupling or fittings.
- 2.3.9 For connections to and between branch line pipes less than 4 inches the requirement is as follows:
- Threaded pipe couplings and fittings only.
 - Welded outlet with screwed connection or threaded coupling or fittings.
- 2.3.10 For connections to and between branch line pipes less than 4 inches the requirement is as follows:
- Threaded pipe couplings and fittings only.
- 2.3.11 For connections between drainpipes requirement is as follows:
- Threaded or rolled groove and cut-grooved pipe couplings and fittings.
- 2.3.12 Pressure rating: All fittings and gaskets shall be rated for 175 psi.
- 2.3.13 Pipe and Hanger Supports: Provide pipe supports, hangers, and clamps conforming to NFPA 13 and NRTL listed.
- 2.3.14 Pitch of pipe shall be arranged at a minimum of ½ in. per 10 ft
- 2.3.15 Plain-end fittings with mechanical couplings, hole-cut mechanical threaded outlet fittings, hole-cut mechanical grooved outlet fittings, and hole-cut saddle clamp outlet fittings are not permitted for new systems unless listed by an NRTL for dry pipe fire protection use. The above fitting types are only permitted on a case-by-case basis when approved by Buyer.

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- 2.3.16 Procedures for welding outlets shall be in strict conformance with the welding requirements of NFPA 13, including submission of welding certifications. Welding shall not be performed on site. Welding procedures and qualifications shall be submitted to Buyer for review and approval prior to the work.
- 2.3.17 Grooved Joints and Fittings: Assemble joints and fittings with listed coupling and gasket, lubricant, and bolts from same manufacturer. Fittings and attached couplings shall be from the same manufacturer.
- 2.3.18 Black Iron Pipe: Square-cut piping as indicated. Use grooved-end fittings and rigid, grooved-end-pipe couplings, unless otherwise indicated.
- 2.3.19 Flanged fittings or grooved couplings shall be used in lieu of unions with the exception of drain lines.
- 2.3.20 Use of restriction orifices, reducing flanges, unions, plain end fittings is not permitted unless approved by Buyer.
- 2.3.21
- 2.3.22 Identification Signs: Attach properly lettered approved metal signs with permanent, weatherproof marking conforming to NFPA 13 to each valve and alarm device. Polycarbonate signs shall be red with engraved white letters. Signs at valves shall describe the sprinkler zone it controls and state that the valve is to remain open. Permanently affix design data nameplate to the riser of each system.
- 2.3.23 Inspector's Test Connection: Provide test connections no higher than 6 feet above the floor for each sprinkler system or portion of each sprinkler system equipped with an alarm device; locate at the hydraulically most remote part of each system and at the control valve/drain assembly. Provide combination drain valve and test connection. Discharge shall be readily visible from the inspector's test connection, either by direct observation of the discharge or through a sight glass. Discharge shall be piped to the outside. Drainage and test valves shall be bronze, or another corrosion resistant metal, globe, angle, or gate valves, ball valves, and drum drip assemblies.
- 2.3.24 Drains: Provide drain piping to discharge at safe points outside the building or to sight cones attached to drains of adequate size to readily receive the full flow from each drain under maximum pressure. Provide auxiliary drains as required by NFPA 13. Splash guards are to be provided where necessary at discharge outlets; existing splash guards shall be reused when possible.
- 2.3.25 Pipe Sleeves and Seals. Provide where piping passes through walls, floors, roofs and partitions. Provide clearance between exterior of piping and interior of sleeve in accordance with NFPA 13. Secure sleeves in proper position and location during construction. Provide sleeves of sufficient length to pass through the entire thickness of

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walls, floors, roofs, and partitions. Caulk gaps between escutcheons and surfaces at pipe penetrations.

2.3.26 Sleeves in Partitions, Walls, Floors and Roofs: Sleeves shall be constructed from either zinc-coated schedule 40 steel pipe or zinc-coated 26-gauge steel sheet.

2.4 SPRINKLERS

2.4.1 Sprinklers shall have a minimum K-factor 8.0.

2.5 PROHIBITED MATERIALS

2.5.1 The following materials are prohibited

- Used material.
- Plug type anchors, set by driving anchor bodies into holes and over plugs.
- Explosive powder-driven anchors or fasteners.
- Hole cut outlets.

PART 3 – EXECUTION

3.0 GENERAL (TASK 2 and TASK 3 OPTIONAL WORK)

3.1 IMPAIRMENT OF EXISTING SYSTEMS

3.1.1 Any impairment to of existing water distribution systems, fire sprinkler systems, domestic water systems or fire alarm systems shall be approved by the Buyer and supported by both a Hanford Fire Marshal Permit and Fire Protection Impairment Tag Program, in accordance with CPCC-PRO-FP-40426.

3.2 CHANGES TO THE WORK

3.2.1 Install all piping as shown on the approved shop drawings. Minor deviations shall be discussed with Buyer and approvals documented on Buyer's Engineering paperwork. Once approved, redline changes shall be carefully noted on the record drawings as outlined in Part 1 of this specification. Before making significant deviations from the approved drawings, changes shall be approved as a submittal to the Buyer.

3.3 CHANGES TO DRAWINGS

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SECTION 01010 SUMMARY OF WORK

- 3.3.1 One set of approved fire protection shop drawings shall be maintained on the project site during construction. With approval from Buyer, the Contractor shall redline all changes daily. The redline drawings shall be incorporated on the record drawings by the Contractor.

3.4 COODINATION OF WORK

- 3.4.1 Carefully coordinate work with other trades through the Buyer's Technical Representative (BTR) so that unnecessary offsets and revisions to the approved drawings are avoided.

3.5 INSTALLATION

- 3.5.1 Equipment, materials, installation, workmanship, examination, inspection and testing shall be in accordance with NFPA 13, except as modified herein. Install piping straight and true to bear evenly on hangers and supports. Install piping in accordance with the shop drawings and indicated pipe slope as closely as possible, without interfering with other equipment and construction, or interference with sprinkler deflectors and pipe slope. Nipples shall be perpendicular to ceilings/roof deck.
- 3.5.2 Keep the interior and ends of all piping affected by Contractor's operations thoroughly clean of water and foreign matter by means of plugs or other approved methods. Inspect piping before placing into position. All pipe, fittings, and gaskets are to be cleaned of oil (with manufacturers approved materials and methods) prior to installation.
- 3.5.3 Orient longitudinal pipe weld seam toward building roof at most 45° from 12 o'clock position to mitigate pipe weld seam corrosion.

3.6 FIELD CHANGES

- 3.6.1 Do not make field changes in the piping layout, pipe sizes, or type of equipment, without the prior approval of the Buyer.

3.7 CONNECTIONS TO EXISTING SPRINKLER SYSTEMS

- 3.7.1 Connection to the existing sprinkler system shall be done only after successfully testing new piping. Connections shall be as shown on the drawings.
- 3.7.2 A schedule of any interruption of service shall be provided to the Buyer and approval received before any service is interrupted.
- 3.7.3 Connection of the new sprinkler system riser will require temporary shut-off and dismantling/removal of the existing system piping to the top of riser in the riser room.

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3.7.4 All work shall be performed with approved drawings and in accordance with the precautions and limitations set forth in an applicable Hanford Fire Marshal Permit.

3.8 FIELD TESTING AND FLUSHING

3.8.1 All testing shall be scheduled with the Buyer.

3.8.2 Prior to the Contractor conducting an acceptance test of any fire sprinkler system any discrepancy between the in- field installation and the approved shop drawings shall be brought to the attention of the BTR in writing, no later than three working days after the discrepancy is discovered.

The testing plan shall include the following field tests and inspections. Report test results promptly and in writing to Contracting Officer and Buyer's DFM.

- A. A hydrostatic test following the requirements of NFPA 13 shall be performed after the system has been fully installed
 - B. Leak Test: After installation, charge system and test for leaks. Repair leaks and retest until no leaks exist.
 - C. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
 - D. Energize circuits to electrical equipment and devices.
 - E. Start and run air compressors.
 - F. Flush, test, and inspect sprinkler systems according to NFPA 13, "Systems Acceptance" Chapter.
 - G. Verify that equipment hose threads are same as local fire department equipment.
 - H. Dry Pipe Valve Trip Test: Contractor shall perform a full dry pipe system trip test and record results in accordance with NFPA 25.
 - I. Construction/Acceptance Test Plan (ATP)
- 3.8.3 At the discretion of the Buyer, an air pressure test may be required prior to filling the system with water during winter weather. The test shall be conducted by raising the air pressure in the system to 40 psi and allowing it to stand for 24 hours. There shall be no loss of air pressure greater than 1.5 psi over the 24-hour period. Air pressure during this test shall be tracked via a graph over the 24-hour period by a pressure monitoring device or pressure monitoring gauge.

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SUMMARY OF WORK

- 3.8.4 Hydrostatic tests shall be conducted at the greater of 200 psi or the normal system pressure plus 50 psi for a 2-hour period with no leakage or reduction in gauge pressure. Hydrostatic test pressures shall not be maintained on the system overnight.
- 3.8.5 Flush piping in accordance with NFPA 13.
- 3.8.6 All leaks shall be repaired by the Contractor, and the system retested.
- 3.8.7 Preliminary Tests and Procedures: Test the alarms and other devices. Test the water flow alarms by flowing water through the inspector's test connection. Prior to the hydrostatic test, perform an air test on the system. This test shall be witnessed by the Buyers designated personnel. When all tests and procedures are completed and corrections made, submit a signed and dated certificate, similar to that specified in NFPA 13, with a request for formal inspection and tests.
- 3.8.8 Formal Inspection and Tests: At this time, all piping sprinklers, and other system components shall be in-place and all adjustments to the system completed. The Buyer's Fire Protection Engineer shall be notified by the BTR, shall witness all tests, Buyer shall approve all systems before they are accepted. Submit a request for a formal inspection at least five working days prior to the date the inspection is to take place. A competent representative of the sprinkler installer shall be present during testing and inspection. As-built drawings shall be on-site for the inspection. At this inspection, the system shall be hydrostatically tested. Any or all of the required tests shall be conducted by the Contractor at his own expense and additional tests made until it has been demonstrated that the systems comply with all contract requirements. The Contractor shall furnish all appliances, equipment, instruments, connecting devices and personnel for the tests. Any costs incurred by Buyer for repeat tests, due to the failure of the Contractor to adequately demonstrate that the system complies with the contract requirements, shall be borne by the Contractor.
- 3.8.9 Final Inspection. Contractor's Certified Engineering Technician or Professional Engineer (or other Buyer approved personnel) responsible for overseeing this project shall make a complete and final inspection of the installation, checking out all valves, piping, seismic bracing, hangers, etc. Final inspection shall be documented and submitted. Final acceptance of the system installation shall be subject to submittal by the contractor of a satisfactorily completed Contractor's Materials and Test Certificate to Buyer for review and approval.
- 3.8.10 Clean dirt and debris from sprinklers. Remove and replace sprinklers with paint other than factory finish. Protect sprinklers from damage until Substantial Completion.

END OF SECTION

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SECTION 01036
REQUEST FOR CLARIFICATION (RCI) AND CHANGES

PART 1 – GENERAL

1.1 REFERENCES

Not Used

1.2 SUBMITTALS

1.2.1 See Section 01300 for submittal procedures.

1.2.2 Approval Required: None

1.2.3 Approval Not Required: Before starting work, submit name of person responsible for receiving changes to design media in accordance with 1.4.2.

1.3 REQUEST FOR CLARIFICATION (RCI)

1.3.1 This Section covers preparation of Contractor-originated Request for Clarification (RCI) (A-6004-833). RCI forms will be supplied during Preconstruction Conference (see Section 01200) and are also available on the Buyer web site at the following link: <https://cpcco.hanford.gov/page.cfm/CPCCOSafetyReferenceDocuments>.

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

1.3.3 The Contractor may proceed in accordance with the response only on the basis that the Contractor agrees that it is not a contract change. If the Contractor believes the response constitutes a change, the Contractor shall immediately process a Contract Change form (A-6004-820) and await receipt of additional written instruction from the Contract Specialist.

1.3.3.1 Limit each request to a single issue. Date each request and assign a unique reference number.

1.3.3.2 Provide pertinent information including Contract number, subject, Drawing numbers, Specification number and paragraph references, date by which response is requested, cost and schedule impacts, site location, descriptive text, and originator's name and signature.

1.3.3.3 Correspondence and inquiries from lower tier subcontractors addressed to Buyer will be returned to originator or referred to Contractor.

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SECTION 01036
REQUEST FOR CLARIFICATION (RCI) AND CHANGES

1.3.4 RCI shall be prepared in accordance with the form's instructions.

1.4 CHANGES

1.4.1 Authorized changes to design media will be provided to the Contractor via a contract modification. Changes may be transmitted to the contractor via an approved redline field change drawing and/or Design Change Notice (DCN), or a contract modification formally transmitted to the Contractor.) requesting contractor's proposal and agreement prior to authorization of the change.

1.4.2 Contractor shall designate a single-point-of-contact responsible for receiving changes to drawings, specifications, and other design media. The designee shall be responsible for maintaining documents and ensuring the most current revision is being used for the performance of work. Documents shall be stored in a manner that minimizes the risk of loss or damage.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

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SECTION 01040 COORDINATION

PART 1 – GENERAL

1.1 COMMUNICATIONS

- 1.1.1 Written communications between Buyer and Contractor shall be sent to the Buyer representative identified under “Administration Contract Correspondence” in the Contract document Part IV – Special Terms section of the Contract Document. The Contractor may interface with various Buyer (and other) organizations through the Buyer Contract Specialist (or designee), as required.
- 1.1.2 Daily construction activity shall be coordinated with Buyer as identified in the Part IV – Special Provisions section 1.11 of the Contract document entitled “Designation of Technical Representative.” Buyer Technical Representative (BTR).”
- 1.1.3 When working in a Buyer designated nuclear facility, Contractor shall be subject to Buyer facility operation constraints and requirements including facility operational control, procedure compliance/interpretation, and stop work provisions. Contractor personnel shall respect and adhere to directions received from facility operation personnel when conducting work within the designated facility.
- 1.1.4 Buyer may assign a Senior Supervisory Watch (SSW) to provide Buyer management presence at the job site. The primary purpose of the SSW is to closely oversee on-going work and to serve as an active communicator to ensure safe, effective, and environmentally conscious work.

1.2 PREPARATION ACTIVITIES

- Contractor shall be responsible for the following functions, requirements, and design criteria preparatory activities:
- 1.2.1 Ensure equipment, materials, and personnel are ready for the execution of the applicable contract release.
 - 1.2.2 The Contractor shall ensure that Suspect/Counterfeit items are not brought onto the Hanford Site, in accordance with Section 01400.
 - 1.2.3 Ensure all Contractor-supplied tools and equipment are in good working order and free from obvious and known defects, malfunctions and disrepair (e.g., oil leaks, broken and/or missing parts) upon arrival at the job site.

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SECTION 01040 COORDINATION

1.3 SECURITY, BADGES, AND DOSIMETERS

1.3.1 Buyer will arrange for issuance of security badges and dosimeters required for on-site work subject to the requirements identified in the Contract document under Part IV, Special Provisions – On-Site Services (SP-5).

1.3.2 As soon as practical after award, the Contractor shall submit a badge request for personnel required under the various releases so that they may be scheduled for training and medical evaluation to be eligible for work onsite. A badge is required in order to obtain an HID number, which is needed before training and medical evaluations can be coordinated and scheduled. A minimum of two working days advanced notice is required for a Site badge. Contractor shall wear a Buyer -issued security badge identifying himself/herself.

1.3.3 Contractor employees will be required to submit to vehicle searches and not personally carry or transport prohibited articles.

1.4 WORK HOURS

1.4.1 Work will be done on a 4-10's schedule Monday through Thursday. The standard workday shall consist of 10 hours of work between the core hours of 6:00 AM to 4:30 PM. No work occurs on Facility Closure Days. If schedule alternative is required, BTR will communicate to Contractor contact.

1.4.2 The Contractor will have access to the job site based on the terms of the Contract.

1.5 Work MANAGEMENT REQUIREMENTS

1.5.1 Performance of Work on other than regular day shift, movement of equipment, electrical system tie-ins, and equipment tie-ins require coordination and prior approval.

1.5.2 Work control requirements:

1.5.2.1 Work shall be performed in accordance with existing Buyer-provided procedures, policies, and guidance documents. No work shall be performed that is out of scope of the contract. If work is determined as out of scope or questionable, work shall be stopped and the issue/concern shall be defined and evaluated. Contract revision will be prepared, as necessary.

1.5.2.2 The Contractor shall use the written work instructions provided by Buyer, which are written to guidelines described in CPCC-PRO-WKM-12115, "Work Management." The Contractor and its lower-tiered subcontractors, that will be performing the work, shall support Buyer sponsored Enhanced Work Planning (EWP) meetings. The planning

SECTION 01040 COORDINATION

meetings will be scheduled by Buyer planning department. The Contractor and/or its lower-tier subcontractors (or representatives) shall provide competent person(s) to support the preparation of all required work documents and shall actively participate in the planning and preparation of the work instructions, Enhanced Work Planning (EWP) and Job Hazard Analysis (JHA) in accordance with CPCC-PRO-WKM-079, Job Hazard Analysis. These meetings will discuss work instruction planning scope, hazards and hazard mitigation and analysis preparation. Contractor shall have a representative of from each building trades craft type that are performing the work.

- 1.5.2.3 The result from the meetings will be the work instructions incorporated into JCS Work Package(s) that will describe the work scope, define required hazard mitigation, and include the necessary permits, hold points, inspection test reports, and associated project documentation needed to safely complete the work scope. The work instructions shall have sufficient detail to control the work so that it is performed safely, and provides for required inspections and testing. Work Package(s) shall correspond with the project schedule activities.
- 1.5.2.4 Work scope that interfaces with any existing Structures, Systems, and Components (SSC's) shall be performed following the preparation and approval of a Facility Modification Package (FMP) prepared by Buyer Engineering in accordance with CPCC-PRO-EN-2001. Typical work scope interfaces include, but are not limited to, electrical systems tie-ins, mechanical/structural system tie-ins, critical lifts, system testing, etc.
- 1.5.2.5 Buyer Work Control will prepare and provide to the Work Package(s) that will invoke requirements for the performance of work. The Contractor shall document and execute their Work in accordance with these requirements. Changes to Contractor Work/Facility Work Package(s) and supporting documents shall be incorporated into the Work Package following the requirements of CPCC-PRO-WKM-12115, Work Management, and Work Change Notice (WCN) process. Allow 5 working days for processing work change notices.
- 1.5.3 Hazard Identification and Control Requirements will include a hazard analysis that addresses each phase of the work and the hazards associated with the environments at each work site location in accordance with this SOW. Contractor will be involved with scope and hazard analysis which will determine the number of work packages. Each work package will take approximately 12 working days from initial planning to approval.
- 1.5.4 Daily release of work packages and approval to work shall be performed using the Work Release for Construction/Services Organization process.
- 1.5.4.1 The Contractor shall prepare a Work Release for Construction/Services Organization form (WRC Sof) (A-6004-967), by 1:00 pm daily, for review and approval by the Construction Manager/BTR prior to performing the next day's work. The WRC Sof

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SECTION 01040 COORDINATION

shall provide a description of the work including a brief work scope statement, location, required permits, any support required from the Owner including inspections or hold points, special precautions about the planned work, and potential impacts such as contamination and service interruption. The form must describe contractor activities and deliveries at the jobsite.

1.5.4.2 This Work Release for Construction/Services Organization Form (WRC Sof) will be used to obtain daily work release approval from the on-duty Shift Operations Manager (SOM). The SOM is the Release Authority (RA) for the facility. The WRC Sof is provided by the Contractor. The Contractor shall complete the work release form and provide it to the BTR / FWS on the afternoon before 1:00 PM prior to the day work is started.

1.5.4.3 Only work scope identified in an individual contract release may be released. Daily work will be limited by Buyer Facility Work Authorization to work described on an approved WRC Sof form, unless additions are approved by the BTR / FWS to facilitate unforeseen changes to the planned day's work scope.

1.5.5 **Hazard Identification and Mitigation**

The Contractor will develop and maintain a work site Job Safety Analysis in accordance with CPCC-PRO-SH-40078 – Contractor Safety Processes, Appendix I – Job Hazard Analysis Process for Subcontractors

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

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SECTION 01050 FIELD ENGINEERING

PART 1 – GENERAL

1.1 QUALITY CONTROL

- 1.1.1 Quality Controls (e.g., inspections, tests, material identification, nonconformance control, etc.) shall be established, implemented, and documented using a graded approach to verify that design requirements are appropriately satisfied during construction. The specific controls shall be specified in Quality Assurance Plans and implemented through a combination of project procedures, drawings, specifications, and inspection/test plans. See Section 01400.
- 1.1.2 Structural alignment, support location, and grades: For surveying Work, use of a land surveyor registered in the State of Washington is required.
- 1.1.3 Layout: Use personnel who are trained, skilled, and experienced in construction staking.
- 1.1.4 Deliverable Documentation: Deliver field notes, records and documentation for Work under this Section in accordance with Section 01720.

1.2 PROCEDURE

- 1.2.1 Before construction activity and in field, verify control points provided by this section. Verification shall include horizontal coordinates and elevations. Report discrepancies to Buyer before proceeding with construction.
- 1.2.2 Using control points, establish reference points for structural alignment, support location, grades, layout and other construction activity. Record horizontal and vertical data for reference points.
- 1.2.3 Preserve control points, reference points, stakes and other established markers until either removal is authorized by Buyer or Work is completed.
- 1.2.4 Refer to the Contract document Part IV, Special Provisions – Construction Services SP-4’s referenced clause FAR 52.256-27, “Layout of Work.”

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

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SECTION 01065 PERMITS

PART 1 – GENERAL

1.1 REFERENCES

1.1.1 The following documents and others referenced herein form part of Contract to extent designated in this section. Referenced documents are those current as of the date of this section unless otherwise indicated.

1.1.1.1 Department of Energy (DOE)

0336	Hanford Site Lockout/Tag-out
0344	Hanford Site Excavating, Trenching and Shoring
0346	Hanford Site Fall Protection Program (HSFPP)
0359	Hanford Site Electrical Safety Program (HSESP)
0360	Hanford Site Confined Space Procedure (HSCSP)

1.1.1.2 Washington State Department of Ecology (Ecology)

State Waste Discharge Permit

1.1.1.3 National Fire Protection Association (NFPA)

1	Fire Code
70-2017	National Electrical Code (NEC)

1.2 SUBMITTALS

Not Used

1.3 SUMMARY

1.3.1 Work elements requiring Hanford Site permits are identified in this section. Permits will be provided by Buyer at no cost, unless otherwise stated.

1.3.2 Notify Buyer 5 working days in advance of work requiring permit (unless otherwise stated) and furnish requested information. Post permit in a conspicuous location and ensure employees' awareness of permit contents. Meet the requirements set forth in permit.

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SECTION 01065 PERMITS

- 1.3.3 Permits identified in this section and other sections of the Contract may require use or approval of forms and requests that are not titled as permits but generically referred to as permits. Contractor shall comply with requirements identified on those forms and requests.
- 1.3.4 It is anticipated that Work performed under this SOW will require a Radiological Work Permit (RWP).
- 1.3.5 It is not anticipated that cultural materials or protected plants or animals will be encountered during project activities in previously disturbed areas. However, workers are to be instructed to watch for bones or possible historic artifacts, especially during excavation. If cultural materials are encountered, stop work within the immediate vicinity of the find and notify Buyer.
- 1.3.6 Migratory birds may be present at this site and nesting activities shall not be disturbed. If field work is to be initiated during active nesting season (i.e., between mid-March through end of July), Contractor shall contact Buyer to initiate a review of the area where the work is to be performed to make sure no nesting is occurring within the affected area). Workers are to be instructed to watch for active nests. If active nests and/or any nesting birds are encountered, or birds exhibit defensive behavior, the Contractor shall stop work in the immediate vicinity of the nest and shall contact Buyer for additional review and required action.
- Ground-disturbing activities have the potential to spread and increase noxious plants. Vehicles should stay on existing roadways, graveled areas, and bare areas to the extent possible.
- 1.4 PERMITS
- 1.4.1 Asbestos Work Plan: Required prior to asbestos (Class I or Class II) work is performed.
- 1.4.2 Hanford Site Confined Space Hazard Identification (A-6005-724): Required to access potential confined spaces and obtain a Confined Space Entry Permit.
- 1.4.3 Hanford Confined Space Entry Permit (A-6005-717): Required prior to entry into any area determined to be classified as a Confined Space and containing conditions detrimental to employee safety in accordance with DOE-0360.
- 1.4.4 Electrical Installation Permit (A-6005-707): One permit covers new electrical installation work governed by the National Electrical Code (NFPA 70).
- 1.4.5 Energized Electrical Work Permit (A-6005-704): Required for work on existing electrical systems.

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SECTION 01065 PERMITS

- 1.4.6 Hanford Site Excavation Permit. In accordance with DOE-0344. Required for excavation involving hand digging greater than 12 inches in depth, or machine digging.
- 1.4.7 Portable Ladder Use: Required when fall exposure is 6 feet or greater and the use of conventional fall protection in accordance with DOE-0346 is infeasible or creates a greater hazard. Permit to be accessible during performance of work.
- 1.4.8 Fire Marshal Permit: Notify Buyer in accordance with SP-4. Required when fire alarm systems, fire sprinkler systems, or fire hydrants will be taken out of service; for new construction and demolition; when using combustible chemicals, compressed gas, explosives, and flammable/combustible liquids; when performing cutting/welding or outdoor burning; and for any activity falling under the scope of NFPA 1. Fire Permits will be required for this scope.
- 1.4.9 Hanford Site Oversize/Overweight Permit (A-6003-609): Required for each vehicle and/or non-reducible load that exceeds the dimensions or weights shown in SP-4.
- 1.4.10 Hot Work Permit (A-6006-115): Required prior to performing any work which may produce a spark, arc, or flame on the Hanford Site.
- 1.4.11 Nonemergency Hydrant Tie-In Permit (A-6003-681): Required for any water being obtained through an existing hydrant. Contractor shall notify Buyer a minimum of 2 weeks prior need, in accordance with SP-4.
- 1.4.12 Radiological Work Permit (A-6004-602): Required prior to performing any work within a radiological posted area.
- 1.4.13 Utility/System Outage Permit: This permit is required prior to Lockout/Tag-out isolation of any facility equipment, systems, and/or utilities in accordance with SP-5 and DOE-0336. Notify Buyer 15 days prior to need date. To obtain permit issue an MSA Service Request at the following link:

<http://msc.rl.gov/ServiceCatalog/page.cfm/Utilities>
- 1.4.14 State Waste Discharge Permit: Buyer has already obtained the required permit. No discharges of water are allowed or authorized within 300 horizontal feet of any known crib, catch basin, infiltration trench, or underground disposal area.



**SECTION 01065
PERMITS**

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

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SECTION 01110
OCCUPATIONAL SAFETY / INDUSTRIAL HYGIENE

PART 1 – GENERAL

1.1 REFERENCES

1.1.1 The following documents and others referenced therein form part of Contract to extent designated in this section. Referenced documents are those current as of the date of this section unless otherwise indicated.

1.1.1.1 Code of Federal Regulations (CFR)

Title 29	Labor
Part 1910	Occupational Safety and Health Administration (OSHA)
Part 1926	Safety and Health Regulations for Construction

1.1.1.2 *Department of Energy, Richland Operations (DOE-RL)*

0359	Hanford Site Electrical Safety Program (HSESP)
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1.1.1.3 Institute of Electrical and Electronics Engineers (IEEE)

C2	National Electrical Safety Code (NESC)
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1.1.1.4 National Fire Protection Association (NFPA)

70	National Electrical Code (NEC)
70E	Standard for Electrical Safety in the Workplace

1.2 SUBMITTALS

1.2.1 See Section 01300 for submittal process.

1.2.2 Approval Required

1.2.2.1 Safety and Health Program: CPCC-PRO-SH-40078, *Contractor Safety Processes* Appendix F is the preapproved safety and health procedure; however, Contractor may submit, with proposal, an alternate safety program. The alternative program shall comply with federal, state, and local codes and CPCC-PRO-SH-40078, Appendix F.

1.2.2.2 Designated Safety Representative: Before starting work, submit name of individual identified as the “Designated Safety Representative,” if the Contractor has more than

SECTION 01110
OCCUPATIONAL SAFETY / INDUSTRIAL HYGIENE

one employee working on site in performance of this contract, in accordance with the Contract document Part IV, Special Provisions – On-Site Services (SP-5). Contractor shall notify the Contract Specialist if the name of the Designated Safety Representative changes.

1.2.3 Approval Not Required: None

1.3 SAFETY

1.3.1 Contractor shall comply with the on-site provisions identified in SP-5 of the Contract.

1.3.2 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 Buyer in complying with all applicable laws, regulations and directives.

1.3.3 The Contractor and its lower-tier subcontractors shall take all reasonable precautions in the performance of the work to protect the safety and health of employees and of members of the public. Where there is a difference in regulations or requirements, the most stringent shall apply.

1.3.4 While working within a facility or remote area, Contractor shall participate in emergency drills. Exemptions may be requested by Contractor. **NOTE: It is anticipated that a minimum of one monthly drill will take place. Drill duration approximately 2 hours.**

1.3.5 Contractor shall utilize gloves that are rated as cut/puncture-resistant for all activities that present the potential for a cut or puncture to the hand. Leather gloves are not rated as cut/puncture-resistant, and are not permitted. Contractors shall still use gloves (e.g., leather, canvas, cotton, etc. as appropriate for the work activity) to prevent and/or protect the hand from abrasions and contusions. Cut-resistant gloves come in different performance strengths; the Contractor needs to exercise the right amount of care to ensure they have selected the proper type of gloves for the hazard to be encountered. Buyer does not specify or recommend any brand-name gloves; but does require these gloves to be rated as cut/puncture resistant.

1.3.6 Contractor shall review the work scope, location, and hazards to determine if the activity is skill-based or beyond skill-based work (i.e. requires further analysis through a Job Hazard Analysis). Contractor shall ensure that contractor employee craft workers are, at a minimum, trained and qualified to the respective Craft Specific Hazard Analysis (CHA) for each craft listed and the controls associated with the CHA.

SECTION 01110
OCCUPATIONAL SAFETY / INDUSTRIAL HYGIENE

- 1.3.7 Electrical Safety Requirements
 - 1.3.7.1 Work practices and electrical safety training and qualification shall be in accordance with DOE-0359. Electrical equipment and industrial control panels delivered or brought on to the site in performance of the contract shall be labeled by an organization currently recognized by OSHA as a Nationally Recognized Testing Laboratory (NRTL). Equipment installed as part of the contract shall comply with the NEC and, where applicable, IEEE C3 (NESC).
- 1.4 HAZARD IDENTIFICATION
 - 1.4.1 JSAs/JHAs are prepared as a joint effort between Buyer and Contractor to address specific work activities and hazards associated with the specific work and to identify the controls necessary to eliminate or control the hazards. The JSA/JHA shall be written in such a manner as to be understood and usable by Contractor personnel in order to aid them in the identification, control, and response of potential hazards; it is not just a compliance document. To achieve the level of coordination desired, approval of the JSA/JHA are required to ensure proper safety planning and communication prior to the start of work.
- 1.5 MEDICAL EXAMINATIONS
 - 1.5.1 Medical examinations and Employee Job Task Analysis (EJTA) evaluation forms are required for Contractor personnel prior to starting work on the Hanford Site. See SP-5.
 - 1.5.2 The Contractor shall immediately notify the BTR and the Contract Specialist of any injuries or incidents; to include damage to Contractor-owned property or equipment.
 - 1.5.3 Contractor shall take appropriate action, up to and including stopping work, and immediately notify the Buyer if an unplanned risk or hazard is discovered that is not covered by directions provided by Buyer. This action includes notifying the Buyer if the work exposes their workers to hazards that require medical monitoring.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

- 3.1 Buyer will provide Hanford medical facilities for emergency or life-threatening injury situations (those requiring immediate medical attention). All injuries, accidents, fires, and near misses shall be reported to Buyer, including fires that are extinguished without causing damage.

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SECTION 01110
OCCUPATIONAL SAFETY / INDUSTRIAL HYGIENE

3.2 To ensure worker safety, work or portions of work may be temporarily and incrementally shut down due to high winds, lightning, or other inclement weather as determined by Buyer. Contractor shall not be additionally compensated in terms of cost or schedule for weather-related shutdowns (Refer to Contract Part IV General Provisions, Paragraph 5.3 Delays – Force Majeure). Buyer issues the following warnings via radio system, public announcement, or in person. The Contractor shall ensure that subcontractor personnel are apprised of the warnings and take the required actions as stated below.

- The Contractor shall ensure that subcontractor personnel are apprised of the warnings and take the required actions as stated in CPCC-PRO-SH-28034 ADVERSE WEATHER for:
- Lightning Safety
- Wind Conditions
- Snow and Ice Safety
- Torrential Rain and Hail Safety
- Early Release Due to Adverse Weather

In addition to these warnings, Buyer also provides the following:

- Snow and ice removal is provided on Site roads. The Contractor shall provide snow removal and ensure safe walking and transfer conditions for walkways and access points around their offices and work areas and the job-site within the project boundaries.
- In response to winter storm conditions, Buyer may close the Site or release Contractor's employees early. If so, Buyer will make appropriate announcements and coordinate the closure or early dismissal.
- The Contractor shall be responsible for freeze protection in all areas turned over to the Contractor by Buyer.

END OF SECTION

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SECTION 01130
ENVIRONMENTAL, RADIOLOGICAL, AND NUCLEAR SAFETY

PART 1 – GENERAL

1.1 REFERENCES

1.1.1 The following documents and others referenced therein form part of Contract to extent designated in this section. Referenced documents are those current as of the date of this section unless otherwise stated.

1.1.1.1 Code of Federal Regulations (CFR)

Title 10	Energy
Part 820	Procedural Rules for DOE Nuclear Activities
Part 830	Nuclear Safety Management
Part 830.122	Quality Assurance Criteria
Part 835	Occupational Radiation Protection
Title 29	Labor
Part 1910	Safety and Health Regulations for General Industry
Section 1200	Hazard Communication
Part 1926	Safety and Health Regulations for Construction
<i>Title 40</i>	<i>Protection of Environment</i>
<i>Part 82</i>	<i>Protection of Stratospheric Ozone</i>
<i>Part 112</i>	<i>Oil Pollution Prevention</i>
<i>Part 280</i>	<i>Technical Standards and Corrective Action Requirements for Owners and Operators of Underground Storage Tanks (UST)</i>

1.1.1.2 Washington State Department of Ecology (Ecology)

State Waste Discharge Permit

SECTION 01130
ENVIRONMENTAL, RADIOLOGICAL, AND NUCLEAR SAFETY

- 1.1.1.3 National Fire Protection Association (NFPA)
 - 30 Flammable and Combustible Liquids Code
- 1.1.1.4 Revised Code of Washington (RCW)
 - Title 46 Motor Vehicles
 - Chapter 46.11 Vehicle Licenses
- 1.2 SUBMITTALS
 - 1.2.1 See Section 01300 for submittal process.
 - 1.2.2 Approval Required
 - 1.2.2.1 Waste management information: Five work days before starting work, submit a Waste Management Plan, in accordance with the Contract document Part IV, Special Provisions – Construction Contracts (SP-4) and Special Provisions – On-Site Services (SP-5), for managing waste generated during work.
 - 1.2.2.2 Safety data sheets (SDS): Before starting work, submit SDS for hazardous chemicals sources: 10 workdays before starting work, submit detailed information relative to any anticipated process involving the application of volatile chemicals (use of a volatile cleaning agent, application of polyurethane coating, etc.)(1.10.3). Chemical inventory: Five workdays before starting work, submit inventory of chemicals that will be brought to the worksite in accordance with SP-4, SP-5, and this Section.
 - 1.2.3 Approval Not Required: None
- 1.3 WASTE MINIMIZATION
 - 1.3.1 Minimize waste in accordance with the following waste management hierarchy.
 - a. Source reduction
 - b. Reuse
 - c. Recycling
 - d. Compliant disposal
 - 1.3.2 Source Reduction
 - 1.3.2.1 Material substitution: Minimize number of chemicals used to perform same or similar tasks. Where practical, replace hazardous materials with non-hazardous or

SECTION 01130 ENVIRONMENTAL, RADIOLOGICAL, AND NUCLEAR SAFETY

less hazardous substitutes. Before substitution, obtain approval in accordance with Section 01630.

- 1.3.2.2 Inventory reduction: Minimize product inventory to reduce accumulation of partially used and unused materials requiring disposal. Remove partially used lots and unused materials from worksite at Contract completion.
- 1.3.2.3 Packaging: Minimize packaging brought on worksite. Whenever feasible, return empty containers to vendor.
- 1.3.2.4 Waste segregation: Separate wastes to avoid creating additional wastes and mixtures that cannot be recycled, or that may be more difficult to manage.
- 1.3.2.5 Process modification: Streamline processes for more efficient operation and less waste generation.
- 1.3.2.6 Reuse/Recycling: Ensure that materials are reused, if possible, rather than discarded as waste.
- 1.4 DISPOSAL OF INERT/DEMOLITION AND NONHAZARDOUS WASTE
 - 1.4.1 Handle and dispose of waste in accordance with applicable federal, state, and local laws, regulations and requirements, Contract document Part IV, Special Provisions – On Site Services (SP-5) and this Section. Notify Buyer prior to shipment of inert/demolition waste for radiological survey by others if removing from contaminated area.
 - 1.4.2 Non-hazardous: Dispose of non-hazardous debris using bins provided by Contractor.
 - 1.4.3 Any nonradioactive inert waste (i.e. broken asphalt, broken concrete, glass, brick, aluminum, stainless steel, wood, and overburden/spoils material such as rock and earth) may be disposed at no charge to Contractor at Pit 9 located in 200 West Area. Notify Buyer at least 24 hours prior to need for entry.
 - 1.4.4 Other waste generated on the Hanford Site such as demolition rubble, construction debris, trash, and solid waste not included in other waste categories specifically mentioned in the contract shall be dispositioned by Contractor.
- 1.5 HAZARDOUS WASTE
 - 1.5.1 Hazardous materials shall be managed in accordance with SP-5. Promptly report all spills of hazardous waste.
 - 1.5.2 Flammable/combustible liquid storage shall be in accordance with NFPA 30.

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SECTION 01130
ENVIRONMENTAL, RADIOLOGICAL, AND NUCLEAR SAFETY

1.6 DISPOSAL OF ASBESTOS

1.6.1 Asbestos is not expected to be encountered during the performance of this work. Asbestos analysis of fire riser gasket material was performed during the performance of riser replacements in 2023 and gaskets were found to not include asbestos.

1.7 DISPOSAL OF DANGEROUS AND MIXED WASTE

1.7.1 Handle and dispose of waste in accordance with applicable federal, state, and local laws, regulations and requirements and Buyer procedures. Hanford-specific requirements also apply to dangerous and mixed waste generated on the Hanford Site.

1.7.1.1 Notify Buyer at least five days before generation of waste and immediately after spill and other unforeseen waste generation. Notification shall identify waste stream and provide an estimated quantity of waste to be generated.

1.7.1.2 Upon notification by Contractor, Buyer will establish a satellite accumulation area containers or a 90-day container within worksite and select and provide labeled containers affixed with numbers. Contractor shall provide a digital fish scale or comparable weighing device at satellite accumulation area and shall ensure personnel responsible for the satellite accumulation area are properly trained.

1.7.2 Separately accumulate waste from each waste stream in accordance with applicable federal, state, and local laws.

1.7.2.1 During spill cleanup and waste accumulation, cumulatively record waste inventory on Waste Container Log (A-6004-995).

1.7.2.2 Containers are set up and managed by Buyer. Manage waste in accordance with SP-5.

1.7.3 Buyer will coordinate pick up and disposal of properly sealed dangerous waste after notification by Contractor.

1.7.4 Buyer will conduct bi-weekly inspection of satellite accumulation areas containers and 60-day containers.

1.8 RADIOLOGICAL CONTROL

1.8.1 If work is deemed Radiological, the Contractor shall be subject to 10 CFR 835, the Buyer Radiological Control Manual, CPCC-00175, and this Section.

1.8.2 Contractor shall not utilize vacuum trucks or HEPA-filtered vacuums or set up enclosures with exhausters or similar emission units at any radioactively

SECTION 01130
ENVIRONMENTAL, RADIOLOGICAL, AND NUCLEAR SAFETY

contaminated location on the Hanford Site without the express written approval of Buyer.

- 1.8.3 The Contractor shall obtain written approval from Buyer prior to bringing a radioactive source on site. This includes any source or equipment that contains sources (e.g. soil densitometers) that are governed under a U.S. Nuclear Regulatory Commission (NRC) license or a license by an NRC-agreement state. Densitometers shall be checked in daily with the facility Radiological Control Technician (RCT).
- 1.8.4 Contractor's equipment utilized to perform radiological work shall be subject to an initial radiological baseline survey prior to use onsite. This survey is expected to take approximately one hour (per piece of equipment) to complete. The survey will be conducted by Buyer-provided Radiological Control Technicians and/or Health Physics Technicians (HPTs). Contact the Buyer to schedule the required survey upon arrival of the equipment onsite.
- 1.8.5 Contractor's equipment utilized to perform radiological work may be subject to intermittent radiological surveys approximately 2 to 3 times per work day. Radiological surveys are expected to take between 10 – 15 minutes each. Contractor shall make equipment available for intermittent radiological surveys at the request of Buyer-provided RCT/HPT.
- 1.8.6 Removal of the following requires a contamination release survey for each removal. Contractor will not be charged for survey. Buyer will arrange for survey upon request by Contractor. Allow 8 hours for processing request and 4 hours for survey.
- a. Material from radiological areas and radiological buffer areas shown on the Drawings
 - b. Foreign materials and discolored soil discovered during excavation
 - c. Equipment
- 1.8.7 During any work disturbing the existing ground surface, a Buyer-provided RCT/HPT will be present to conduct intermittent radiological surveys of the excavated or disturbed material, if deemed necessary by Buyer. The radiological surveys will be conducted on the spoils removed during any soil excavation as well as on the equipment being utilized for this excavation. These radiological surveys are not expected to significantly disrupt the Contractor's ability to perform the required work. Contractor shall provide 2 work days prior notice to Buyer of need for RCT/HPT coverage of any excavation or work activity that will significantly disturb the existing ground surface.

SECTION 01130
ENVIRONMENTAL, RADIOLOGICAL, AND NUCLEAR SAFETY

- 1.8.8 If at any point, radioactive materials above specified action levels are encountered, work shall be stopped immediately. A Radiological Work Permit will be prepared by Buyer to cover working with radiological contaminated soils and materials.
- 1.8.9 If radiological contamination is encountered during excavation or other work activities, Contractor shall place equipment in a safe condition and remove all personnel from area as directed by the RCT/HPT. Radiological controls shall be evaluated by the Radiological Protection organization to the encountered conditions and modified as may be required. Contractor shall seek direction from the Buyer prior to resuming work activities.
- 1.8.10 A release survey is required to be conducted by Buyer provided RCTs/HPTs of all equipment utilized in excavation. Release survey shall be conducted prior to equipment being removed from the project site. The survey is expected to take approximately one hour per piece of equipment. Contractor shall provide 2 work days prior Notice to Buyer of need for RCT/HPT coverage to conduct required release surveys.
- 1.8.11 Contractor may additionally request a contamination release survey for each removal of equipment or material from a radiological buffer area. Contractor will not be charged for survey.
- 1.8.12 If survey reveals that equipment or material is not radiologically contaminated, dispose of material as planned.
- 1.8.13 If survey reveals that equipment or material is radiologically contaminated, dispose in accordance with direction from Buyer. Buyer will determine if release back to the Contractor is possible. If not possible, the Contractor will be compensated for items taken.
- 1.9 NUCLEAR AND CRITICALITY SAFETY
- 1.9.1 If work is deemed nuclear-related, the Contractor shall be subject to 10 CFR 830.122, and the enforcement actions under 10 CFR 820.
- 1.10 LIQUID EFFLUENTS
- 1.10.1 In accordance with the Contract documents Part IV, Special Provisions – Construction Contracts (SP-4), SP-5, and CPCC-PRO-SH-40078 - Contractor Safety Processes, when the Contractor brings chemicals on site, the activity is subject to Buyer’s Chemical Management System Program. The Contractor shall fill out and keep current a Chemical Inventory Worksheet (form A-6004-750).

SECTION 01130
ENVIRONMENTAL, RADIOLOGICAL, AND NUCLEAR SAFETY

- 1.10.2 Safety Data Sheets (SDS) for hazardous chemicals (as defined by 29 CFR 1910.1200) that will be used during the work activity shall be kept current. Contractor shall provide the list to the assigned BTR when list has been updated.
- 1.10.3 Contractor shall submit detailed information relative to any anticipated process involving the application of volatile chemicals (e.g., use of a volatile cleaning agent, application of polyurethane coating, etc.).
- 1.10.4 Concrete rinsate discharge locations require approval by Buyer. Concrete rinsate discharge authorization forms shall be completed and approved prior to discharge.
- 1.10.5 Liquid discharge for hydrotesting, flushing, or other construction operation other than dust control, requires pre-approval by Buyer and shall be performed in accordance with the State Waste Discharge Permit.
- No water shall be discharged within 100 horizontal feet of any known crib, catch basin, infiltration trench, or underground disposal area.
 - No discharge shall be allowed within a surface contaminated area (areas with dangerous waste and/or radioactive contaminants), unless discharge is an approved incidental release.
 - Other restrictions identified in the State Waste Discharge Permit and the accompanying conditions include the need to reuse/recycle and the need to discharge to the Treated Effluent Disposal Facility; discharge rate, volume, additives, source water, contaminants, and logging are also covered in permit conditions (Pollution Prevention and Best Management Practices section).
- 1.11 AIR EMISSIONS
- 1.11.1 The following emissions are regulated and shall comply with applicable federal, state, and local laws, regulations and requirements:
- a. Fugitive emissions and dust.
 - b. Abrasive blasting.
 - c. Ozone-depleting substances.
 - d. Non-routine (unplanned) emissions.
 - e. Radioactive airborne emissions (from disturbing contaminated soil).
- 1.11.2 Contractor shall take reasonable precautions to minimize fugitive dust during performance of this work.
- 1.11.3 Contractor shall not conduct open burning without the express written approval of BTR or CM.

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SECTION 01130
ENVIRONMENTAL, RADIOLOGICAL, AND NUCLEAR SAFETY

- 1.11.4 Air emission sources also include non-road internal combustion engines for power generator or air compressor, loader, backhoe, welder, chain saw, etc. Licensed motor vehicles, pursuant to RCW 46.16 are exempt from the inventory. However, mounted internal combustion engines not used to propel the vehicle (e.g.; mounted generator) shall be inventoried.
- 1.11.5 The Contractor shall comply with CPCC-PRO-SH-40078 - Contractor Safety Processes, Appendix F, Section 2.15, for controlling exposures to airborne hexavalent chromium. These requirements are specifically applicable to welding, grinding, torch-cutting, metal buffing and metal polishing, and spray painting activities.
- 1.12 CONTINGENCIES
- 1.12.1 Isolate and secure spill area in a manner that protects human health and the environment. Take direct action if nature of spilled or unforeseen waste material is known and if material can be immediately and safely absorbed, neutralized, or otherwise controlled.
- 1.12.2 Notify Buyer upon occurrence or discovery of hazardous substances and non-hazardous material spills and of unforeseen dangerous waste generation. Notification shall identify waste stream if known and include identification and quantity of waste. Clean up areas contaminated by spilled material and manage spill residues in accordance with this Section.

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

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SECTION 01150 TRAINING AND QUALIFICATIONS

PART 1 – GENERAL

1.1 REFERENCES

1.1.1 The following documents and others referenced therein form part of Contract to extent designated in this section. Referenced documents are those current as of the date of this section unless otherwise stated.

1.1.1.1 Code of Federal Regulations (CFR)

Title 49	Transportation
Part 383	Commercial Driver’s License Standards
Part 390	Federal Motor Carrier Safety Regulations
Part 851	Worker safety & Health Program (851.25)

1.1.1.2 Department of Energy, Richland Operations (DOE-RL)

92-36	Hoisting and Rigging Manual
0359	Hanford Site Electrical Safety Program (HSESP)
0336	Hanford Site Lockout/Tag-out
0346	Hanford Site Fall Protection Program (HSFPP)

1.1.1.3 0355 Hanford Standardized HAZWOPER Training Program Description)

1.1.1.4 Washington Administrative Code (WAC)

Title 296	Department of Labor and Industries
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1.2 SUBMITTALS

1.2.1 See Section 01300 for submittal process.

1.2.2 Approval Required

1.2.2.1 Before starting work, submit documentation of successful completion of training requirements and certification that all training is current.

1.2.3 Approval Not Required:

SECTION 01150 TRAINING AND QUALIFICATIONS

1.3 REQUIREMENTS

1.3.1 General

1.3.1.1 Contractor is expected to provide appropriately trained and qualified staff to perform the type of work associated with their skill of craft (Electrician, Pipefitter, etc.) at the Hanford Site. The Contractor shall provide a base staff consisting of a safety representative (SR) and FWS to administer the work.

1.3.1.2 Personnel Qualification

The FWS shall be present during all craft work; the FWS & SR shall be present on site daily for the pre-job meeting and for coordination while craft are performing work scopes.

On-Site Safety Representative

- Must have a Construction Health and Safety Technician Certification or Occupational Health and Safety Technologist Certification by the Council on Certification of Health, Environmental and Safety Technologists, or be an Associate Safety Professional or a Certified Safety Professional from the American Board of Certified Safety Professionals.
- 10 years full time experience in a safety and health position in industrial safety, and familiar with radiological contaminated materials and chemical and hazardous material handling experience.
- Submit Resume of proposed Safety Rep with proposal.

On-site Field Work Supervisor

- 10 years general construction experience.
- 5 years Supervisory Level, which shall include labor management associated with bargaining units.
- Buyer requires that FWS either be a current CPCCo qualified FWS or meets minimum qualifications and will complete training to become a qualified CPCCo FWS prior to the start of field work.
- Familiar with supervising work involving radiological contaminated materials and chemical and hazardous material handling experience. Familiar with Hanford methods for work release and work conduct.
- Submit Resume of proposed FWS with proposal.

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SECTION 01150 TRAINING AND QUALIFICATIONS

Project Manager

- Minimum 5 years experience.
- 3 years Supervisory Level, which shall include labor management associated with bargaining units.
- Experience with Hanford work practices.
- Submit Resume of proposed PM with proposal.

1.3.1.3 Task- and facility-specific training is required in this Statement of Work, the Contract Provisions, and other documents referenced herein. The training listed may not be all-inclusive of training required.

1.3.1.4 Required training shall be completed prior to related work being performed.

1.3.1.5 Buyer will provide task- or facility-specific training required for the Hanford Site, which includes the class, instructor, and required training material. Contractor is responsible for cost of labor to complete all required training.

1.3.1.6 When offsite equivalent training is available, **Contractor is responsible for all training costs.** Buyer will provide equivalent onsite training or reimbursement for any equivalent onsite/offsite training costs approved by Buyer prior to training.

1.3.1.7 Buyer will provide for on-the-job evaluations (OJE) when they are required by Contract.

1.3.1.8 For previous training to be acceptable for Hanford Site qualification, documented evidence shall include type and class of equipment. For qualifications not related to equipment operation, personnel shall have documented evidence of training and experience related to an activity covered under this Contract.

1.3.1.9 Contractor shall maintain copies of personnel training records at the jobsite.

1.3.2 Site-Required Training

1.3.2.1 CPCCo General Employee Training (CGET) or Hanford Site Orientation (HGET): Mandatory for all Contractor and sub-tier Contractor personnel performing work on the Hanford Site. Previous CGET training may be acceptable. Contact Buyer.

**SECTION 01150
TRAINING AND QUALIFICATIONS**

1.3.2.2 When performing work in a Buyer-designated operating nuclear facility, Contractor personnel shall receive all required Facility Emergency Hazard Identification Checklist (FEHIC) training, facility safety basis overview, and facility system overview prior to performing work.

1.3.3 Qualification Training

1.3.3.1 Electrical work scope shall be performed by qualified electrical workers and qualified instrument specialists in accordance with DOE-0359. Completion of Buyer Electrician Qualification Verification Checklist Course 60038B or 60038B shall be required. Submit completed checklist prior to onboarding any electricians to perform work. Electrical work is not anticipated in the scope.

1.3.3.2 Hoisting and Rigging

1.3.3.3 Hanford Site Hoisting and Rigging Manual (DOE-RL-92-36) provides qualification for rigging operations. The Contractor may submit employee record of equivalency (i.e., experience and union affiliation), but is required to pass a written or oral examination; operators of cranes, forklifts, and aerial lift personnel performing rigging activities shall also satisfactorily complete an OJE.



Note: Employee training is tailored to the work task performed by each employee. Contractor shall submit a training matrix to identify worker assignment and applicable training for each employee.

Training below is not necessarily applicable to all workers – Some training is only required for one member of the work crew (Example: First Aid)

Hanford Course Number	Course Title	CPCCo Documents	Off-site training acceptable (Yes / No)	Comments	Applicable to Contract (Yes / No)
000001	HGET Hanford General Employee Training	N/A	N	<ul style="list-style-type: none"> 4 hours. 1 yr. retraining period. All Onsite CPCCo and Contractor Employees \$90.00 	Y
604241	CPCCo Field Work Supervisor Qualification Card	Multiple	N	<ul style="list-style-type: none"> FWS required to be fully qualified as CPCCo FWS for this scope 	Y

**SECTION 01150
TRAINING AND QUALIFICATIONS**

Hanford Course Number	Course Title	CPCCo Documents	Off-site training acceptable (Yes / No)	Comments	Applicable to Contract (Yes / No)
000006	CPCCo-General Employee Training	N/A	N	<ul style="list-style-type: none"> 4 hour 1 yr. retraining period. All Onsite CPCCo and Contractor Employees \$0.00 	Y
CONSTRUCTION JOB SITE SAFETY INSPECTIONS					
600053	CPCCo Competent Person – Construction Job Site Safety Inspection	CPCC-RD-SH-7652	N	<ul style="list-style-type: none"> 2 hours 1 yr. Retraining \$0.00 	Y
026100	OSHA 10-Hour Health and Safety	N/A	Y	<ul style="list-style-type: none"> 10 hours. Required for Construction and Safety Supervisors. Present certificate of completion or training record. 	Y
ELECTRICAL SAFETY TRAINING					
003131	Hanford Site Lockout / Tagout For Authorized Worker – Initial	DOE-0336	N	<ul style="list-style-type: none"> Authorized Worker Training 	Y
044480	Electrical Safety for Non-Electrical Workers	DOE-0359	Y	<ul style="list-style-type: none"> 4 hours. 3 yr. retraining period. Equivalent – 044480. Present electrician license, journeyman card, certificate of completion or training record. \$292.00 	Y
043870	NFPA-70E Standards for Electrical Safety	NFPA-70E	Y	<ul style="list-style-type: none"> 16 hours 3 yr. retraining period 	N
FACILITY SPECIFIC TRAINING					
300701	Central Waste Complex FEHIC	CPCC-PRO-TQ-175	N	<ul style="list-style-type: none"> All personnel working at CWC 	Y
306750	WRAP Facility Orientation	CPCC-PRO-TQ-175	N	<ul style="list-style-type: none"> All personnel working at WRAP 	N
FALL PROTECTION					
020147	Fall Protection Recognition and Prevention	DOE-0346	N	<ul style="list-style-type: none"> Required 3 hours. 0 yr. retraining period. 	Y
600058	CPCCo Competent Person – Fall Protection	DOE-0346	N	<ul style="list-style-type: none"> 2 hours Prerequisites 020147 and 020440 \$0.00 	Y

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**SECTION 01150
TRAINING AND QUALIFICATIONS**

Hanford Course Number	Course Title	CPCCo Documents	Off-site training acceptable (Yes / No)	Comments	Applicable to Contract (Yes / No)
020440	Fall Protection PFAS Users	DOE-0346	Y	<ul style="list-style-type: none"> 9 hours. 2 yr. retraining period. United Brotherhood of Carpenters class accepted; MSA Letter RML46000-09-02. Present journeyman card, certificate of completion or training record. 	Y
020441	Fall Protection PFAS Users Retaining	DOE-0346	Y	<ul style="list-style-type: none"> 9 hours. 2 yr. retraining period. United Brotherhood of Carpenters class accepted; MSA Letter RML46000-09-02. Present journeyman card, certificate of completion or training record. 	Y
GENERAL SAFETY COURSES					
170500	Basic Medic First Aid/ CPR/AED	NFPA – 70E 29CRF 1910.120.151	Y	<ul style="list-style-type: none"> 8.5 hours. 2 yr. retraining period. Labors International Union of North America class accepted; MSA Letter RML46000-09-04. International Union of Operating Engineers class accepted; MSA Letter RML46000-09-05. Present journeyman card, certificate of completion or training record. 	Y
020193	Heat Stress Training – CBT	CPCC-PRO-SH-121	Y	<ul style="list-style-type: none"> 1 hour. 2 yr. retraining period. Present certificate of completion or training record. 	Y
060023	CPCCo Spotter Safety Awareness Briefing		N	<ul style="list-style-type: none"> 1 hour Orientation/Briefing Required for all vehicle and equipment operators. Does not qualify for Equipment Operation Near Power Lines. 	Y
600078	CPCCo Vehicle Spotter Awareness Training		N	<ul style="list-style-type: none"> 1 hour Computer assisted. Required for all vehicle and equipment operators. Does not qualify for Equipment Operation Near Power Lines. 	Y
HAZARDOUS WASTE WORK					

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**SECTION 01150
TRAINING AND QUALIFICATIONS**

Hanford Course Number	Course Title	CPCCo Documents	Off-site training acceptable (Yes / No)	Comments	Applicable to Contract (Yes / No)
600400	CPCCo Hazard Communication Global Harmonization Standard Implementation	CPCC-MP-TQ-011	N	<ul style="list-style-type: none"> 1 Hour Equivalent to 170700 Hazard Communication Standard (HAZCOM) Update 170701 GHS/Hazcom Advanced Course 	Y
HEARING PROTECTION					
600059	CPCCo Competent Person – Hearing Protection	CPCC-RD-SH-11812	N	<ul style="list-style-type: none"> 2 hours 	N
020194	Hearing Conservation - CBT	CPCC-PRO-SH-40479	Y	<ul style="list-style-type: none"> 1 hour. 1 yr. retraining period. Present certificate of completion or training record. 	Y
RADIOLOGICAL WORKER TRAINING					
020108	General Employee Radiological Training (GERT)	CPCCo-00073	N	<ul style="list-style-type: none"> .5 hours 2 yr. retraining period. 	Y
020701	Radiological Worker I (Current)	DOE-0357	Y	<ul style="list-style-type: none"> Note: Hanford RWII equivalency is approved for the PNNL equivalent RWI qualification. INEEL Rad Worker II Training is permissible for equivalency. Only HAMMER training manager can approve. If personnel have and minimum of a 4 year Degree in science related field or have completed Rad Worker Training from another source, current or not, the individual can take Rad Worker I Accelerated (0207A1). 	Y
020001	Radiological Worker II (Current)	DOE-0357	See Note	<ul style="list-style-type: none"> Note: Hanford RWII equivalency is approved for the PNNL equivalent RWI qualification. INEEL Rad Worker II Training is permissible for equivalency. Only HAMMER training manager can approve. If personnel have and minimum of a 4 year Degree in science related field or have completed Rad Worker Training from another source, current or not, the individual can take Rad Worker II Accelerated (0207A1 – UPDATE FOR RAD II). 	N
HOISTING AND RIGGING WORK					

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**SECTION 01150
TRAINING AND QUALIFICATIONS**

Hanford Course Number	Course Title	CPCCo Documents	Off-site training acceptable (Yes / No)	Comments	Applicable to Contract (Yes / No)
170664	Hoisting and Rigging Manual (DOE-RL-92-36) Overview	DOE-RL-92-36	N	<ul style="list-style-type: none"> Equivalent to 040784 Basic Crane and Rigging Safety 4 hours 5 yr. retraining period. Cost - \$645.00 	N
040784	Basic Crane & Rigging Safety	DOE-RL-92-36	Y	<ul style="list-style-type: none"> 16 Hours 5 yr. retraining period. United Brotherhood of Carpenters class accepted; MSA Letter CPL600000-08-02. Must complete a site specific examination. Present journeyman card, certificate of completion or training record. Equivalent to 040788 Basic Crane & Rigging Safety Challenge Examination Cost - \$2,580.00 	N
040786	Basic Crane & Rigging Safety Refresher	DOE-RL-92-36	Y	<ul style="list-style-type: none"> Equivalent to 040788 Basic Crane & Rigging Safety Challenge Examination Cost - \$965.00 	N
040788	Basic Crane & Rigging Safety Challenge Examination	DOE-RL-92-36	N	<ul style="list-style-type: none"> 1 Hour 5 yr. retraining period. Cost - \$55.00 	N
042860	Incidental Rigging Activities (OJE)	DOE-RL-92-36	N	<ul style="list-style-type: none"> 3 Hours 5 yr. retraining period. Prerequisite 040784. Cost - \$0.00 	N
AERIAL LIFTS					
041886	Aerial Lift Inspection	CPCC-RD-SH-10972	Y	<ul style="list-style-type: none"> 4 hours. 5 yr. retraining period. Must complete a site specific examination. Present journeyman card, certificate of completion or training record. 	Y
042720	Aerial Lift Operator Training	CPCC-RD-SH-10972	Y	<ul style="list-style-type: none"> 4.5 hours. 5 yr. retraining period. United Brotherhood of Carpenters class accepted; MSA Letter RML46000-09-01. Must complete a site specific examination. Present journeyman card, certificate of completion or training record. 	Y
0427AL	Aerial Lift Requalification	CPCC-RD-SH-10972	Y	<ul style="list-style-type: none"> 1 hour 5 yr. retraining Prerequisite 042720 	Y

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**SECTION 01150
TRAINING AND QUALIFICATIONS**

Hanford Course Number	Course Title	CPCCo Documents	Off-site training acceptable (Yes / No)	Comments	Applicable to Contract (Yes / No)
043832	Aerial Lift Safety	MSC-RD-10972	N	<ul style="list-style-type: none"> 5 hours 5 yr. retraining period. Equivalent courses; 042720, 043830, 043831, 043920, 105866, 043833 	Y
043833	Aerial Lift Safety Challenge Exam - CBT	MSC-RD-10972	N	<ul style="list-style-type: none"> 1 hour 5 yr. retraining period Equivalent courses, 043831, 043920, 043832 	Y
04468A	Class 2 Aerial Lift Self Propelled Articulated (OJE)	DOE-RL-92-36	N	<ul style="list-style-type: none"> 3 Hours 5 yr. retraining period. Prerequisite 042720 Complete a Hanford Site specific OJE. 	Y
04468B	Class 3 Aerial Lift Self Propelled Platform (OJE) (Scissor Lifts)	DOE-RL-92-36	N	<ul style="list-style-type: none"> 3 Hours 5 yr. retraining period. Prerequisite 042720 Complete a Hanford Site specific examination. 	Y
LADDERS - PORTABLE					
600060	CPCCo Competent Person –Portable Ladder Inspector	CPCC-RD-SH-24243	N	<ul style="list-style-type: none"> 2 hours Prerequisites 044392 and 044391 	Y
044391	Portable Ladder Safety - CBT	CPCC-STD-SH-40314	Y	<ul style="list-style-type: none"> 1 hour. Present certificate of completion or training record. 	Y
044392	Competent Person Portable Ladder Inspection - CBT	CPCC-STD-SH-40314 CPCC-PRO-MN-40323	N	<ul style="list-style-type: none"> 1 hour. Prerequisite – 044391. 	Y
SCAFFOLDING					
600062	CPCCo Competent Person - Scaffold	CPCC-PRO-SH-095	N	<ul style="list-style-type: none"> 2 hours Prerequisites 044371, 044372 and 044373 	N
044373	Scaffold Safety Erector/Dismantle	CPCC-PRO-SH-095	Y	<ul style="list-style-type: none"> 8 hours. Prerequisite – 044372. Equivalent – 044370, 044388. United Brotherhood of Carpenters/Occupational Safety and Health Association Scaffolding Training class accepted; MSA Letter CPL600000-08-01. Present journeyman card, certificate of completion or training record. 	N

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**SECTION 01150
TRAINING AND QUALIFICATIONS**

Hanford Course Number	Course Title	CPCCo Documents	Off-site training acceptable (Yes / No)	Comments	Applicable to Contract (Yes / No)
044372	Scaffold Safety for Inspectors	CPCC-PRO-SH-095	Y	<ul style="list-style-type: none"> 9 hours. Equivalent – 044370, 044387. United Brotherhood of Carpenters/Occupational Safety and Health Association Scaffolding Training class accepted; MSA Letter CPL600000-08-01. Present journeyman card, certificate of completion or training record. 	N
044371	Users Scaffold Safety - CBT	CPCC-PRO-SH-095	Y	<ul style="list-style-type: none"> 1 hour. Equivalent – 044370, 044372, 044373, 044383, 171051, 171052. United Brotherhood of Carpenters/Occupational Safety and Health Association Scaffolding Training class accepted; MSA Letter CPL600000-08-01. Present journeyman card, certificate of completion or training record. 	Y
TRANSPORTATION FEDERAL MOTOR CARRIER TRAINING (If Operating a CMV)					
020083	Federal Motor Carrier Safety Regulations for Drivers	MSC-PRO-37561	N	<ul style="list-style-type: none"> 3 yr. retraining period. 8 hours Any person who will operate a CMV Equivalent - 020084 	N
020084	Federal Motor Carrier Safety Regulations for Managers and Supervisors	MSC-PRO-37561	N	<ul style="list-style-type: none"> 3 yr. retraining period 16 hours Equivalent CBT 02C084 	N
050411	Load Securement for Drivers and Traffic Personnel	CPCC-PRO-TP-166 MSC-PRO-37561	N	<ul style="list-style-type: none"> 3 yr. retraining period 4 hours Equivalent 050410 	N
050412	Load Securement for CDL Driver and Supervisors	MSC-PRO-37561	N	<ul style="list-style-type: none"> 3 yr. retraining period 4 hours Equivalent 050410 Prerequisite 050411 	N
QUALITY ASSURANCE TRAINING					
170720	Suspect Counterfeit Items	CPCC-PRO-QA-301	N	<ul style="list-style-type: none"> 4 hours 1 yr. Retraining 	Y

1.3.4 Other Training

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**SECTION 01150
TRAINING AND QUALIFICATIONS**

PART 2 - PRODUCTS

Not Used

PART 3 - EXECUTION

Not Used

END OF SECTION

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SECTION 01200 PROJECT MEETINGS

PART 1 – GENERAL

1.1 SUMMARY

1.1.1 General purposes of conferences and meetings addressed in this Section are coordination, control, and direction of the Work. In addition to meetings addressed by this Section, Contractor may be required by other Sections and other Contract documents to conduct special-purpose meetings and various safety meetings and briefings.

1.1.2 Buyer will issue meeting notices and prepare an agenda and minutes for each conference and meeting addressed in this Section. When applicable, minutes will identify action items, assigned actionees, and due dates.

1.2 SITE LABOR CONFERENCE

1.2.1 Before start of Work, Contractor shall conduct a conference at a time and Hanford Site location agreed upon by Contractor and the Labor Organization representatives.

1.2.2 Invited attendees shall include Buyer, Contractor, subcontractors, Labor Organizations representing utilized crafts, and others having an interest in Hanford Site labor requirements.

1.2.3 Purpose of the conference is familiarization of project participants with Hanford Site labor requirements. Conference shall last approximately one hour and shall include a presentation by the Contractor of the proposed craft utilization and work plan.

1.3 PRECONSTRUCTION CONFERENCE

1.3.1 Before start of the Work, Buyer will conduct a conference at a time and Hanford Site location agreed to by Contractor and Buyer.

1.3.2 Invited attendees will include Buyer, Contractor, subcontractors and others having an interest in the Work

1.3.3 Purpose of the conference is the coordination of Work startup and familiarization of project participants with the Work and worksite. The conference will last approximately two (2) hours and will include the following agenda.

- a. Certified payrolls
- b. Construction Progress Meetings
- c. Forms required by the Contract. Buyer will provide reproducible masters

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SECTION 01200 PROJECT MEETINGS

- Construction Daily Activity Report (A-6004-822)
- Work Release for Construction Service Organization (A-6004-967)
- Change Form (A-6004-820)
- Chemical Inventory Worksheet (A-6004-750)
- Contractor Document Submittal Form (A-6004-757)
- Request for Clarification or Information (RCI) (A-6004-833)
- Craft-Specific Job Safety Analysis/Position Hazard Analysis (K-1 JSA/PHA) (A-6004-783)
- Job Safety analysis/Activity Hazard Analysis (K-2 JSA/AHA) (A-6004-784)
- Task-Specific Job Safety analysis (K-3 JSA) (A-6004-785)
- Significant Discharge Log (A-6002-294)
- Contractor – Job site safety inspection/observation checklist (A-6004-815)
- Other Site Forms that may be reviewed that this meeting:

Form No.	Title
A. Form A-6005-436	Generator Initial Start-Up Checklist
B. Form A-6005-437	Hanford Generator Re-Start-Up Checklist
C. Form A-6004-929	Construction Completion Document
D. Form A-6004-590	Waste Planning Checklist
E. Form A-6004-952	Formal Pre-Job Briefing Checklist
F. Form A-6006-539	Construction Lost Time / Work Delay Notification
G. Form A-6004-286	Fall Protection Work Permit
H. Form A-6006-914	Mobile Equipment Daily Pre-Use Inspection Checklist
I. Form A-6006-916	Mobile Equipment Operation Worksite Pre-Use Checklist
J. PTS-TO-15-001	Compensatory Actions for Conduct of Operations Events
K. PTS-TO-16-001	Compensatory Action for LO/TO Events
L. Form A-6005-414	PRC ERDF Container Verification Data Sheet

- d. Material and equipment lists
- e. Points of contact and key personnel representing the Contractor and Buyer. Areas covered will include safety, quality assurance and quality control, Price Anderson Amendment Act (PAAA), acceptance inspection, and construction engineering

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SECTION 01200 PROJECT MEETINGS

- f. Quality requirements
 - g. Report requirements
 - h. Safety
 - i. Schedule requirements, schedule constraints, and work limitations
 - j. Submittals
- 1.4 CONSTRUCTION PROGRESS MEETINGS
- 1.4.1 Every week Buyer will conduct a progress meeting at time and Hanford Site location determined during the Preconstruction Conference.
- 1.4.2 Invited attendees will include Buyer, Contractor, and subcontractors.
- 1.4.3 The purpose of the meetings is the exchange of Work-related information. Average meeting will last approximately 3 hours and will include the following agenda items:
- a. Safety
 - b. Quality Assurance
 - c. Progress
 - d. Submittal Status
 - e. Schedule, Cost and Construction Status
 - f. Requests For Information – Status
 - g. Design and Scope Changes
 - h. Material and Equipment Status
 - i. Problem Areas
- 1.4.4 Contractor to provide a 2-week look-ahead schedule for review during the meeting. Refer to Section 01315 for level of detail required on 2-week look-ahead schedule.
- 1.4.5 The Contractor shall complete Construction Daily Activities Field Reports (A-6004-822, Rev 3) and Lost Time/Work Delay Notification (A-6006-539 Rev.1) if applicable. The Contractor shall provide Buyer with a Construction Daily Activities Field Report identifying detailed work activities performed for the day: craft by name/hours worked and company, Supervision, by name/hours worked and company, any detailed problems/issues/delays, vehicles/equipment used, detailed work activities planned for the next day, Safety observations, Lost Time/Work Delay Block #14, etc. Construction Daily Activities Field Reports shall be submitted by Work Package to Buyer by 10:00 a.m. each work day documenting the previous work day's activities. DAR's will be filled out until the project is completed or terminated. A DAR will be submitted on days where no work has been done.

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**SECTION 01200
PROJECT MEETINGS**

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

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SECTION 01300 SUBMITTALS

PART 1 – GENERAL

1.1 SUMMARY

This Section provides the general procedures and requirements for preparing and processing submittals. Required submittals are identified in other Specification sections, other Contract sections, and the Buyer OS/IH Manual. Required submittals are also summarized by Buyer on the Master Submittal Register. An example submittal register is shown in this Section. The submittal register may not be all-inclusive, and identifies documents required with proposal submittal, post-award / prior to Notice-To-Proceed (NTP), and post NTP.

- 1.1.1 Requests for substitutions are prepared in accordance with Section 01630 and processed in accordance with this Section. “Deliverable documents” differ from submittals and are processed in accordance with Section 01720. Deliverable documents are Quality Assurance documents and are required by technical sections of the Specification.

1.2 CLARIFICATIONS

- 1.2.1 Contract documents take precedence if a conflict exists between Contract documents and the submittal register. Immediately notify Buyer of discrepancies in the submittal register.
- 1.2.2 Approval of a specific item does not constitute approval of a system or assembly of which an item is a component.
- 1.2.3 Materials and equipment that differ from approved submittals are subject to rejection and replacement at Contractor’s expense.
- 1.2.4 Delays arising from failure to provide required submittals in a timely manner will not constitute excusable delays for extension.
- 1.2.5 Standard processing time of submittals by Buyer is under 1 week and is measured from date of submittal’s receipt by Buyer to date of return mailing.

1.3 SUBMITTAL BY CONTRACTOR

- 1.3.1 The Contractor submittals identified herein on the submittal register shall be submitted to Buyer Construction Document Control by the Contractor using the Contractor Document Submittal (A-6004-757). Instructions for completion of the submittal are included with the form.

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SECTION 01300 SUBMITTALS

- 1.3.2 The quantity, frequency, and type of submittal shall agree with the requirements set forth on the submittal register. The submittal number shall be entered on the submittal form by the Contractor in accordance with the submittal register. This number is used to identify each submittal.
- 1.3.3 When any submittal is returned to the Contractor with a request to resubmit (i.e., marked as: “B-yes” “Minor Comments – Approved With Exceptions as Corrected Re-submittal Required”; or “C” “Not Approved Revise and Resubmit”) the Contractor shall resubmit all corrected documents within the time specified on the returned submittal form, or if no time is specified, within 5 working days from the disposition date.
- 1.3.4 Contact the Contract Specialist if additional submittal numbers are required.
- 1.3.5 Changes to a Contractor’s deliverables that have not been accepted by Buyer as complete shall be re-submitted using the submittal form and in accordance with the Contractor’s Buyer-approved Quality Assurance Program.

1.4 MASTER SUBMITTAL REGISTER

A submittal register will be provided to the Contractor at the time of contract award.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

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**SECTION 01300A
MASTER SUBMITTAL REGISTER**

MASTER SUBMITTAL REGISTER								
Contract Number/Name: CWC-WRAP DPSS							Revision: 0	
Submittal No.	Type and # of Copies	Technical Submittal	Task Applicability	Description of Submittal	Submittal Date (calendar days when required)	Approval Organization	Buyer Review Time Needed (workdays)	Contract Paragraph or Requirement Reference
1	Prop, PDF	Yes	All	Quality Assurance Program	Received with RFP Response	QA	N/A – Proposal Evaluation	Sec 01400, 1.2.2.1
2	PM, PDF	No	All	Contractor’s License	Received with RFP Response	BTR	N/A – Proposal Evaluation	Sec 01010, 1.5.1.2, 1.5.1.3
3	Prop, PDF	No	All	Contractor Personnel Certificates of Competency (i.e. NICET quals, PE License)	Received with RFP Response	BTR, FPE	N/A – Proposal Evaluation	Sec 01010, 1.5.1.1
4	Prop, PDF	No	All	Project Execution Strategy – (include sub-tier contracting strategy)	Received with RFP Response	BTR	N/A – Proposal Evaluation	Sec 01010, 1.1
5	Prop, PDF	No	All	Proposed Project Schedule – Macro/High level capturing major work activities	Received with RFP Response	BTR	N/A – Proposal Evaluation	Sec 01010, 1.1
6	Prop, PDF	No	All	Evidence of successfully installed systems	Received with RFP Response	BTR, FPE	N/A – Proposal Evaluation	Sec 01010, 1.5.1
7	Prop, PDF	No	All	Resumes of Key Project Personnel (FWS, PM, Safety Rep)	Received with RFP Response	BTR	N/A – Proposal Evaluation	Sec 01150, 1.3.1.2 Sec 01110, 1.2.2.2
8	Prop, PDF	No	All	Contractors Safety Program	Received with RFP Response	BTR, Safety	N/A – Proposal Evaluation	Sec 0110, 1.2.2.1
9	APW, PDF	Yes	All	Manufacturers’ Data / Parts List (Task 2 and 3 only)	Prelim Design	Engineering, FPE, QA	4	Sec 01010, 1.12.12
10	APW, PDF,	Yes	All	Shop drawings	Prelim Design	Engineering, FPE	8	Sec 01010, 1.9.1, 1.12.1, 1.9.1.2
11	AP, PDF,	Yes	2,3	As-Built (Record) Working Drawings	As required	Engineering, FPE	8	Sec 01010 1.9.1, 1.12.3, 1.9.1.2
12	AP, PDF	Yes	All	Final Record Drawings	Final Design	Engineering, FPE	8	Sec 01010, 1.12.4, 1.9.1.2

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**SECTION 01300A
MASTER SUBMITTAL REGISTER**

MASTER SUBMITTAL REGISTER								
13	APW, PDF	Yes	2,3	Construction Acceptance Test (For approval)	Mob – 7 days	Engineering, FPE, QA	8	Sec 01010, 1.11.12, 1.12.6
14	APW, PDF	Yes	2,3	Construction Acceptance Test (completed)	EC	Engineering, FPE, QA	8	Sec 01010, 1.11.13, 1.12.10
15	APW, PDF	Yes	2,3	Hydrostatic Test Procedure	Mob – 7 days	Engineering, FPE, QA	8	Sec 01010, 1.12.7
16	AP, PDF	Yes	2,3	Hydrostatic Test Reports	EC	Engineering, FPE, QA	8	Sec 01010, 1.12.7
17	AP, PDF	Yes	2,3	Certificates of Conformance	EC	Engineering, FPE, QA	8	Sec 01010, 1.12.8
18	Deliver, PDF	No	2,3	Punchlist of Deficiencies	EC	BTR	N/A	Sec 01010, 1.12.9
19	APW, PDF	Yes	2,3	CGD Plan	Award +14 days	Engineering, FPE, QA	8	Sec 01010, 1.11.7, 1.12.5, 2.1.4, 2.1.5
20	APW, PDF	Yes	2,3	CGD Test Procedures (May be incorporated into CAT testing plan)	Award +14 days	Engineering, FPE, QA	8	Sec 01010, 2.1.5
21	AP, PDF	Yes	2,3	M&TE Calibration Records	EC	Engineering, FPE, QA	8	Sec 01010, 2.1.6,
22	AP, PDF	Yes	2,3	Completed CGD Packages	Mob – 7 days	Engineering, FPE, QA	8	Sec 01010, 1.12.5, 2.1.7
23	AP, PDF	Yes	2,3	Nonconformance/Deviation Reports	EC	Engineering, FPE, QA	8	Sec 01400, 1.7
24	Deliver, MFC, P3	No	All	Project schedule – Detailed/Micro – with all individual tasks identified	Award +14 days	BTR	N/A	Sec 01315, 1.2, 1.3
25	Deliver, PDF AP	No	2,3	Training Matrix (Specific to each craft)	Award + 7 days	BTR	8	Sec 01150
26	PDF APW	Yes	2,3	Training Records (Completed Training)	Prior to Mob	BTR	8	Sec 01150, 1.2.2.1

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SECTION 01300A MASTER SUBMITTAL REGISTER

MASTER SUBMITTAL REGISTER								
27	PDF, APW	Yes	1	Hydraulic Calculations (8 total) - 6 for 0.20gpm /1950 sqft – each building - 1 for 0.15gpm/ 1950 sqft – 2402WE only - 1 for 0.20gpm/ 2600 sqft – 2402WE only -Include Supply/Demand graph for each	Final Design	Engineering, FPE, BTR	10	Sec 01010, 1.9.2.1, 1.9.2.2, 1.9.2.3, 1.4.14
28	PDF APW	Yes	1	Seismic Bracing calculation per NFPA 13 (1 set of calcs representative for all buildings)	Final Design	Engineering, FPE, BTR	10	Sec 01010, 1.4.8, 1.9.2.4
29	AP, PDF,	No	2,3	Waste Management Plan	Award + 14 days	BTR	8	Sec 01130, 1.2.2.1
30	APW, PDF	No	2,3	Chemical Inventory - and associated Safety Data Sheets (SDS)	Mob – 7 days	BTR, Safety	8	Sec 01130, 1.2.2.2, 1.2.2.3
31	AP, PDF	Yes	2,3	Statement – Warranty as new	EC	BTR	8	Sec 01400, 1.2.3.1
32	APW, PDF	Yes	2,3	QAIP - Traveler	Mob – 7 days	BTR, Engineering, QA	8	Sec 01010, 1.12.11 Sec 01400, 1.8.4

1. Submittal type, number of copies and format:

Prop = Submitted with proposal for evaluation.

PM = Prior to Mobilization or performance of technical work on this contract.

APW = Approval Required Prior to Work (Buyer must approve the Contractor’s submittal prior to the Contractor being authorized to proceed with any activity/work associated with the submittal).

AP = Approval Required (Buyer must approve the Contractor’s submittal, however, work associated with the submittal may proceed prior to Buyer approval).

Deliver = Deliver to BTR

Format: Describes the type of submittal required (electronic or printed):

DWG An AutoCAD drawing using the Hanford standard formatting (See CPCCo-00263, *Off-Site Vendor Instructions for the Preparation and Control of Engineering Drawing*).

MFC Microsoft Format Compatible application (Word, Excel, Access, PowerPoint)

P3 A Primavera Project Planner schedule

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SECTION 01300A MASTER SUBMITTAL REGISTER

GEN General or Open Format/Media
PDF Adobe Acrobat (Portable Document Format)

2. 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.
3. Vendor Information for project record purposes.
4. Required submittal date or its relationship to project milestones. Examples are July 14, 2009, or Award + 15 days, Contract Completion +30 days.

A Date of Award
CD Conceptual Design Complete
PD Preliminary Design Complete
FD Final Design Complete
M Mobilization
SC Start of Construction
EC End of Construction

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Req 366140 CWC Fire Sprinklers Design/Build Selected Buildings

05/25/2023

SECTION 01315
PROJECT SCHEDULES, PROJECT CONTROLS,
AND PROJECT PERFORMANCE MILESTONES

PART 1 – GENERAL

1.1 SCHEDULES

1.1.1 Schedule Preparation

1.1.1.1 Prepare schedules using commercial project planning software. Preferred software (used by Buyer) is Primavera Project Planner (P6). Other project planning software may be used if Contractor provides software translation capability to and from Primavera.

1.1.1.2 A sample P3 Activity Code Structure and Work Breakdown Structure (WBS) will be provided to the Contractor in order to assist in the preparation of the Construction Schedule, which will enable communication and downloading of the Contractor's schedule with Buyer IMES Schedule system.

1.1.1.3 Identify initial project schedule as Revision 0. This schedule, when approved, is the baseline project schedule.

1.1.2 See Section 01300 for submittal process.

1.1.3 Approval Required

1.1.3.1 Startup Project Schedule: 10 days after Notice of Award, submit a schedule covering activities for the first 60 days of Contract, starting with receipt of Notice to Proceed, as specified in 1.2.

1.1.3.2 Project Schedule: 30 days after Notice of Award, submit a schedule covering activities for duration of Contract.

1.1.3.3 Revised Schedules: When required, submit revised project schedules

1.1.4 Approval Not Required

1.1.4.1 Weekly Work Schedules: Provide a 2-week "look ahead" schedule, updated weekly, one day prior to each scheduled Weekly Progress Meeting.

1.1.4.2 Progress Reports: One month after submittal of project schedule, and every 2 weeks thereafter, submit a progress report as specified in 1.5.. This progress report may be discussed in the weekly project meeting.

1.1.4.3 *Weekly labor cost reports: No later than the second day of the following week, submit weekly labor cost reports. Cost reports shall be budget- and quantity-based,*

SECTION 01315
PROJECT SCHEDULES, PROJECT CONTROLS,
AND PROJECT PERFORMANCE MILESTONES

and reflect each work element in the WBS. The cost reports shall be updated each week with the progress and variances for each work element. The weekly cost reports shall indicate employee names, company name, and hours worked of all people charging their time to the project.

1.2 SCHEDULE PREPARATION

1.2.1 The schedule submittal shall include a time-phased performance measurement baseline schedule (PMBS) for completing the individual construction Work.

1.2.2 The schedule shall 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, delivery, erection, installation, and testing for work covered by Contract.

1.2.3 See submittal register for copy type to be submitted and approval code.

1.3 SCHEDULE REVISIONS

1.3.1 Whenever Buyer determines that there are significant variances between actual and scheduled progress, endangering completion of the Contract Work within the scheduled time, the Contractor may be required to prepare and submit revised project schedules including corrective action plan(s).

1.3.2 Make schedule revisions in accordance with the following:

1.3.2.1 Show progress to date of submittal and projected completion dates for each activity.

1.3.2.2 Identify activities modified since the previous submittal, major changes in scope, and other identifiable changes.

1.3.2.3 Provide a narrative report defining the problem areas, anticipated delays, and schedule impacts.

1.3.2.4 Describe corrective action taken, or proposed, and its effect, including changes in schedules of subcontractors.

1.3.3 Send copies of revised schedules to Buyer. Notify subcontractors, suppliers, and other concerned entities, instructing them to promptly report, in writing, problems anticipated due to revisions.

SECTION 01315
PROJECT SCHEDULES, PROJECT CONTROLS,
AND PROJECT PERFORMANCE MILESTONES

1.3.4 Upon approval, a revised schedule becomes the new baseline.

1.4 WEEKLY WORK SCHEDULE PREPARATION

1.4.1 Each week, prepare a detailed schedule of next 2-week's work. Base weekly work schedules on the activity schedule. Electronic generation of these schedules is not required. Include the following:

- a. Work Description
- b. Location of the Work.
- c. Work involving outages, overtime, weekends, etc.

1.5 PROGRESS REPORT PREPARATION

1.5.1 Prepare a summary progress report each reporting period, show actual progress versus scheduled progress. Scheduled progress is given by baseline project schedule. Show actual progress in the form of percentages completed for activities or resources.

1.5.2 A variance analysis shall be prepared on the current month and cumulative to date, and shall include cause, impact, and corrective action. Variance analysis shall include explanations, as required, to adequately address problems.

1.5.3 Develop and include a line graph ("S" curve) to show cumulative actual progress versus cumulative scheduled progress. Progress shown shall be consistent with that indicated by the reports.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

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SECTION 01400 QUALITY ASSURANCE AND CONTROL

- 1.1.1.4 Factory Mutual (FM)
Approval Guide
- 1.1.1.5 Institute of Electrical and Electronics Engineers (IEEE)
C2 National Electrical Safety Code (NESC)
- 1.1.1.6 International Standards Organization (ISO)
ISO 9000:2000 Quality Management and Quality Assurance Standards
- 1.1.1.7 Intertek Testing Services NA, Inc. (ITSNA)
ETL, Section 1 Electrical Products/Gas/Oil Fueled Products
- 1.1.1.8 National Electrical Manufacturers Association (NEMA)
MG-1 Motors and Generators
- 1.1.1.9 National Fire Protection Association (NFPA)
70-2018 National Electrical Code (NEC)
- 1.1.1.10 Underwriters Laboratories (UL)
Electrical Appliance and Utilization Equipment Directory
Electrical Construction Materials Directory
- 1.2 SUBMITTALS
- 1.2.1 See Section 01300 for submittal process.
- 1.2.2 Approval Required
- 1.2.2.1 With proposal, submit a Quality Assurance Program (QAP) meeting the requirements of the Contract and this Section. Include subcontracted work and work performed off of the Hanford Site. If QAP is based on a consensus national standard or other quality management system, furnish a matrix showing the cross-references between the QAP and the standard or system.
- 1.2.3 Approval Not Required

SECTION 01400
QUALITY ASSURANCE AND CONTROL

1.2.3.1 With proposal, submit a written statement warranting that all items supplied under Contract are genuine, new, and unused in accordance with 1.4.

1.3 **QUALITY ASSURANCE PROGRAM REQUIREMENTS**

1.3.1 The Quality Assurance Program (QAP) requirements imposed by this Specification are under the authority of the Price Anderson Amendments Act (PAAA) of 1989. Quality assurance provisions are developed from U.S. Department of Energy Nuclear Safety Management Regulation 10 CFR 830.120. QAPs developed from other national standards (e.g., ASME NQA-1, 10 CFR 50, 10 CFR 72, ISO 9000, ASQ E4) may be used as a basis for satisfying the criteria specified, and should be supplemented and submitted as necessary to satisfy the requirements.

1.3.2 The Contractor shall maintain a documented Quality Assurance Program and implementing procedures that meet the requirements of ASME NQA-1-2008 (with 2009 addenda), “Quality Assurance Requirements for Nuclear Facility Applications” according to Table 3 below

Table 1 ASME NQA-1-2008 Part 1 Requirements

Section	Basic Requirement	Application
1.	Organization	100, 200, 300
2.	Quality Assurance Program	100, 200, 300, 400, 500
3.	Design Control	100, 200, 300, 400,
4.	Procurement Document Control	100, 200, 300, 400,
5.	Instructions, Procedures and Drawings	100
6.	Document Control	100, 200, 300
7.	Control of Purchased Items and Services	100, 200, 300, 400, 500 (excl. 506), 600, 700, 800, Subpart 2.14 – 100, 500, 600 (excl. 605), 700, 800
8.	Identification and Control of Items	100, 200, 300
9.	Control of Process	100, 200, 300, 400
10.	Inspection	100, 200, 300, 400, 500, 600,
11.	Test Control	100, 200, 300, 400, 500, 600
12.	Control of Measuring and Test Equipment	100, 200, 300, 400
13.	Handling, Storage and Shipping	100
14.	Inspection, Test and Operating Status	100
15.	Control of Nonconforming Items	100, 200, 300, 400
16.	Corrective Action	100

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SECTION 01400
QUALITY ASSURANCE AND CONTROL

Table 1 ASME NQA-1-2008 Part 1 Requirements

Section	Basic Requirement	Application
17.	Quality Assurance Records	100, 200, 300, 400, 500, 600, 700, 800
18.	Audits	100, 200, 300, 400, 500, 600, 700, 800
	Part II, Subpart 2.7, Quality Assurance Requirements for Computer Software for Nuclear Facility Applications	100 (excl. 101), 200, 300, 400 (excl. 401, 402), 500, 600
	Part II, Subpart 2.14, Quality Assurance Requirements for Commercial Grade Items and Services	100, 500, 600, 700, 800

Implementation Plans:

If, as a result of prior pre-award assessments of the Contractor’s QAP and Implementing Procedures, some elements required for this Contract are not implemented, some are not implemented in the written program documentation or some are adequately covered in documentation, but not implemented in the field. The following must occur.

The Contractor will endeavor to bring their program documentation into full compliance with all the QAP elements identified in the table within paragraph 1.3.2 in this Section. In addition, the Contractor shall collect and submit documented evidence as field activities are performed that demonstrate the implementation of the identified items. Implementation of these items is to proceed in accordance with the following:

Field Implementation Needed:

Upon award of a work release, Buyer and Contractor shall agree which outstanding QA elements will be required (or potentially performed) within the scope, and what documentation is generated for verification. During the performance of awarded scope, Contractor shall notify Buyer prior to the implementation of any non-implemented item, and shall generate documented evidence of performance. This documentation shall be submitted in accordance with the project submittal process. Upon collection of sufficient documentation, the Buyer shall notify the Contractor that the element has been sufficiently implemented. Buyer may institute enhanced oversight of these elements prior to the agreement between Buyer and Contractor to verify the elements have been fully implemented. Buyer may enlist a third party for independent verification of the implementation.

- 1.3.3 The QAP shall apply to all activities, including subcontracted activities and for work performed off the Hanford Site. The QAP shall include provisions for the following:
 - 1.3.3.1 Management: Program, training/qualification, discrepancy identification, document/records.

SECTION 01400 QUALITY ASSURANCE AND CONTROL

- a. Quality documents shall describe the organizational structure, functional responsibilities, levels of authority and interfaces for those managing and performing the Work.
- b. Personnel shall be trained and qualified to ensure they are capable of performing their assigned work. Plans shall address specific training, qualification, and certification requirements.
- c. Items and processes that do not meet the requirements shall be identified, controlled, and corrected. Identify items or materials that do not meet specified requirements and control them to prevent inadvertent use, shipment, or intermingling with acceptable materials or items.
- d. Documents shall be prepared, reviewed, approved, issued, revised and maintained. Approved and current issues of design documents, applicable submittals, procedures, procurement documents and instructions shall be used. Records shall be legible, identifiable, and retrievable.

1.3.3.2 Performance: Work Processes, Design, Procurement, Inspection, and Testing

- a. Items shall be identified and controlled to ensure proper use. Items shall be maintained to prevent their damage, lost or deterioration.
- b. Design work, including changes, shall incorporated applicable requirements and design bases and be correctly translated into design outputs.
 1. Design inputs and interfaces shall be identified and controlled.
 2. Changes to the approved design shall be justified and subjected to measures commensurate with the original design.
 3. For designs not previously proven, adequacy of design outputs shall be verified by individuals or groups other than those who performed the design. Minimum verification shall include a checking process.
- c. Purchased items and services shall meet established requirements and perform as specified. This shall be documented on receiving inspection reports. Procurement controls shall include actions to prevent the use of suspect or counterfeit products (1.4).
- d. Contractor shall be responsible for the performance of all inspection and testing activities as specified in the Contractor Quality Assurance Inspection Plan. Inspection and testing of specified items and processes shall be conducted using established acceptance and performance criteria.

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SECTION 01400 QUALITY ASSURANCE AND CONTROL

1. Perform and document inspections and testing required by the Contract. Documented inspections shall report the true and physical/functional condition of the inspection activity. As a minimum prepare daily reports when inspections and testing are performed. Reports shall provide sufficient detail to describe inspections and testing performed, with applicable requirements referenced, and results and determinations of inspections and tests shown.
2. Test procedures, when required, shall include the reference test objectives, prerequisites, and acceptance criteria. Test procedures shall also identify test configuration, safety instructions, instrumentation requirements, required monitoring, and environmental conditions. Test procedures form standards, codes, supplier manuals and equipment maintenance instructions may be used in lieu of specially prepared test procedures.
3. Complete required inspections and tests and have documentation available for review, before requesting overview inspection by Buyer.
4. Measuring and Test Equipment (M&TE) shall be properly calibrated maintained, accounted for and used when required. Calibration shall be traceable to National Institutes of Standards and Technology Calibration (NIST) Standards. Perform calibration at specified intervals based on the type of equipment, required accuracy, and frequency of use, stability characteristics, and other conditions affecting performance. Maintain records and mark equipment to show calibration status.
5. When M&TE is found to be out of calibration, specify means to identify its use since the last calibration and methods to re-verify acceptability of items previously tested.
6. Calibration shall have accuracy traceable to national standards (where they exist), and calibration standards shall have the accuracy to ensure that the M&TE has the required tolerances.

1.3.4 Electrical/Electronic Product Acceptability

- 1.3.4.1 Electrical control panels and electrical equipment (a general term to include material, fittings, devices, appliances, luminaries [fixtures], apparatus, and the like used as part of or in connection with an electrical installation) delivered or brought onto the Hanford Site in performance of this Contract shall be listed or labeled by an organization currently recognized by OSHA as a nationally recognized testing laboratory (NRTL) in accordance with DOE-0359.

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SECTION 01400 QUALITY ASSURANCE AND CONTROL

- 1.3.4.2 Electrical equipment installed as part of this contract shall comply with the NEC and, where applicable, the NESC. Buyer reserves the right to inspect electrical equipment and installations. Contractor shall notify Buyer when installations are available for NEC inspection.
- 1.3.4.3 Electric motors shall be manufactured and testing 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 Buyer on request.
- 1.4 EXCLUDING SUSPECT AND MISREPRESENTED PRODUCTS
- 1.4.1 Contractor warrants that items provided to Buyer are genuine and unused unless otherwise specified in writing by Buyer. Contractor further warrants that items used during the performance of the Work include genuine, original, and new components, or are otherwise suitable for the intended purpose. The Contractor indemnifies Buyer, its agents, and third parties for any financial loss or property damage resulting directly or indirectly from material, components, or parts that are not genuine, original, and unused, or otherwise suitable for the intended purpose. This includes 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.
- 1.4.2 Types of material, parts, and components known to have been misrepresented include 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 shall also extend to labels and trademarks or logos affixed, or designed to be affixed, to items supplied or delivered to Buyer. In addition, because falsification of information or documentation may constitute criminal conduct, Buyer may reject and retain such information or items, at no cost; and identify, segregate, and report such information or activities to the DOE.
- 1.4.3 Contractor shall submit a written statement that "all items furnished under this Contract are genuine (i.e., not counterfeit) and match the quality, test reports, markings, and fitness for use required by the Contract." The statement shall be on Contractor letterhead and signed by an authorized agent of Contractor.
- 1.4.4 Any materials furnished as part of this Contract that have been previously found to be suspect/counterfeit by the DOE will not be accepted. For more information about suspect/counterfeit items, refer to Process Guide for the Identification and Disposition

SECTION 01400 QUALITY ASSURANCE AND CONTROL

of S/CI or defective items at the following link:

<http://www.hss.doe.gov/sesa/corporatesafety/sci/guide.html>

1.5 INSPECTION AND TESTING

1.5.1 Inspection, testing, and documentation addressed under the Inspection Plan articles in this Statement of Work shall be performed by qualified Quality Control personnel who are independent of the work being performed. Quality Control personnel shall have been trained and qualified in accordance with the approved QAP.

1.5.2 Inspection and testing shall be performed in accordance with this Statement of Work.

1.5.3 Buyer may perform oversight and inspections to verify compliance to requirements.

1.5.4 Verifications shall be performed for specific verification points as scheduled in the Inspection Plan.

1.5.5 Prerequisites to verification points: Ensure that personnel have completed inspections of, and approved portions of, work in accordance with the Specification requirements before notifying Buyer.

1.5.6 Specific verification points are defined as follows:

- **QA Hold Point:** A type of signature step in a technical work document that satisfies established criteria for designation of Hold Points at which specific personnel are required to sign for the specified action. Hold Points consist of an action; acceptance criteria for Hold Point completion; and blocks for signature of performer, printed name of performer, and date.
- **Verification Point:** A step in an inspection plan, procedure, or other work document that requires inspection personnel to review, inspect, test, check, or otherwise determine and document whether or not items, processes, services, or documents conform to specified requirements.
- **Witness Point:** A step in an inspection plan, procedure, or other work document that requires inspection personnel to observe an activity (e.g., examination or test).

NOTE: *"Verification" may be performed **after** the fact; "witness" is performed **during** the work process.*

- **Radiological Control Hold Point:** A hold point that is used when the potential exists in which incorrect implementation of radiological controls could exceed one or more of the following criteria:

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SECTION 01400 QUALITY ASSURANCE AND CONTROL

- Radiation exposures in excess of Administrative Control Levels
- High airborne radioactivity concentrations without protection or controls
- The uncontrolled release of radioactive contamination

1.6 COMMERCIAL GRADE ITEM PROCUREMENT

1.6.1 Contractor shall purchase and dedicate commercial grade items in accordance with approved QAP.

1.6.2 Products may have been identified on the Drawings or in this Specification as Safety Class or Safety Significant items. These products shall be obtained from suppliers qualified in accordance with the approved QAP, or be commercial grade items meeting acceptance criteria specified. Acceptance testing shall be performed by qualified personnel. Document test results in test reports.

1.6.3 Commercial grade items shall be identified in the manufacturer's published product description (e.g., Gate Valve-Crane Cl. No. 411UB; Compressed Gasket-Garlock No. 900). The exception to this requirement is specifying parts or items to a recognized national standard (e.g., ASTM A 315, ASTM A 53, Type E or D, Grade B galvanized pipe). In these cases, the manufacturer's published product description shall be identified on the purchase order.

1.6.4 Critical characteristics and acceptance testing have been established in the applicable technical section to provide identifiable and measurable attributes/variables that are critical to the items' acceptance for use.

1.7 DEFICIENCY REPORTING

1.7.1 Utilize a deficiency reporting system (e.g. nonconformance/deviation reports) to document deviations from requirements. Deficiency reports shall have a recommended disposition and shall be formally submitted to Buyer within 48 hours of discovery.

1.7.2 Dispositions of deficiency reports shall be documented in one of the four following categories: Use-as-is; Reject; Repair; or Rework. Definitions for these categories may be found in ASME NQA-1.

1.7.2.1 Use-as-is and repair deficiencies shall be submitted for concurrence and approval. Reject and rework deficiencies shall be submitted for information. After the recommended disposition has been evaluated by Buyer, the form will be returned to the Contractor with a disposition of "approved" or "rejected." The Contractor shall take corrective action on the nonconformance only after the form is approved. The

**SECTION 01400
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Contractor’s completed nonconformance form shall be shipped with the affected item.

- 1.7.2.2 Deficient items described by the report shall be physically tagged with a deficiency tag or segregated, when feasible.
- 1.7.2.3 Deficiency tagging shall remain intact during correction of deficient conditions, unless tagging inhibits directed corrective action. If removal of tag is necessary to accomplish directed corrective action, removal shall be performed or delegated by the initializing organization.
- 1.7.2.4 Clearance of deficiency tags shall be performed or delegated by the initializing organization.
- 1.7.2.5 Official punch-list and final work acceptance.
- 1.8 **QUALITY ASSURANCE PROCUREMENT REQUIREMENTS**

The Contractor shall comply with the Hanford Site Procurement Quality Clauses listed in Table 4 below.

Table 2: Procurement Quality Clause List

QA Clause	Description
B01	Quality Assurance Program Submittal and Pre-Award Survey
B04	Supplier Quality Program Evaluation
B12	Supplier Use of Calibrated Equipment
B13	Fabrication/Inspection/Test Plan
B14	Supplier Use of Software Controlled Instruments and Equipment Containing Embedded Software (Firmware)
B15	Supplier Use of Commercial off the Shelf Software
B16	Source Inspection
B18	Supplier Use of Spreadsheet Calculations Using Commercial off the Shelf Software
B22	Nonconformance Documentation and Reporting
B31	Nondestructive Examination Process
B34	Identification of Items

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QA Clause	Description
B49	Certified Material Test Report
B52	Inspection and Test Report
B61	Certification of Calibration
B70	Supplier Furnished Items
B73	Control of Graded Fasteners
B76	Procurement of Potentially Suspect or Counterfeit Items
B79	Certificate of Conformance
B80	Certificate of Conformance for Commercial Grade Surveyed Procurements
B84	Commercial Grade Dedication of Items/Services

1.8.1 Quality Assurance Program Submittal and Pre-Award Survey (B01)

The Offeror shall submit the quality assurance program manual that addresses the quality assurance programs identified herein. The formal submittal documentation (cover letter) shall identify the specific bid request and project.

If the Offeror's manual has been previously approved by the Buyer but is not current, the manual shall be updated and resubmitted to the Buyer with the proposal. If the manual has not changed since its previous approval by the Buyer, a statement to this effect shall be submitted with the proposal. The Buyer shall evaluate the Offeror's Quality Assurance program prior to contract award. This evaluation may include a survey of quality program implementation at the Offeror's facilities. If a program change is required, it will be identified to the Offeror prior to contract award. A deficient or inadequate program may be used as the basis to deny award of this contract.

1.8.2 Supplier Quality Program Evaluation (B04)

The Supplier shall document, implement, and maintain a quality assurance program which is consistent with ASME NQA-1-2008 (with 2009 addenda), "Quality Assurance Requirements for Nuclear Facility Applications," as specified in Table 6.2. The Supplier's program is subject to review at all times by the Buyer. The Supplier's program, written for compliance with a quality assurance program standard other than the one imposed on the Purchase Order/Contract Order, may be acceptable if it complies with the quality assurance program requirements specified.

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

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The Buyer reserves the right to verify the quality of work at the Supplier's facility, including any subcontractor's facility. Access to a subcontractor's facility shall be requested through the Supplier and verification may be performed jointly with the Supplier.

The Supplier shall, during the performance of this Purchase Order/Contract Order, submit proposed changes to the quality assurance program to the Buyer for review prior to implementation.

1.8.3 Supplier Use of Calibrated Equipment (B12)

The Supplier shall submit certification stating that the Supplier owned equipment used by the Supplier in the performance of the work listed in the procurement documents has been calibrated utilizing standards whose calibration is traceable to the National Institute of Standards and Technology. If no such standard(s) is available, the Supplier shall submit for review and approval, documentation stating the basis of the equipment's calibration. This certification shall include a report of actual calibration results. The documentation shall be identifiable to the equipment being used and to any acceptance criteria listed in the procurement documents. The report shall contain the signature, with printed name, of the authorized representative of the agency who performed the calibration.

1. Prior to the start of work, the Supplier shall submit the latest calibration certification/report certifying that all calibrated Supplier used equipment is in-calibration.
2. During the course of the contract, the Supplier shall submit a calibration certification/report certifying that all calibrated Supplier owned equipment was calibrated at any manufacture recommended or other prescribed intervals that occur during the life of the work, or whenever the accuracy of the equipment is suspect.
3. Upon completion of work that requires its use, the Supplier shall submit a closeout calibration certification/report certifying that all calibrated Supplier used equipment was recalibrated.

If at any time during the course of contract, the Supplier owned equipment's as-found calibration measurements are out-of-tolerance; the Supplier shall notify the Buyer and submit a copy of the calibration report showing the discrepant as-found measurements. The Supplier shall evaluate the use of the equipment to determine if previously collected data is acceptable. The Supplier shall submit for approval written documentation of this evaluation, including, as necessary, recommendations for the recollection of previously collected data found to be unacceptable. One copy of all required documentation, unless otherwise specified, shall be submitted for review and approval.

1.8.4 Fabrication/Inspection/Test Plan (B13)

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Fabrication/Inspection/Test Plan (Traveler)

The Supplier 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 Purchase Order/ 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 Purchase Order/Contract Order, the Supplier is required to invoke the applicable quality assurance program requirements on the subcontractor.

1.8.5 Supplier Use of Software Controlled Instruments and Equipment Containing Embedded Software (Firmware) (B14)

When Supplier owned calibrated equipment used on the Hanford Site:

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- Contains software or programmable hardware, or
- Is controlled by a software driven external device (computer), or
- Collects data which is processed, analyzed, reduced, or otherwise modified using software before submittal to the Buyer.

The Supplier shall submit a statement certifying that the operation of equipment's programmable components is validated by calibration of the equipment. This statement shall list the equipment's programmable components and shall warrant that all three requirements listed below are met. The statement shall be on the Supplier's letterhead and signed, with printed name, by an authorized agent of the Supplier.

1. The equipment, including any software driven external device is calibrated, adjusted, and maintained as a unit, and
2. The calibration standards' data measured by the equipment is processed, analyzed, reduced, or otherwise modified by the same programmable components used in normal operation, and
3. The code contained in the programmable components including any data files, used to process, analyze, reduce, or otherwise modify the measured values, cannot be altered by the user during normal operation of the equipment. This does not include operational or control data (such as run time or count time) entered into the system following approved procedures or manufacture's published instructions.

One copy of the documentation, unless otherwise specified, shall be submitted for review and approval prior to the equipment being used on site.

1.8.6 Supplier Use of Commercial Off-the-Shelf Software (B15)

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 (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

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- 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.

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¹ 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.

1.8.7 Source Inspection (B16)

All items are subject to inspection at the Supplier's facility or Supplier's subcontractor's facility by a Buyer's quality assurance/quality control representative. Supplier 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.

1.8.8 Supplier Use of Spreadsheet Calculations Using Commercial Off-the-Shelf Software (B18)

The Supplier shall submit the following documentation for all spreadsheets used to perform mathematical calculations in the performance of work listed in the procurement documents.

1. Description of the commercial-off-the-shelf (COTS) software application used to develop/run the spreadsheet, including:
 - a. Manufacture's name and address,
 - b. COTS spreadsheet application's title and version identifier
 - c. Operating system and hardware platform that will be used,
2. An electronic copy of the spreadsheet(s).
3. Description of the calculations, mathematical formulas, and embedded data used in the spreadsheet(s).
4. Standard data set(s) used to verify operation of the spreadsheet application.
 - a. Data sets shall cover each calculation/function which will be used during the performance of the work listed in the procurement documents.
 - b. When the spreadsheet's range of calculations 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.

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5. The results expected from the standard data set(s), including the basis for accepting the standard data expected results, such as:
 - a. Comparison with hand calculations,
 - b. Comparison with calculations using comparable proven problems,
 - c. Comparison with information from published data.
6. The output generated by the spreadsheet 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 spreadsheet. The statement shall be on the Supplier's letterhead and signed, with printed name, by an authorized agent of the Supplier.

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

1.8.9 Nonconformance Documentation and Reporting (B22)

All nonconformances identified at the Supplier's facility with a proposed disposition of "Accept" or "Repair" shall be approved by the Buyer before any corrective action is taken by the Supplier 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.

A Supplier Nonconformance exists when;

1. A Purchaser's technical or material requirement, or a requirement in a Purchaser approved Supplier 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.

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Nonconformances shall be documented by the Supplier on the Supplier'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 Supplier with a disposition of approval or rejection. The Supplier may take corrective action on the nonconformance only after the form is approved.

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

1.8.10 Nondestructive Examination Process (B31)

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 Supplier 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 Purchase Order/Contract Order, the Supplier is required to invoke the applicable quality assurance program requirements on the subcontractor.

1.8.11 Identification of Items (B34)

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

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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.

1.8.12 Certified Material Test Report (B49)

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.

1.8.13 Inspection and Test Report (B52)

The Supplier 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 Supplier'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.

1.8.14 Certification of Calibration (B61)

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The Supplier shall submit legible, reproducible copies of Certificates of Calibration, which are traceable to the National Institute of Standards and Technology, for each article ordered. Each certificate shall be identified with:

1. The Buyer's Purchase Order/Contract Order number.
2. Identification of the article to which the certificate applies.
3. The standards used for calibration. Each calibration certificate shall be signed by the Supplier's representative that is responsible for the calibration to attest to its authenticity.

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

1.8.15 Supplier Furnished Items (B70)

Suppliers shall obtain the items on this Purchase Order/Contract Order directly from the original manufacturer. The supplier shall provide legible and reproducible documentation, with the delivery, that provides objective evidence that the items were provided by the original manufacturer. These may include the Purchase Order/Contract Order to the original manufacturer, shipping documentation, or manufacturer invoice; each of which identify the items obtained from the original manufacturer.

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

1.8.16 Control of Graded Fasteners (B73)

The provisions stated below are the minimum Department of Energy 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 Purchase Order/Contract Order.
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 Purchase Order/Contract Order.
 - Suspect Bolt Head Marking Card

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- Suspect Stainless Steel Fastener Headmark List
3. When requested by the Buyer, the Supplier shall provide a legible and reproducible copy of the manufacturer's Certified Material Test Reports (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 Purchase Order/Contract Order requirements. Additionally, fasteners may also be subjected to destructive testing.
 5. When requested by the Buyer, the Supplier shall provide a Certificate of Conformance which must certify conformance and traceability of supplied materials to the subject Purchase Order/Contract Order. The document must be legible and reproducible.

1.8.17 Procurement of Potentially Suspect of Counterfeit Items (B76)

Notwithstanding any other provisions of this agreement, the Supplier warrants that all items provided to the Contractor shall be genuine, new and unused unless otherwise specified in writing by the Contractor. Supplier further warrants that all items used by the Supplier 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 Supplier 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 Supplier'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

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

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

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

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

For further information on suspect/counterfeit items, reference the Department of Energy (DOE) Guidance at:

<https://www.energy.gov/sites/default/files/2014/07/f17/Headmark%20List%203-29-12.pdf>.

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](#).

1.8.18 Certificate of Conformance (B79)

The Supplier shall provide a legible/reproducible Certification of Conformance. Supplier’s authorized representative responsible for quality shall sign the Certification of Conformance.

This Certification of Conformance shall, as a minimum:

1. Identify the appropriate Purchase Order/Contract Order number under which the material, equipment, item or service is being supplied.
2. Each Order/shipment shall include a C of C unique to that shipment.
3. The quantity of each Line Item shipped shall be identified on the C of C.
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.

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5. The COC shall also identify any procurement document requirements that have not been met together with an explanation and the means for resolving the nonconformances.
6. The COC shall be signed or otherwise authenticated by a supplier's representative. For OCRWM-related and Quality Level 1 & 2 items and services; the person signing the COC shall be the one who is responsible for this QA function and whose responsibilities and position are described in the supplier's QA program.

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

1.8.19 Certificate of Conformance for Commercial Grade Surveyed Procurements (B80)

The Supplier shall provide a legible/reproducible Certificate of Conformance (C of C). The Suppliers authorized representative for quality whose responsibilities and position are described in the suppliers QA program shall sign and date (or otherwise authenticate) the Certificate of Conformance.

This Certificate of Conformance shall at a minimum:

1. The Critical Characteristics are verified in accordance with the program, process or controls and documented on the C of C under which the product was manufactured.
2. Identify the appropriate Purchase Order/Contract Order number under which the material, equipment, item or service is being supplied.
3. Each order/shipment shall include a C of C unique to that shipment. For subsequent shipments on the same purchase order/contract order, reference may be made to documentation provided with earlier shipments, instead of duplicating such documentation.
4. The quantity of each line item shipped shall be identified on the C of C.
5. The C of C shall also identify any procurement documentation requirements that have not been met together with an explanation and the means for resolving the nonconformance's.

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SECTION 01400
QUALITY ASSURANCE AND CONTROL

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

1.8.20 Commercial Grade Dedication of Items/Services (B84)

For items or services requiring Commercial Grade Item (CGI) dedication, the CPCCo CGI or Service Dedication Form (Form A-6005-692) will be employed. CPCCo will complete the technical evaluation sections of the form and define the dedication/acceptance process prior to the item/service procurement. The Contractor shall complete and document the dedication/acceptance process using their inspection and test personnel.

Plans for special tests, inspections, and verification of Subcontractor process (Commercial Grade Survey, Source Verification) shall be submitted to the Buyer and approved before use. The Buyer's Technical Representative (BTR) shall be informed at least 5 working days prior to CGI test, inspection, or verification activities to allow opportunity for CPCCo QA to witness.

Results from dedication/acceptance process shall be submitted to the Buyer within 5 days of being produced. For subsequent shipments on this Purchase Order/Contract order, reference may be made to documentation provided with earlier shipments, instead of duplicating such documentation.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

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SECTION 01500
CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 – GENERAL

1.1 REFERENCES

1.1.1 The following documents and others referenced herein form part of Contract to extent designated in this section. Referenced documents are those current as of the date of this section unless otherwise indicated.

1.1.1.1 National Fire Protection Association (NFPA)

701 Methods of Fire Tests for Flame-Resistant Textiles and Films

1.1.1.2 Washington State Department of Transportation (WSDOT)

M 41-10 Road, Bridge, and Municipal Construction

1.2 ACCESS AND PARKING

1.2.1 Buyer will make available parking for a limited number of Contractor’s company vehicles near the worksite, outside of any Limited Area. “No Parking” signs are posted to show fire and emergency lanes. No on-street parking will be permitted.

1.2.2 Parking for a limited number of Contractor’s company vehicles will be made available near worksite, outside Limited area. “No Parking” signs are posted to show fire and emergency lanes. No on-street parking will be permitted.

1.2.3 First Aid: Facilities for first line medical attention are available onsite and are located at the 2719WB building located in the 200 West Area of the Hanford Site. Facilities for radiological decontamination are also available onsite and are located at the 272AW building in the 200 East Area.

1.3 FIELD OFFICE

1.3.1 A Field Office is not required for this project. Buyer may be able to provide trailer space for Contractors use if space is available.

1.3.2 Sufficiently anchor or tie down portable and re-locatable structures, including field offices and storage, to prevent overturning and lateral movement in 70-mph winds. Enclose or skirt under the floor area with non-combustible material to prevent the accumulation of wind-blown debris. Complete the anchoring and enclosure within 14 days after its arrival at the worksite.

1.3.3 Electric Power: 120V AC available within close proximity of construction site.

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

- 1.3.4 Sanitary Facilities: Sanitary Facilities are available at MO288.
- 1.3.5 Telephone: Utilities for telephone service are not available at the work site. Contractor shall provide cellular phone for emergencies and communication with Buyer.
- 1.3.6 Water: Drinking water is available at or from Building MO288.
- 1.3.7 Buyer will make potable water sources available for use.
- 1.4 TEMPORARY CONTROLS
- 1.4.1 Dust Control: Maintain work areas to prevent hazard or nuisance to others. Accomplish dust control by sprinkling or other methods approved by Buyer. Repeat sprinkling at necessary intervals to keep disturbed area damp at all times. Keep sufficient equipment on worksite to accomplish dust control as work proceeds and whenever dust nuisance or hazard occurs. No separate or direct payment will be made for dust control and cost shall be considered incidental to and included in the Contract price.
- 1.4.2 Temporary Enclosures: Plastic sheeting materials used to form enclosures shall be 6 mils minimum thickness, and have fire retardant properties in accordance with NFPA 701. Framing lumber shall have been treated with fire retardant
- 1.4.3 Vehicle and equipment movement
- a. Slow moving vehicles and equipment shall not travel on the Hanford Site roads during heavy traffic periods between 6:30 and 8:00 a.m., and 3:30 and 5:30 p.m.
 - b. Do not block existing roads.
 - c. Do not park on roadway shoulders.
 - d. Vehicles that require a portable fire extinguisher in accordance with CPCC-PRO-SH-40078, Appendix F, shall have the extinguisher secured in an approved manner (vehicle mounting bracket designed for specific extinguisher, or stowed in a secured equipment container).
- 1.4.4 Traffic Control: Temporary traffic control and barricades shall be in accordance with WSDOT M 41-10, Section 1-07.23(3).

SECTION 01500
CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

1.4.5 Oversized vehicles and loads:

- a. Obtain a Hanford Site Oversize/Overweight Permit from Buyer before movement of oversize loads. See Section 01065. Verify route suitability and limitations before applying for the permit.
- b. Display oversize load sign on the front of the towing vehicle and on the rear of the trailing unit. Attach red flags to each corner.
- c. Travel between 8:30 a.m. and 2:30 p.m. unless special arrangements are made. Comply with escort vehicle requirements in the permit during travel.
- d. Electrical escort requirements: Buyer will provide qualified electrical escorts when loads reach a height of 16 feet or more from the road surface, or when a clearance of at least 6 feet cannot be maintained from overhead electrical or signal lines. Notify Buyer at least three (3) working days before need. Contractor will not be charged for electrical escorts.

1.4.6 Fuels and Lubricants:

- a. Oils, greases and similar materials shall be stored in non-flammable bins or buildings or in a fenced compound remote from other combustible materials as approved by Buyer.
- b. "No smoking" signs shall be provided by Contractor and prominently displayed in areas where flammable materials are stored. Additionally, Contractor shall provide and maintain suitable fire extinguisher in such areas.
- c. Contractor shall provide all fuel for heating, ventilation and air conditioning of Temporary Facilities (unless these are run using free issue power).

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

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SECTION 01610
MATERIAL AND EQUIPMENT
DELIVERY, STORAGE, AND HANDLING

PART 1 – SUMMARY

1.1 SUMMARY

This section contains requirements for delivery, inspection, marking, storage, and handling. Product-unique requirements are contained in other sections. Chemicals shall be handled, stored, and tracked in accordance with Section 01130; flammable/combustible liquid storage shall be in accordance with Section 01130.

1.2 DELIVERY

1.2.1 Provide equipment and labor required for unloading, transporting, and handling delivered products.

1.2.2 Safety Data Sheets (SDSs) shall be kept accessible at each jobsite where material is stored. See Section 01130.

1.3 RECEIVING INSPECTION

1.3.1 Arrange for immediate disposal and replacement of products found to be defective, damaged beyond repair, or in otherwise unacceptable condition.

1.3.2 Perform standard inspections and additional inspections required by this Statement of Work.

1.3.3 Dry and clean products that have become wet or have accumulated foreign substances during shipment, but have not become damaged.

1.3.4 Perform additional identification marking of products when necessary to meet requirements of this Statement of Work.

1.3.5 Buyer may inspect products and product marking and storage methods for compliance with this Statement of Work.

1.4 PRODUCT IDENTIFICATION AND SEGREGATION

1.4.1 Provide identification tags or markings for products of similar appearance, or intended for similar use, procured to different specifications, or from different manufacturers. Safety Significant items shall be segregated from general services items, as well as stainless steel from carbon steel.

1.4.2 As applicable, include following information on tags: Manufacturer's name; product brand name; specification number; product type, grade and class; and other information required by other sections of this Statement of Work.

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SECTION 01610
MATERIAL AND EQUIPMENT
DELIVERY, STORAGE, AND HANDLING

- 1.4.3 Segregate tagged or marked products and provide separate storage for each product.
- 1.4.4 Preserve identity of bulk and lot products during storage and in-process work.
- 1.4.5 Control identification and storage of welding materials in accordance with a written filler metal control procedure. Maintain procedure at jobsite. Procedure shall specify methods for control by heat or lot number during storage and in-process work and for disposal of contaminated and partially used material.
- 1.4.6 When pipe and tube is removed from storage and prior to cutting, clearly and permanently re-mark remaining pieces with either original markings or field code identification symbols. Return pipe and tube to storage after re-marking.
- 1.4.7 On pipe and tube, use permanent marking methods such as indelible ink, crayon, paint, and paint stick. Vibratory etching equipment may be used with approval of Buyer. Marking with steel stamps is not acceptable.
- 1.5 STORAGE
 - 1.5.1 Store packaged products in original, unbroken packages and containers. Leave seals and labels intact.
 - 1.5.2 Store rolled products in upright position.
 - 1.5.3 Store products with finished surfaces in manner that prevents surface damage.
 - 1.5.4 If contact between products could result in damage or reduction of utility, store products far enough apart to prevent contact. If close proximity storage is necessary, provide a barrier between products. Care shall be taken to preclude carbon and halide contamination of stainless steel products.
 - 1.5.5 Keep ports, nozzles, ends, and other openings on equipment, tanks, pipe, and tube capped or plugged during storage.
 - 1.5.6 Follow manufacturer's storage recommendations.
 - 1.5.7 Remove, dispose of, and replace products with expired shelf-life dates. Dispose of hazardous products in accordance with Section 01130.
- 1.6 INDOOR STORAGE
 - 1.6.1 Provide indoor storage for products that can be damaged by, or can deteriorate from, changes in temperature and relative humidity.

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SECTION 01610
MATERIAL AND EQUIPMENT
DELIVERY, STORAGE, AND HANDLING

- 1.6.2 When required by this Specification, or when recommended by product manufacturer, provide environmentally controlled storage. Maintain temperature 60 to 70°F, relative humidity below 55%, and provide ventilation.
- 1.7 OUTDOOR STORAGE
 - 1.7.1 Avoid ground contact by providing skids, pallets, platforms, and other supports.
 - 1.7.2 Provide sunshade protection for products that can be damaged by, or can deteriorate from, exposure to sunlight.
 - 1.7.3 Provide weatherproof covers for products that can be damaged by, or can deteriorate from, contact with rain, snow, ice deposits, and blowing sand and debris.
 - 1.7.4 Arrange stacked products so that condensation drains.
- 1.8 HANDLING
 - 1.8.1 Provide handling tools and equipment, and use methods designed to prevent occurrence of following.
 - a. Impact, rubbing, and other contact damage to ends and surfaces of pipe, tube, and other cylindrical products, and to edges, corners, and surfaces of panel, sheet and other flat products.
 - b. Twisting, racking, and other distortion of prefabricated structures and equipment assemblies.
 - c. Tearing, puncturing, and breaking of wrappings, coverings, and seals on packages and cartons.
 - d. Surface contamination of stainless steel products.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

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SECTION 01630 PRODUCT OPTIONS AND SUBSTITUTIONS

PART 1 – GENERAL

1.1 SUBMITTALS

1.1.1 See Section 01300 for submittal process.

1.1.2 Approval Required

1.1.2.1 Before starting Work or material delivery to the worksite, submit a completed Substitution Approval Request to Buyer for each requested substitution.

1.1.3 Approval Not Required: None

1.2 CONDITIONS

1.2.1 Products include those identified in this Statement of Work, in the Specifications or other contract documents, and on the Drawings. References in the Specifications to products, or to patented or proprietary processes, by trade name, make, or catalog number, shall be regarded as establishing a standard of quality, and shall not be construed as limiting competition. The following conditions and limitations apply:

1.2.1.1 Substitution requires approval of a Change Form (A-6004-820) if any of the following apply.

- Proposed substitute is more hazardous than the specified product.
- Product callout includes the phrase “or approved substitute.”

1.2.1.2 A substitute may be provided **without approval** if each of the following apply:

- Product callout does not include the phrase “or approved substitute.”
- Product is identified in this Statement of Work by trade name, make, or catalog number.
- Substitute is equivalent in function, maintainability, reliability, durability, material content, form, and size.

1.2.1.3 Substitution shall be applied to the total quantity of the product required in the Statement of Work. Partial quantity substitutions are not acceptable.

1.2.1.4 Approval of fabrication drawings and other design media does not constitute approval of substitute products identified within the media.

1.2.1.5 Submittals required for a specified item are also required for an approved substitute.

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SECTION 01630
PRODUCT OPTIONS AND SUBSTITUTIONS

1.3 CHANGE FORM PREPARATION

1.3.1 Using the Buyer Change Form, identify addressed product by the Statement of Work or Specification section and article or paragraph numbers or by the Drawing number. Provide manufacturer's name and address, trade name, and model or catalog number. List fabricators as appropriate.

1.3.2 Attach descriptive information to define the operational and physical characteristics of the specified substitute product and to provide a basis for comparison. Include drawings, calculations, and data as appropriate.

1.3.3 Provide an itemized comparison between the proposed substitute and the original specified product. Include the following information:

1.3.3.1 Applicable Statement of Work or Specification section and article or paragraph numbers or applicable Drawing number.

1.3.3.2 Quality and performance comparison. List variations.

1.3.3.3 Cost data. Show the net Contract price change.

1.3.4 List the availability of maintenance service and replacement materials.

1.3.5 State the effect of the substitution on the schedule and identify the changes required in other work or products. Submit drawings, calculations, and vendor data to show the revisions necessary to accommodate the substitution.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

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SECTION 01670 CONSTRUCTION ACCEPTANCE TESTING

PART 1 – GENERAL

1.1 REFERENCES: Not Used

1.2 SUBMITTALS: Not Used

1.3 SUMMARY

1.3.1 This Section covers preparation of an Acceptance Test Plan (ATP).

1.3.2 An ATP is a step-by-step procedure for performing acceptance (functional) testing to demonstrate that a system operates in accordance with design requirements. It includes provisions for recording test results (test reporting). It does not cover final adjustments for operation.

1.3.3 Contractor will prepare an ATP and provide to Buyer for approval. Contractor will then execute the approved CAT/ATP and provide completed CAT/ATP testing documents to Buyer.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

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SECTION 01720 PROJECT RECORD DOCUMENTS

PART 1 – GENERAL

1.1 SUMMARY

1.1.1 Hanford Site work requires that certain documents, defined herein, be used to record construction process and administration of the Contract. Buyer will assemble pertinent data for final disposition.

1.1.2 Some data required for project records shall be delivered to Buyer during the course of construction and contract administration, while other data shall be assembled after completion of construction for delivery to BUYER.

1.1.3 Certain information for project records shall be recorded on Buyer-provided forms. These forms are identified in Specifications sections where required. Copies will be supplied during the Preconstruction Conference (see Section 01200) and are also available on the Buyer web site at the following link:
<https://cpcco.hanford.gov/page.cfm/CPCCoSafetyReferenceDocuments>.

1.1.4 Project Record Documents, required by Contract, shall be prepared, preserved and delivered to Buyer. These deliverable documents are in addition to submittals required by Section 01300.

1.2 PROCEDURE

1.2.1 Identification and Marking: Mark documents that will become project records before use for construction. Upon completion, identify documents by title or number.

1.2.1.1 Notes or markings added by hand shall be legible, utilizing permanent non-smearing marking media, such as ink or felt tip markers, in contrasting color.

1.2.1.2 Mark items to record actual construction, including changes to dimensions and details, manufacturer's name, catalog number and substitute products.

1.2.2 Availability: Keep copies of Project Record Documents at the Project site, and make available to Buyer during the progress of the Work.

1.2.3 Storage: Store one (1) set at the Project site, apart from documents used in construction and maintain in a clean dry and legible condition.

1.2.4 Delivery: Record delivery of documents by retaining copies of letters of transmittal itemizing delivered items and reports delivered during the course of the Work. Retain until construction completion. An alternate means, acceptable to Buyer, may be used.

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SECTION 01720
PROJECT RECORD DOCUMENTS

- 1.3 ACTIVITY AND ADMINISTRATIVE DOCUMENTS
- 1.3.1 Deliver or retain in accordance with the following:
- 1.3.1.1 Certified Payrolls: Deliver certified payrolls as required by the Contract Provisions to Buyer. Progress payments will not be processed unless certified payrolls for work periods have been received by Buyer. The process of reporting certified payrolls has been streamlined using an integrated electronic Certified Payroll submittal system, LCPtracker. LCPtracker eliminates the need for manual submittals and is capable of supporting integration from multiple payroll systems. All Certified Payrolls, including lower tier subcontractors, shall be submitted by entry into LCPtracker. Information can be found on LCPtracker’s website: LCPtracker.com
- 1.3.1.2 Cumulative Hours: Each month, report the total cumulative hours worked for each Contract/Release. Report to include any subcontractor or vendor employees, including temporary or part-time workers, who have been compensated for specific work. Deliver report as early in the month as practical and deliver the same time each month.
- 1.3.1.3 The Contractor shall complete Construction Daily Activities Field Reports (A-6004-822, Rev 3) and Lost Time/Work Delay Notification (A-6006-539 Rev.1) if applicable. The Contractor shall provide Buyer with a Construction Daily Activities Field Report identifying detailed work activities performed for the day: craft by name/hours worked and company, Supervision, by name/hours worked and company, any detailed problems/issues/delays, vehicles/equipment used, detailed work activities planned for the next day, Safety observations, Lost Time/Work Delay Block #14, etc. Construction Daily Activities Field Reports shall be submitted by Work Package to Buyer by 10:00 a.m. each workday documenting the previous workday’s activities. DAR’s will be filled out until the project is completed or terminated. A DAR shall be submitted on days (normal workdays) where no work has been done.
- 1.3.1.4 Weekly Manpower Reports: Prepare weekly labor reports and deliver to Buyer before 10 a.m. on Monday, for the previous week, during the performance of the Contract.
- 1.3.1.5 Subcontracting Plan Reports: Deliver reports to Buyer documenting conformance with the approved Subcontracting Plan, as required by SP-11.
- 1.3.1.6 Pre-Job Briefing Checklist: Prepare checklist during each pre-job briefing and post-job review. Deliver checklists to Buyer within 5 days after briefing.

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SECTION 01720
PROJECT RECORD DOCUMENTS

- 1.3.1.7 Pour Slips: After obtaining Buyer approval of Concrete Pour Slips, deliver copies to Buyer and retain Contractor copies until Contract closeout. After closeout, deliver to Buyer.
- 1.3.1.8 Trip Tickets: Deliver copies to Buyer with each truck load of concrete and retain Contractor copies until Contract closeout. After closeout, deliver to Buyer.
- 1.4 CONSTRUCTION, QUALITY ASSURANCE AND SUPPORTING DOCUMENTS
 - 1.4.1 Deliver in accordance with the following, when called for in the Specification Sections:
 - 1.4.1.1 Significant Discharge Log: Log water discharged each work day and deliver discharge log (A-6002-294) to Buyer.
 - 1.4.1.2 Flushing Records: Deliver to Buyer one copy of records verifying acceptable completion of flushing, before testing.
 - 1.4.1.3 Leak/Pressure Testing Records: Deliver to Buyer one copy of records verifying acceptable completion of leak and pressure testing, within five days after completion.
 - 1.4.1.4 Calibration Records: Deliver to Buyer one copy of instrument calibration records five days after Contract completion.
- 1.5 PRODUCT SAMPLES AND MANUFACTURER’S INSTRUCTIONS
 - 1.5.1 In addition to the submittals required in Section 01300, and the requirements of this Section, information received by Contractor (from suppliers) that document products used and how they were installed shall be delivered to Buyer as Project Records.

PART 2 – PRODUCTS

Not Used

PART 3 – EXECUTION

Not Used

END OF SECTION

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