EXHIBIT B
STATEMENT OF WORK

Title: PULSE New Access Project (PNAP) Design Build

Requisition Number: REQ-0024438

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TABLE OF CONTENTS

LIST OF ACRONYMS

Acronym	Definition
AACE	Association for the Advancement Cost Engineering
ACM	Asbestos Containing Material
A/E	Architect/Engineer
ALWD	Activity Level Work Document
ASP	Associate Safety Professional
ASQ	American Society for Quality
BA	Building Authority
BAS	Building Automation System
BCP	Baseline Change Proposal
BOI	Building Occupancy Inspection
CAD	Computer-Aided Design
CAP	CONTRACTOR Acquired Property
CD	Critical Decision
CHST	Construction Safety and Health Technician
CM	Construction Manager
CPM	Critical Path Method
CQI	Certified Quality Inspector
CSI	Construction Specifications Institute
CSP	Certified Safety Professional
CUI	Controlled Unclassified Information
DOE	Department of Energy
DOE Order 413.3B	DOE Order (O) 413.3B Chg. 7, “Program and Project Management for the Acquisition of Capital Assets”
EVMS	Earned Value Management System
EPC	Engineering, Procurement, and Construction
EPP	Environmentally Preferable Products
ES&H	Environmental, Safety, and Health
EV	Earned Value
EVMS	Earned Value Management System
FEMP	Federal Energy Management Program
FIMS	Facilities Information Management System
GFE	Government Furnished Equipment
GFP	Government Furnished Property
IFC	Issued for Construction

Acronym	Definition
IBC	International Building Code
IEC	International Electrotechnical Commission
IPT	Integrated Project Team
LPS	Lightning Protection System
MEL	Master Equipment List
M&O	Maintenance and Operation
MSTS	Mission Support and Test Services, LLC
M&TE	Measuring & Test Equipment
NESC	National Electrical Safety Code
NFO	Nevada Field Office
NLV	North Las Vegas Facility
NNSA	National Nuclear Security Administration
NNSS	Nevada National Security Site
NTP	Notice to Proceed
OSHA	Occupational Safety and Health Administration
OHST	Occupational Health and Safety Technician
PAAA	Price Anderson Amendments Act
PE	Professional Engineer (license/certification)
PNAP	PULSE New Access Project
POC	Point of Contact
PPE	Personal Protective Equipment
PULSE	Primary Underground Laboratory Subcritical Experiments.
PV	Planned Value
QA	Quality Assurance
QAP	Quality Assurance Plan
QC	Quality Control
QIP	Quality Inspection Plan
RCM	Radiological Control Manual
RGD	Radiation-Generating Devices
RPP	Radiation Protection Program
RWP	Radiological Work Permit
SBAA	Safety Basis Approval Authority
SD	Supplemental Directive
SDS	Safety Data Sheets

Acronym	Definition
SME	Subject Matter Expert
SOV	Schedule of Values
SOW	Statement of Work
SS	Safety Significant
SSC	Structure, System, and Component
SSSP	Site-Specific Safety Plan
STR	Subcontract Technical Representative
TF	Total Float
TLD	Thermoluminescent Dosimeters
UCNI	Unclassified Controlled Nuclear Information
WBS	Work Breakdown Structure

B-1 INTRODUCTION/BACKGROUND

1.1 Introduction

The Nevada National Security Sites (NNSS) is a U.S. Department of Energy (DOE), National Nuclear Security Administration (NNSA) installation, operated by Mission Support and Test Services, LLC (MSTS or CONTRACTOR), comprising approximately 3,561 square kilometers (1,375 square miles) of federally owned land located in southeastern Nye County, Nevada. Located approximately 105 kilometers (65 miles) northwest of Las Vegas, Nevada, the NNSS is accessed from U.S. Highway 95, which roughly forms the southern boundary of the site.

The MSTS also operates the North Las Vegas Facility (NLV); the Remote Sensing Lab at Nellis AFB, North Las Vegas, NV; the Remote Sensing Lab at Andrews AFB, Maryland; Special Technologies Lab at Santa Barbara, CA; Livermore Operations at Livermore, CA; and Los Alamos Operations at Los Alamos, NM.

1.2 Background

The Principal Underground Laboratory for Subcritical Experiments (PULSE) nuclear facility at the NNSS requires a new access capability to meet increased and expanding mission requirements. The mission of the PULSE New Access Project (PNAP) is to provide reliable underground access for larger experimental vessels as well as the additional staff required to operate multiple testbeds at PULSE in support of the Weapon Complex's maintenance and certification programs of the expanding NNSA NA-10 Stockpile Stewardship Program. PNAP is classified as a major modification to the PULSE nuclear facility managed under the Department of Energy (DOE) Order (O) 413.3B, Chg7, "Program and Project Management for the Acquisition of Capital Assets" (DOE Order 413.3B) process.

PROJECT BACKGROUND – The PULSE Complex is required to have two independent operational shafts for emergency egress, and to safely, effectively, and reliably support ongoing experiments. The two main access shafts at PULSE, the U1a and U1h Shafts, are capable of transporting personnel, laboratory equipment and supplies between the surface and subsurface complexes and removing mined material (muck) from the subsurface complex for surface deposition. As currently configured, the U1h Shaft is the primary access shaft while the U1a Shaft serves as the backup. However, the U1a Shaft is often the only operating shaft due to maintenance, repair, or mucking operations restricting the use of the U1h Shaft.

In addition to the two access shafts discussed above, PULSE has three utility shafts: U1g, U1i, and U1j. The U1g Shaft is a 4-foot (ft) inner diameter shaft that is cased and has utilities running along the outer diameter to the underground. U1g Shaft also serves as the secondary means of emergency egress when either the U1a Shaft or U1h Shaft are not available. The U1g Shaft is not equipped with a headframe. If needed, personnel are evacuated through the U1g Shaft via a small truck-mounted mobile emergency mine rescue hoist. This rescue hoist is equipped with a two-person cage. The U1i and U1j Shafts are in the process of being outfitted with infrastructure utilities, such as communication, utility, and power, and do not support access or egress.

The U1a Shaft is currently the only way to transport the 6 ft experimental vessel (with the transportation cart and execution stand) to the underground and to transport a spent surrogate/confirmatory 6-ft vessel to the surface from the underground. This is accomplished using an independent crawler crane stored on site. The crane lowers the vessel and cart through a separate line-of-sight shaft compartment that is adjacent to the cage compartment. This process requires the U1a Shaft collar and surface to be reconfigured and temporarily places the U1a Shaft out of service. The experimental package is transported separately from the experimental vessel and is taken underground, down the U1h Shaft.

To meet increased and expanding mission requirements of PULSE in an effective manner, a new access project is being managed through the DOE O 413.3B process, making effective use of a tailoring strategy as well as any identified long-lead procurements to ensure timely and cost-effective implementation. Once constructed and commissioned, the new access capability is expected to be assigned as the primary underground access for regular operational configuration, with the U1h Shaft assigned as the secondary. Both existing shafts, the U1a and U1h Shafts, will remain in operation to ensure redundancy and capabilities exist for egress as well as transit of utilities to the underground.

B-2 OBJECTIVE

MSTS requires the services of an experienced SUBCONTRACTOR to provide engineering, procurement, and construction (EPC) services in support of PNAP in accordance with DOE O 413.3B. Work shall be organized and executed to meet the requirements of each Critical Decision (CD) milestone, as approved by the DOE.

The SUBCONTRACTOR shall provide a fully functional new access capability which includes but is not limited to the shaft, connecting drifts, headframe, hoist, lightning protection system, and surface improvements to support the new access capability.

B-3 DESCRIPTION OF WORK

The SUBCONTRACTOR shall provide technically qualified resources to work as a part of a team under the leadership of MSTS. SUBCONTRACTOR resources shall be responsible for planning, organizing, and performing a wide variety of administrative/technical duties in support of the successful completion of the goals and deliverables as specified by the contract. Additionally, the SUBCONTRACTOR shall furnish all necessary labor, technical and professional services, supervision, materials, tools, equipment, consumables, and payment of any applicable taxes to perform all operations necessary and required to perform the scope as directed by MSTS.

Unless otherwise approved, the SUBCONTRACTOR shall work in accordance with MSTS subcontract requirements and shall be responsible for execution of the work in accordance with the quality standards and requirements specified in this statement of work.

The SUBCONTRACTOR shall provide EPC services in support of a major modification to an HC-2 nuclear facility with project systems that serve a nuclear safety function as described in the PNAP Safety Design Strategy. Work shall be organized and executed to meet the requirements of each CD milestone, as approved by the DOE. Work will be released to the SUBCONTACTOR through options. Options are anticipated to be released in alignment with the CD milestones as defined in DOE O 413.3B. The SUBCONTRACTOR shall interface with the CONTRACTOR and DOE organizations in the completion of project execution and supporting DOE 413. 3B deliverables. The scope described below reflects the SUBCONTRACTOR's responsibilities from detailed design through turnover and closeout.

1. Design Services, Site Preparation, and DOE Order 413.3 Support (Post CD-1)

1.1. DOE Order 413.3B Support (BASE)

1.1.1. The Subcontractor shall support the DOE Order 413.3 Critical Decision process in developing necessary documents and plans for submission to the CONTRACTOR that assist in the critical decision process. Specifically:

- Documents and plans including those necessary for site preparation and construction mobilization for CD-3a, as detailed in Section 1.2.2. (Option 1)
- A long lead procurement plan supporting CD-3B as detailed in Section 1.2.3 (Option 2)
- Documents and plans needed to support construction execution as detailed in Section 2 for CD-2/3 (Option 3).

1.2. Design Services (BASE)

1.2.1. Title II Design Services: The SUBCONTRACTOR shall provide Title II Design Services which includes the validation of the 30% (conceptual), the development of 60% (preliminary), 90% (final), and Issued-For-Construction (IFC) design documents for PNAP, incorporation of feedback from previous reviews, review of the respective design packages, and disposition to comments of the respective design reviews. This also includes the support of CD-3A, CD-3B, CD-2/3 submission, and federal reviews.

1.2.1.1. General Design Requirements

1.2.1.1.1. The 60%, 90%, and IFC design package shall include applicable documents identified in Appendix D of National Nuclear Security Administration (NNSA) Supplemental Directive (SD) 413.3 and Appendix D 30-60-90% Design Review Deliverables.

1.2.1.1.2. A Preliminary Design Report shall be submitted with the 60% design package in accordance with DOE O 413.3B.

1.2.1.1.3. A Final Design Report shall be submitted with the 90% and IFC design packages in accordance with DOE O 413.3B.

1.2.1.1.4. Develop and provide detailed Master Equipment List (MEL) and Instrumentation and Controls table which identify the required Building Automation System (BAS)/Building Management System (BMS) points for each building.

1.2.1.1.5. Design packages shall provide all necessary design details and data necessary to execute the design intent needed for a complete building system and include design construction drawings which illustrate the construction scope of work and support the required Association for the Advancement Cost Engineering (AACE) International estimate class. Where applicable, design packages shall include preliminary design criteria, alternative construction solutions available, and recommendations for construction. Design packages shall also include relevant performance standards, construction specifications, layouts, drawings, commissioning and other documents.

1.2.1.1.6. Design documents shall indicate the design basis for each element. The design basis shall include the functional and technical requirements, commissioning requirements, and alternative construction solutions available.

1.2.1.1.7. Design documents shall include system design descriptions for systems to be commissioned.

1.2.1.1.8. Design documents shall comply with subcontract requirements and the review recommendations made by CONTRACTOR. The SUBCONTRACTOR shall refer to technical and functional requirements, including but not limited to: Codes and Standards, Substitutions, Submittals, and Environmental, Safety and Health (ES&H) specifications.

1.2.1.1.9. Deviations from requirements, regulations, codes, standards, and guidelines shall require advance authorization from the CONTRACTOR in writing.

1.2.1.2. Assessments

1.2.1.2.1. SUBCONTRACTOR's design agent shall visit the project site to research site requirements for coordination of construction efforts, perform field investigations, and meet with CONTRACTOR Technical Representatives and their teams.

1.2.1.2.2. SUBCONTRACTOR shall perform a topographical survey to inform the design of existing site conditions.

1.2.1.2.3. SUBCONTRACTOR shall perform a ventilation study to ensure health, safety and productivity throughout the execution of this statement of work, including but not limited to shaft sinking, drift mining, break-through, and operation of the existing facility.

1.2.1.2.4. SUBCONTRACTOR shall conduct a geotechnical investigation to inform the design of existing geotechnical and geological conditions.

1.2.1.3. Design Reviews

1.2.1.3.1. SUBCONTRACTOR shall, at a minimum, review progress with the CONTRACTOR at the completion of the validation of the 30% (conceptual), the development of 60% (preliminary), 90% (final), and IFC design documents. The SUBCONTRACTOR shall initiate the next phase of work only upon receipt of CONTRACTOR written approval.

1.2.1.3.2. SUBCONTRACTOR shall verify that CONTRACTOR provided design review comments remain with the scope of the subcontract documents for each design review. The SUBCONTRACTOR shall provide the CONTRACTOR with a written statement of any project impacts considered outside the scope of subcontract documents before proceeding with implementation or resolution.

1.2.1.3.3. SUBCONTRACTOR shall provide PDF copies of all documentation.

1.2.1.4. Design Drawings

1.2.1.4.1. SUBCONTRACTOR shall prepare design drawings in accordance with Guide 5-4, Drafting Standards, Revision 2, dated June 2025 (see Section 5.3 Provided Information).

1.2.1.4.2. SUBCONTRACTOR shall provide native Computer-Aided Design (CAD) files for each design drawing prepared in accordance with Guide 5-4, Drafting Standards, Revision 2, June 2025.

1.2.1.4.3. SUBCONTRACTOR shall provide complete reproducible, scaled drawings, which include all the information necessary to adequately describe construction requirements. Drawing title blocks shall allow room for CONTRACTOR approval signatures and for the application of engineering stamps. All design drawings shall be stamped by licensed professional engineers. The Architect/Engineer (A/E) shall provide a record set of "as-built" drawings, of the type specified by the CONTRACTOR showing construction as actually accomplished.

1.2.1.4.4. Design drawings must include the required information specifying the date of issuance, revision date, and revision number.

1.2.1.4.5. Revisions to design drawings must include the clouding, numbering, and notes detailing revisions.

1.2.1.4.6. SUBCONTRACTOR shall provide final design detailed working drawings compatible with AutoCAD systems .dwg format. Final issuance of IFC drawings and specifications shall occur upon final signatures by the CONTRACTOR.

1.2.1.5. Specifications

1.2.1.5.1. SUBCONTRACTOR shall submit complete technical specifications with the design packages during the Title II design phase. The specification package shall also address requirements for general conditions, including but not limited to safety, environmental, work control, quality, security, and operations and maintenance data requirements.

1.2.1.5.2. SUBCONTRACTOR shall adhere to the specifications outlined in Section B-5 of this Statement of Work.

1.2.1.6. Quality Inspection Plans

1.2.1.6.1. SUBCONTRACTOR shall submit quality inspection plans (QIPs) during the Title II design phase. QIPs identify the testing and inspection requirements associated with structures, systems, and components (SSC) and are used as the basis for developing factory and construction acceptance tests and inspections.

1.2.2. Site Preparation & Temporary Construction Equipment Procurement (CD-3A)– Option 1

1.2.2.1. Site Preparation: The SUBCONTRACTOR shall perform site preparation services which includes mobilization and site preparation phase of surface construction. The SUBCONTRACTOR will prepare the construction laydown area, temporary site access roads, temporary parking areas, and temporary buildings in support of construction efforts.

1.2.2.2. In addition, site preparation at both the surface and underground for the interface into the existing facility will need to be performed, such as geotechnical core samples, connection drift, utilities transition interfaces at the surface and underground, surface grading, and site preparation. The SUBCONTRACTOR may also identify site services and utilities that could be made available at the site that could expedite the project schedule, such as fuel, electric, compressed air, and showers/toilets for work crew.

1.2.2.3. The major efforts associated with this include, but are not limited to, the following:

1.2.2.3.1. Procurement of materials for site preparation.

1.2.2.3.2. Procurement of long lead construction aids and support equipment (e.g., temporary sinking hoist and temporary sinking headframe).

1.2.2.3.3. Procurement or lease of equipment required for site preparation.

1.2.2.3.4. SUBCONTRACTOR submittals for the PNAP surface improvements including a construction laydown plan.

1.2.2.3.5. Prepare the construction laydown area. The construction laydown area is a dedicated area to support equipment, tool, and material staging.

1.2.2.3.6. Prepare the shaft sinking equipment area. This area supports the equipment necessary for shaft construction.

1.2.2.3.7. Prepare the temporary site access roads. The site access road construction will include the construction of gates to control access into and out of the construction laydown area. The construction of the new access roads to support PNAP will tie-in to existing roads at PULSE.

1.2.2.3.8. Prepare the temporary parking area. The temporary parking areas are temporary and support the construction effort.

1.2.2.3.9. Prepare temporary muck storage. Temporary muck storage is a PNAP-designated dedicated area within the project area on the surface for muck storage. SUBCONTRACTOR is responsible for transporting and spreading muck in the final storage area provided by MSTS. SUBCONTRACTOR is responsible for maintaining the haul road including dust suppression. The final muck storage area location is identified on 14EA-DG-25-0006.

1.2.2.3.10. Prepare the area and install temporary buildings. These buildings are temporary and support the construction effort

1.2.2.3.11. Install temporary utilities to support construction.

1.2.2.3.12. Prepare Activity Level Work Documents (ALWDs) for all work in this option in accordance with the applicable sections of Exhibit E Environment, Safety, & Health Requirements.

1.2.3. Long Lead Procurement (CD-3B) – Option 2

It is anticipated that the SUBCONTRACTOR will identify long-lead procurement needs as part of a CD-3B, prior to CD-2/3. The CD 3B is anticipated since long-lead procurements have been shown to shorten the schedule and reduce risk in other projects. The specific details of the materials to be purchased and activities to be performed will be developed as early as the 30% design review and before CD-2/3.

It is expected that a CD-3B will be used to obtain known commodities with long-duration acquisition schedules such as (but not limited to) transformers, hoist mechanism, electronic controls systems, structural steel for infrastructure, safety related SSCs, including those requiring commercial grade dedication.

As per DOE O 413.3B projects involving construction of new/within HC-1, 2, and 3 nuclear facilities in conjunction with DOE-STD-1189-2016, Integration of Safety into the Design Process, provides requirements for the CONTRACTOR justification of long-lead procurement items; additionally, DOE-STD-1104-2016 establishes the required method for DOE review and approval of long-lead procurement items.

In support of the need for long-lead procurements the SUBCONTRACTOR shall develop a procurement plan based on the PULSE New Access Project Safety Design Strategy (PULSE-SDS-24-001) and DOE-STD-1189-2016 requirements to support the long-lead procurement of SSCs. The plan will be provided to the CONTRACTOR in support of the Critical Decision process.

The plan will contain the following information:

- Description of the scope of long-lead procurement items
- The functional classification of the SSCs being procured:
- For Safety Significant SSCs only:
    - Complete description of the item
    - Status of design completion, including any support systems and other interfaces,

- Safety Functions, Functional Requirements, and Performance Criteria,
- Inspections, tests, and acceptance criteria, as necessary.

1.2.3.1 The SUBCONTRACTOR shall procure the systems, structures, and components as described in the long lead procurement plan.

2. PNAP Construction Execution (Post CD-2/3) – Option 3

2.1. Construction

2.1.1. During the performance of this option, the SUBCONTRACTOR shall have created designs, specifications and estimates in accordance with A/E requirements to support follow-on construction activities. During this option, the SUBCONTRACTOR shall provide construction services summarized below.

2.1.2. Provide daily construction supervision on a full-time basis on the construction site and oversee and assure compliance with ES&H requirements

2.1.3. The SUBCONTRACTOR shall prepare ALWDs in accordance with the applicable sections of Exhibit E, Environment, Safety, & Health Requirements for all activities performed under this option.

2.1.4. The SUBCONTRACTOR shall perform construction and functional testing upon completion of construction for all activities performed under this option.

2.1.5. **Shaft**: The SUBCONTRACTOR shall perform all shaft construction services which include the construction of the new access shaft including shaft collar, pre-sink and sub-collar, shaft sinking and station development, and shaft outfitting. The SUBCONTRACTOR shall execute all the work in accordance with the IFC package.

2.1.6. **Drifts**: The SUBCONTRACTOR shall perform all drift construction services which includes the construction of two drifts; (1) the PNAP access drift, the drift connecting the shaft with the existing facility, and (2) the Mucking and Western Access Drift. This effort includes the mining, ground, control, and outfitting of all the drifts. The SUBCONTRACTOR will execute the work in accordance with the IFC package.

2.1.7. **Headframe**: The SUBCONTRACTOR shall perform all headframe construction services which includes the construction of the permanent Headframe and related components. This does not include components that are covered under the Hoist effort, including sheaves, winches, ropes, power, controls, braking system, cage, and hoistroom. The SUBCONTRACTOR will execute all work in accordance with the IFC package. The Headframe is a Safety Significant (SS) Structure, System, and Component (SSC), see PULSE-SDS-24-0001, PULSE New Access Project Safety Design Strategy.

2.1.8. **Hoist**: The SUBCONTRACTOR shall perform all hoist construction services which include the construction of the permanent hoist and related components. The SUBCONTRACTOR will execute all work in accordance with the IFC package. The Hoist Control System and Hoist Safety Catch System are Safety Significant (SS) SSCs, see PULSE-SDS-24-0001, PULSE New Access Project Safety Design Strategy.

2.1.9. **Lightning Protection System (LPS)**: The SUBCONTRACTOR shall perform all LPS construction services which include the construction of the LPS for the hoist, headframe, and shaft structures. The SUBCONTRACTOR will execute all work in accordance with the IFC package. The LPS is a SS SSC, see PULSE-SDS-24-0001, PULSE New Access Project Safety Design Strategy.

2.1.10. **Surface Improvements**:

2.1.10.1. Enclosures: The SUBCONTRACTOR shall perform all enclosure related surface improvements which includes the construction of surface enclosures, excluding the hoist house which is covered under the Hoist effort. The major efforts associated with this include, but are not limited to, the following:

2.1.10.1.1. Construction of the Top Lander's Shack. The Top Lander’s Shack is a pre-engineered metal building on a concrete slab-on-grade. The Top Lander’s Shack provides a conditioned space for the Top Lander, space for a first aid station, and a storage location housing equipment for underground workers.

2.1.10.1.2. Construction of the Access Control Enclosure. The Access Control Enclosure is a pre-engineered metal building on a concrete slab-on-grade that controls access to the fenced in shaft area. The Access Control Enclosure provides a conditioned space for personnel controlling access to the PNAP shaft area, entry and exit area, surface lamp charging area, and access control system.

2.1.10.2. Civil Improvements: The SUBCONTRACTOR shall perform all civil improvements related to surface improvements which include the construction of permanent vehicle access, pedestrian access, fencing, and gates. The major efforts associated with this include, but are not limited to, the following:

2.1.10.2.1. Construction of a fence surrounding the new shaft area. This includes the construction of the fence, vehicle access gates, and personnel access gates.

2.1.10.2.2. Construction of permanent vehicle access. This includes the construction of a permanent asphalt road for vehicle access within the fenced area of the new shaft. This also includes the construction of a permanent asphalt parking area adjacent to the access enclosure, but outside the fence area of the new shaft.

2.1.10.2.3. Construction of permanent pedestrian access. This includes the construction of permanent concrete sidewalks for pedestrian access between the permanent parking area, access enclosure, hoist house, and shaft collar as shown on the conceptual site plan.

2.1.10.2.4. Grading a dedicated area within the fenced shaft area for equipment & supply staging supporting PNAP operations.

2.1.10.3. Utility Improvements: The SUBCONTRACTOR shall perform all utility improvements related to surface improvements which include the construction of permanent utilities to support PNAP operations. The major efforts associated with this include, but are not limited to, the following:

2.1.10.3.1. Construction of waterlines. This includes the demolition and relocation of the existing water line within the project area. This also includes the installation of the waterlines from the newly relocated lines to the enclosures and collar. The SUBCONTRACTOR will make the final tie-in to the water system in coordination with CONTRACTOR.

2.1.10.3.2. Construction of sewer lines and a package lift station. This includes the installation of gravity sewer lines from the enclosures to the package lift station. This also includes the installation of a force main from the package lift station to an existing manhole on the east side of PULSE. The SUBCONTRACTOR will make the final tie-in to the sewer system in coordination with CONTRACTOR.

2.1.10.3.3. Construction of firewater lines and hydrants. This also includes the installation of the firewater lines from the newly installed infrastructure (completed by CONTRACTOR) to the enclosures and hydrants. The SUBCONTRACTOR will make the final tie-in to the firewater system in coordination with CONTRACTOR.

2.1.10.3.4. Construction of communication and access control (Lenel) infrastructure. This includes the installation of the communication conduit, manholes, and cabling from the newly installed communication infrastructure (completed by CONTRACTOR) to the enclosures and collar area. CONTRACTOR will make the final tie-in to the communication systems in coordination with the SUBCONTRACTOR.

2.1.10.3.5. Construction of electrical infrastructure. This includes the installation of the electrical conduit, generators, load banks, switches, transformers, area lighting in the permanent parking area and fenced area and cabling from the existing 34.5kV power lines to the west to the enclosures and collar area. CONTRACTOR will make the final tie-in to the high voltage power systems in coordination with the SUBCONTRACTOR.

2.1.10.3.6. Construction of underground utility infrastructure. This includes, but is not limited to the installation of lighting, receptacles, public address, underground intercom system (squawk boxes), telephones, and fire detection and alarm. The CONTRACTOR will make the final tie-in to these systems in coordination with the SUBCONTRACTOR.

2.1.10.3.7. Installation of utility vaults to support space allowances within the shaft furnishings (e.g. space reserved in the shaft for communication infrastructure, electrical infrastructure, etc.). The SUBCONTRACTOR shall install the utility vaults beyond the concrete shaft collar and install conduit between the utility vaults and the shaft. The conduit will be terminated after entering the shaft for future utility connection and development.

2.1.11. **Title III Design Services (Construction Support Services)**: The SUBCONTRACTOR shall provide Title III Design Services which includes vendor document reviews, engineering support for resolution of issues, engineering analysis of proposed field changes, maintenance of engineering documents and records, review and disposition of field change requests, review and disposition of requests for information, revision of IFC design documents to produce conformed design documents, preparation of as-builts, and configuration control. This also includes the support of CD-4 submission and federal reviews.

2.2. Testing and Turnover

2.2.1. Construction Acceptance Testing and Inspections

The SUBCONTRACTOR shall perform all required construction acceptance tests and inspections and complete any necessary troubleshooting prior to final acceptance by the CONTRACTOR.

2.2.2. Specification Requirements for Operations and Maintenance Data

2.2.2.1. The SUBCONTRACTOR shall be responsible for providing all available information and data required for proper operation and maintenance of buildings and SSCs.

2.2.2.2. The SUBCONTRACTOR shall provide warranties for installed systems/equipment. The warranties shall, at a minimum, comply with warranty requirements stated in CONTRACTOR General Provisions.

2.2.2.3. The SUBCONTRACTOR shall include activities, within the construction execution schedule, that specify submission of O&M Manuals (per definable feature of work).

2.2.2.4. The SUBCONTRACTOR shall provide two (2) quantities of physical and electronic copies of O&M Manuals Product Data Sheets, Warranties, etc.

2.2.3. Project Closeout and Occupancy Process Support

2.2.3.1. SUBCONTRACTOR shall provide services to support construction project completion activities to document project completion and compliance with contractual or regulatory requirements. Such tasks for closeout and occupancy includes, but are not limited to:

2.2.3.2. Punch list reviews, Work Acceptance Walk throughs

2.2.3.3. Document lists – manuals, warranties, as-builts, facility drawings/technical baseline documents, final accounting

2.2.3.4. Claim or security interest release documentation and support, to include certificates of payment to tiered SUBCONTRACTORs.

2.2.3.5. Support with final acceptance documentation

2.2.3.6. Permits or Certificate of Occupancy documentation support

2.2.3.7. Warranty Information: Provide warranties in compliance with requirements described in each individual option release. List and explain the various warranties and clearly identify the servicing and technical precautions prescribed by the manufacturers or contract documents to keep warranties in force. Include warranty information for primary components of the system. Provide copies of warranty documents to CONTRACTOR representatives.

2.2.3.8. Extended Warranty Information: List all warranties for products, equipment, components, and sub-components whose duration exceeds one year. For each warranty listed, indicate the applicable specification section, duration, start date, end date, and the point of contact for warranty fulfillment. Also, list or reference the specific operation and maintenance procedures that must be performed to keep the warranty valid. Provide copies of warranty documents.

2.2.4. Execute required installation, final testing, and commissioning efforts. Also conduct a final inspection and obtain CONTRACTOR concurrence of project completion.

2.2.5. Conduct pre-final and final punchlist inspections, coordinated with and attended by CONTRACTOR personnel

2.2.6. Conduct a final inspection and obtain CONTRACTOR concurrence of project completion.

2.2.7. The SUBCONTRACTOR shall provide all records including, but not limited to, as-built and facility drawings/technical baseline documents and specifications and as-built CAD documents and specifications.

2.2.8. Commissioning, Startup, and Turnover

2.2.8.1. Background

Commissioning, startup, and turnover are processes used by the CONTRACTOR that ensure facilities conform to design requirements and help to ensure the facilities will perform as intended following the introduction of radioactive materials. Commissioning, startup, and turnover occurs between construction and full operations and involves:

- Conduct of acceptance testing
- SSC flushing and conditioning
- Training CONTRACTOR personnel on operating and maintaining the SSCs
- Examinations of SSCs
- Development and use of procedures, job plans, and activity level work documents (e.g., operating, maintenance/preventive maintenance/reliability maintenance, abnormal)
- Development of SSC maintenance (requirements, input into CONTRACTOR automated maintenance management system - Maximo, and similar)
- Review of documents
- Ensuring sufficient analysis is in place
- Performing demonstrations to show personnel and SSCs perform as desired and meet nuclear technical safety requirements
- Ensuring the nuclear safety basis has been adequately implemented by performing an Independent Verification Review, Management Safety Assessment, CONTRACTOR Readiness Assessment, and Federal Readiness Assessment
- Turning over SSC from one group (e.g., Construction) to another group (e.g., Commissioning) during different stages of the project.

2.2.8.2. The SUBCONTRACTOR shall provide services required to support commissioning and startup, turnover, and readiness activities necessary to transition to operations, including addressing and remediating any deficiencies identified during commissioning related to design intent.

2.2.8.2.1. The SUBCONTRACTOR shall review CONTRACTOR plans and procedures for technical adequacy to accomplish commissioning and startup activities.

2.2.8.2.2. The SUBCONTRACTOR shall provide comprehensive training for the buildings and SSC. The training must be targeted at operations and maintenance personnel and applicable building occupants. Instructors must be well-versed in the buildings and SSC that they are presenting. Training must be recorded for future review by personnel.

2.2.8.2.3. The SUBCONTRACTOR shall provide two (2) quantities of physical and electronic copies of training manuals and videos.

2.2.8.2.4. The SUBCONTRACTOR shall provide a Master Equipment List (MEL) specific to each release option. SUBCONTRACTOR shall develop an editable, electronic spreadsheet based on the equipment in the Operation and Maintenance Manuals that contains the information required to start a preventive maintenance program. As a minimum, provide a list of system equipment, location installed, warranty expiration date, manufacturer, model number, and serial number. This list shall include instrumentation and controls information.

3. Other Requirements

3.1. SUBCONTRACTOR shall verify that any CONTRACTOR provided direction remains with the scope of the subcontract documents. The SUBCONTRACTOR shall provide the CONTRACTOR with a written statement of any project impacts considered outside the scope of subcontract documents before proceeding with implementation or resolution using the Supplier Deviation Disposition Request Appendix E.

3.2. A Supplier Deviation Disposition Request (Appendix E) shall be used to notify the CONTRACTOR when a manufactured product or service does not meet established contract requirements and to document the SUBCONTRACTOR's proposed disposition, with their technical (and where appropriate, Cost/Schedule) justification. The Supplier Deviation Disposition Request can also be used to propose changes to contract documents/requirements unanticipated at time of award.

3.3. When technical questions arise during the performance of the Statement of Work where a documented response is required by the CONTRACTOR, the SUBCONTRACTOR shall use the Supplier Request for Information Appendix F as the method to obtain a documented response to the technical question. In no instance shall the Supplier Request for Information be used to change or modify a requirement, or modify work scope.

3.4. The SUBCONTRACTOR shall maintain an office on site for the duration of the construction work. This office may be that of the SUBCONTRACTOR's Lower-tier SUBCONTRACTORs or teaming partners.

3.5. The SUBCONTRACTOR shall provide support from the perspective of what is in the best interest and/or offers optimal value for the CONTRACTOR and its client.

3.6. Title to construction documents, plans, including drawings, and specifications shall pass to the CONTRACTOR (Government) on completion of the subcontract.

3.7. The SUBCONTRACTOR is responsible for selecting qualified personnel to perform the required services, overseeing performance, and assuring the quality meets the CONTRACTOR expectations.

3.8. The SUBCONTRACTOR shall maintain professional working relationships with CONTRACTOR personnel, client agency personnel, other CONTRACTOR's and their personnel, and other stakeholders associated with work performed on the transactions.

3.9. The SUBCONTRACTOR is responsible for the safe and secure accomplishment of services, whether performed by its own personnel or team members, including its LOWER-TIER SUBCONTRACTORS.

3.10. The SUBCONTRACTOR shall provide all management, administrative, clerical, and supervisory functions required for the effective and efficient performance of transactions.

3.11. The SUBCONTRACTOR shall adhere to the same professional and ethical standards of conduct required of CONTRACTOR personnel. The SUBCONTRACTOR shall not:

3.11.1. Discuss with unauthorized persons information obtained in the performance of work.

3.11.2. Conduct business not directly related to the work.

3.11.3. Use computer systems and/or other CONTRACTOR facilities for company or personal business; or

3.11.4. Recruit on a CONTRACTOR site or otherwise act to disrupt CONTRACTOR business.

3.12. The SUBCONTRACTOR shall be responsible for protecting all Unclassified Controlled Nuclear Information (UCNI) and Controlled Unclassified Information (CUI), and materials in connection with the performance of the work under this Master Agreement. UCNI and CUI will be protected in accordance with the DOE/NNSA directives.

3.13. Submittals shall be accurate, legible, and reproducible. Before delivery, the SUBCONTRACTOR shall review its work products, as applicable, for technical adequacy, completeness, and appropriate content. All submittals and formal documents provided to the CONTRACTOR must be accompanied by required transmittal documentation.

3.1 Work Breakdown Structure (WBS)

The SUBCONTRACTOR shall perform the work described in this Statement of Work (SOW) in accordance

with the Work Breakdown Structure (WBS) provided in Appendix B. The WBS serves as the organizing framework for the project, and the SUBCONTRACTOR shall divide the work into discrete clearly defined work packages within each control account.

The SUBCONTRACTOR shall refine and further develop the WBS to a level of detail sufficient for effective planning, execution, and progress tracking. While refinements are permitted, the SUBCONTRACTOR shall maintain the existing WBS as the structure for work planning and reporting. The SUBCONTRACTOR may propose a change to the WBS for CONTRACTOR approval.

The work described in this Statement of Work is released under options:

Base: Title II Design Services and DOE Order 413.3 Support
Option 1: PNAP – Site Preparation
Option 2: PNAP – Long Lead Procurement
Option 3: PNAP – Construction Execution

3.2 Sequencing

The following table shows the estimated release dates for each of the options to be issued under the subcontract. Please note that these estimated dates are dependent upon Critical Decision approvals.

Option	Estimated Dates
Base: PNAP – Title II Design Services and DOE Order 413.3 support	3Q – FY2026 (APR TO 8/2034)
Option 1: PNAP – Site Preparation	3Q - FY2027 (APR TO JUN 2027)
Option 2: PNAP – Long Lead Procurement	4Q - FY2027 (JUL TO SEP 2027)
Option 3: PNAP – Construction Execution	1Q - FY2028 (OCT TO DEC 2027)

The following table shows the estimated critical decision dates for each of the DOE O 413.3B Critical Decisions for PNAP.

Critical Decision	Estimated Approval Dates
Critical Decision 1	2Q - FY2026 (JAN TO MAR 2026)
Critical Decision 3A – Site Preparation and Temporary Construction Equipment Procurement	3Q - FY2027 (APR TO JUN 2027)
Critical Decision 3B – Long Lead Procurements	3Q - FY2027 (APR TO JUN 2027)
Critical Decision 2/3	1Q - FY2028 (OCT TO DEC 2027)

3.3 Acceptance Criteria

a. The SUBCONTRACTOR shall complete work in accordance with the Statement of Work and the requirements, drawings, and specifications listed in the Statement of Work. Work shall be consistent with sound industry practices and meet the code requirements specified. Acceptance shall be determined via compliance with the Statement of Work and the requirements, drawings, and specifications listed in the Statement of Work.

b. SUBCONTRACTOR shall ensure timely completion of Submittals as required by Appendix A, Submittal Register. All submittals provided under this subcontract shall be certified by a licensed Professional Engineer (when required) accurate, legible, and reproducible. Before delivery, the SUBCONTRACTOR shall review its work products for technical adequacy, completeness, and appropriate content. All submittals and formal documents provided to the CONTRACTOR must be accompanied by required transmittal documentation.

3.4 Site Conditions and Known Hazards (Facility Specific)

Site facility specific conditions/requirements and known hazards are incorporated in this Statement of Work. Exhibit E: Environment, Safety, & Health Requirements has specific requirements related to site conditions and associated hazards

3.4.1. Asbestos	
☒	It is **NOT** expected.
3.4.2. Silica	
☒	It **IS** expected that silica-bearing materials will be encountered during the performance of this work and all activities that may potentially generate respirable silica. a. A SUBCONTRACTOR with employees potentially exposed to respirable crystalline silica (RCS) above 25 micrograms per cubic meter of air (25 ug/m3) as an 8-hour time-weighted average under any foreseeable conditions shall comply with the 29 CF 1910.1053, “Respirable Crystalline Silica,” and/or 29 CFR 1926.1153, “Respirable Crystalline Silica.” b. The SUBCONTRACTOR shall submit a Written Silica Exposure Control Plan (if applicable) to the CONTRACTOR for review and approval as part of the Subcontractors Site Specific Safety Plan. *NOTE: The CONTRACTOR’s RCS Occupational Exposure Limit is 25 ug/m^3 as opposed to OSHA PEL of 50 ug/m^3.* See Exhibit E, Environment, Safety, & Health Requirements, Section E-23.
3.4.3. Toxic Metals (Lead, Cadmium, Mercury)	
☒	It is **NOT** expected. However, since painted surfaces typically contain lead chromates, and many metals contain hexavalent chromium, the SUBCONTRACTOR is required to notify the Subcontractors Technical Representative (STR) prior to cutting, burning, welding or polishing of metal or painted surfaces.
3.4.4. Hoisting and Rigging	
☒	It **IS** anticipated that Hoisting and Rigging will occur during performance of this work. a. The SUBCONTRACTOR shall provide the resources necessary for inspection, certification, and maintenance of rigging and lifting equipment as well as monitor all lifts to ensure that regulatory lifting practices are followed by the CONTRACTOR Lifting SME. b. The SUBCONTRACTOR shall submit its 29 CFR 1926.1400, Subpart CC, “Cranes and Derricks in Construction” compliant program as part of the Environmental, Safety & Health (ES&H) program. c. The SUBCONTRACTOR shall designate a qualified supervisor to determine the methods and develop plans for rigging operations to ensure safe lifts. d. The SUBCONTRACTOR shall ensure all crane operations maintain minimum safe distances from all high voltage lines, as determined by the CONTRACTOR. Twenty feet is required for voltages up to 350 kV. At voltages greater than 350 kV, the distance shall increase as

	required. e. Cranes (Mobile) - The SUBCONTRACTOR shall provide the resources necessary for inspection, certification, and maintenance of rigging and lifting equipment and shall monitor all lifts to ensure that acceptable lifting practices are followed. f. Lift Plan requirements i. Lift plans are required to be submitted to the CONTRACTOR for concurrence. The SUBCONTRACTOR shall submit a detailed rigging plan with all applicable supporting calculations to the CONTRACTOR for review and acceptance prior to the lift. A Formal Lift Plan will be required for the following activities: • Excess of 5 tons • Lift classified as critical (exceeding 75% of crane capacity chart) • Any two-crane lift or any lift over operating or occupied facilities, process pipe racks or near power lines) • High value or long lead time item ii. The SUBCONTRACTOR shall designate a qualified supervisor to determine the methods and develop plans for rigging operations to ensure safe lifts. iii. The SUBCONTRACTOR is required to meet DOE Standard DOE-STD-1090-2020, "Hoisting and Rigging" for lift classification and lift plan requirements. See Exhibit E, Environment, Safety, & Health Requirements, Section E-48**.**
3.4.5. Radiological Controls	
☒	It is **NOT** expected. If radiation generating devices are anticipated to be used as part of construction activities, then the requirements with the applicable sections of Exhibit E, Environment, Safety, & Health Requirements, Section E-14 are required.

3.5 Delivery, Storage and Handling

The SUBCONTRACTOR shall:

- Provide appropriate and necessary equipment and labor required for unloading, transporting, and handling delivered products/materials.
- Ensure that loads entering/exiting the NNSS are properly secured.
- Follow manufacturer's recommendations/instructions regarding the handling and storage of all materials.
- Store packaged products in original unbroken packages and containers.
- Leave manufacturer's seals and labels intact during storage.
- Arrange for immediate disposal and replacement of products found to be defective, damaged beyond repair, or in otherwise unacceptable condition.

3.6 Site Coordination Requirements

3.6.1. SUBCONTRACTOR Requirements

The SUBCONTRACTOR shall provide the following:

- Temporary Construction facilities (e.g., Job trailer, pre-job location, lunchroom).
- When a SUBCONTRACTOR performs physical work which has risk potential (employees, equipment, environment, or plant) outside of daylight hours, they are responsible for providing adequate lighting to perform the project work scope.

- Generators for construction power. The SUBCONTRACTOR is required to ground generators in accordance with NEC/National Electrical Safety Code (NESC) requirements and notify the STR and CM for compliance inspection prior to use. No modifications shall be made to portable generators on MSTS managed property without written permission from STR/CM.
- Cell phones for supervisory personnel.
- Ice and drinking water.
- The SUBCONTRACTOR shall develop a plan to use the existing PULSE electrical system when mining from the U1a.01 drift. The SUBCONTRACTOR shall install temporary electrical components required to tie into the existing PULSE electrical system.
- The SUBCONTRACTOR shall develop a plan to use the existing PULSE ventilation system when mining from the U1a.01 drift. The SUBCONTRACTOR shall install temporary ventilation components required to tie into the existing PULSE ventilation system.
- The SUBCONTRACTOR shall develop a plan to use the existing PULSE utility water system when mining from the U1a.01 drift. The SUBCONTRACTOR shall install temporary water components required to tie into the existing PULSE utility water system.
- The SUBCONTRACTOR shall develop a plan to use the existing PULSE compressed air system when mining from the U1a.01 drift. The SUBCONTRACTOR shall install temporary compressed air components required to tie into the existing PULSE compressed air system.
    - The SUBCONTRACTOR will use the U1h shaft to transport equipment and materials underground when mining from the U1a.01 drift. All equipment and materials transported underground via the U1h shaft must fit into the cage at the U1h Shaft.
    - When mining from the U1a.01 drift, the SUBCONTRACTOR shall transport muck from the U1a.01 drift to the U1h shaft station and grizzly outside of standard work hours. The CONTRACTOR will hoist the muck from underground to the surface for disposal on the surface. The SUBCONTRACTOR shall transport the muck from the U1h shaft collar area to the long-term muck storage location.

    The CONTRACTOR shall provide the following:

    - NNSS Fire and Rescue will provide a normal range of services for the SUBCONTRACTOR.
    - Aggregate for road and parking areas will be provided from the NNSS batch plant and delivered by the CONTRACTOR to a location near the shaft.
    - Portable toilets and handwashing stations will be provided and serviced by the CONTRACTOR.
    - Roll off waste containers will be provided by the CONTRACTOR for non-hazardous debris.
    - The SUBCONTRACTOR may access non-potable water for construction at the U1h fill stand.

NOTE: The SUBCONTRACTOR shall restore areas disturbed during construction (including laydown areas) to pre-existing conditions.

3.6.2. Outage Requests

The SUBCONTRACTOR shall provide twelve (12) working days advance notice for systems requiring an outage or lockout/tagout for the control of hazardous energy. CONTRACTOR will fulfill the role of Controlling Organization for SUBCONTRACTOR lockout/tagout operations.

3.6.3. Construction Trailer Building Occupancy Inspection Requirements

1. Construction trailers are required to meet the relocatable structure requirements of International Building Code (IBC-2024) and will need to have a Beneficial Occupancy Inspection (BOI) performed to receive a Certificate of Occupancy (Appendix C NNSS Construction Office and Equipment Trailer Permit Application). The BOI will use a graded approach for the inspection itself but documentation for the structures themselves, a full site plan, and structural anchorage/support will be required. The NNSS Construction Office and Equipment Trailer Permit Application must be submitted for each trailer over 120sf at least 28 days before the trailer is planned to be on site (see submittal register).

2. Construction trailers include manufactured structures, mobile homes, trailers, semi-trailers, modular-type structures, factory-assembled structures, cargo containers, hazardous materials or flammable liquid storage containers, air supported/inflated structures, tent/membrane, and cloth/rib structures. This term does not apply to trailers and cargo containers that are being used in the transportation mode for conveying materials while on site, or to prefabricated buildings that are permanently located, such as “Butler" or “Strand Steel" buildings.

The SUBCONTRACTOR shall contact the CONTRACTOR Fire & Rescue for their specific requirements for these structures since they may need the building numbers (provided by Facilities Information Management System (FIMS)) installed on the exterior of the trailers.

B-4 PERSONNEL REQUIREMENTS

4.1. Training and Qualification

The SUBCONTRACTOR and its personnel shall attend the following site-specific training in the course of this work scope. NOTE site access may be delayed until training is completed or renewed. The SUBCONTRACTOR shall contact the STR to coordinate scheduling of training. See Section B-6, 6.3 *Badging*.

DESCRIPTION	DURATION	FREQUENCY
General Employee Radiological Training (GERT) (WBT 1E00W585)	0.5 Hour	730 days
CONTRACTOR’s Lockout/Tagout/Tagging Authority Process (1E00W448)	1.0 Hour	730 days
CONTRACTORS Excavation Penetration Process (Briefing 1E00W752)	0.5 Hour	One time only
Integrated Work Control Process (WBT 1G00W552)	1 Hour	One time only
Underground Training (1E000669) Only those personnel requiring underground access	4.0 Hour	365 days
NNSS Site Access Safety Orientation (1E00W102)	0.5 Hour	One time only
Protective actions (WBT 1REMPAW1)	0.5 Hour	365 days
Work Location Emergency Response Plan, Including Evacuation Alarms and Accountability (1REM050000)	3.0 Hours	One time only
Initial Security Briefing. DOE O 470.4B, “Safeguards and Security Program” (1S000110) as well as DOE O 470.4B Chg. 3 (Ltd.Chg.) Only those personnel that require site access greater than 5 days	1 Hour	One time only
Counterintelligence Awareness Briefing. (1S000170) Only those personnel that require site access greater than 5 days	1 Hour	One time only
Export Control Awareness (1H00W310)	0.5 Hour	One time only
Overview of Controlled Unclassified Information (1S00W115)	1.0 Hour	One time only
Cyber Security Qualification Program (CYBER01) Only those personnel that require an NTSOP account to access the unclassified computer network	1.0 Hour	One time only

The SUBCONTRACTOR shall maintain training records for their personnel and ensure all required training is completed prior to work. Additionally, as soon as practical after award, the SUBCONTRACTOR shall submit a badge request for personnel required under the various releases for scheduling training and medical evaluation prior to crews being eligible for work on site.

4.2. Key Personnel Qualifications

The SUBCONTRACTOR shall submit a resume along with any documented applicable qualifications/certifications for approval prior to the SUBCONTRACTOR being authorized to proceed with work. The SUBCONTRACTOR shall submit for approval any changes in the Key Personnel representative assignments for approval.

4.2.1. Project Manager

Oversee the project functions including engineering design, procurement and construction, ensuring each phase of the project is completed on time, within budget, and adhering to safety and quality requirements. Support the PNAP Integrated Project Team (IPT) for review and performance monitoring and addressing issues that affect project performance and business relationships.

- Manage administrative, cost, schedule, and performance of all functions; evaluate critical issues/impacts and determine corrective actions in accordance with the necessary Earned Value Management System requirements.
- Anticipate project risks and ensure those risks inherent in project planning and execution are identified and mitigated in support of the overall PNAP objectives and milestones.

Qualifications

- Bachelor's degree or equivalent training and experience, plus a minimum of 10 years of project management experience with engineering, procurement and construction projects with a minimum of 5 years of nuclear safety related project experience.
- Demonstrated working knowledge of DOE O 413.3B knowledge and experience relating to project planning and execution.
- Demonstrated working knowledge of ASME NQA-1 quality assurance requirements for nuclear facility applications.
- Industries Alliance (ANSI/EIA)-748, Earned Value Management Systems experience.
- Demonstrated working knowledge of DOE-STD-1189-2016, Integration of Safety into the Design Process, or similar commercial standards.

4.2.2. Contracts & Procurement Manager

Oversees management of the subcontract, submittals, and the procurement of materials supporting the project ensuring effective and efficient work performance. Coordinate and monitor procurement activities including any sub-tier suppliers to ensure work is completed on time, within budget, and adhering to quality standards. Support the PNAP Integrated Project Team (IPT) for review and performance monitoring and addressing issues that affect project performance and business relationships.

Qualifications

- Bachelor's degree in business management or engineering.
- Experienced in procurement of nuclear safety related SSCs, including commercial grade dedication.
- Experience in a supervisory role in engineering, procurement, and construction sites with a minimum of 10 years of experience.

4.2.3. Site Construction Superintendent

Oversees on-site construction activities, ensuring safe and efficient work performance. Coordinate and monitor construction activities including any sub-tier suppliers to ensure work is completed on time, within budget, and adhering to safety and quality standards. Support the PNAP Integrated Project Team (IPT) for review and performance monitoring and addressing issues that affect project performance and business relationships.

Qualifications

- Bachelor's degree in a construction-related field, such as construction management, engineering, or architecture.
- Specialized certifications like Occupational Safety and Health Administration (OSHA).
- Experience in a supervisory role on construction sites with a minimum of 10 years of construction experience.

4.2.4. Engineering Manager

Oversees engineering activities, ensuring the design is compliant with all codes, standards, specifications and requirements. Coordinate and monitor design activities including any sub-tier suppliers to ensure work is completed on time, within budget, and adhering to safety and quality standards. Support the PNAP Integrated Project Team (IPT) for review and performance monitoring and addressing issues that affect project performance and business relationships.

Qualifications

- Bachelor's Degree in an engineering discipline (preference for civil, structure, or mining engineering) from an accredited institution.
- Minimum of 10 years of progressive engineering experience, with at least 5 years of nuclear design experience and 5 years in a managerial or supervisory role on large-scale heavy civil or mining projects.
- Professional license (PE) in an engineering discipline from a recognized licensing board is required.

4.2.5. Quality Assurance Professional

Provide subject matter expertise on the development and implementation of the quality assurance program and ensure that quality control procedures and work practices comply with the quality requirements. Serves as the SUBCONTRACTOR resource and advisor to the SUBCONTRACTOR's project team and an advisor on issues related to quality. Plans, directs, leads, or performs independent assessments and surveillances using quality and/or safety technical standards and practices to ensure process control and compliance.

Manage or oversee the Quality Control (QC) function that works to identify defects, deviations from specifications, and other quality issues throughout the construction processes, aiming to maintain consistency and adherence to quality assurance protocols.

Responsibilities

- Act as Point of Contact (POC) and represents the SUBCONTRACTOR in quality related matters.
- Develops the SUBCONTRACTOR's Quality Assurance Plan (QAP) that meets the requirements specified in Section 8.5 using the graded approach.
- Ensures compliance with SUBCONTRACTED quality assurance requirements.
- Provide SUBCONTRACTOR personnel with work specific quality assurance training.
- Develops and maintains quality documents that are generated by the SUBCONTRACTOR and their lower-tier SUBCONTRACTOR (s) (e.g., Inspection Reports, Test Plans, Test Procedures, Test Data Sheets, Measuring & Test Equipment (M&TE) Records, etc.).
- Perform regular independent oversight and ensure required testing and inspections report are completed.
- Ensure that a SUBCONTRACTOR's QC representative shall be present to verify that ALL required testing and inspection activities are performed in accordance with subcontract requirements (e.g., applicable codes and standards, etc.).
- Ensure that deficiencies are documented in accordance with SUBCONTRACTOR's corrective action and nonconformance program.
- Generates, validates, and verifies dispositions for nonconforming items.
- Track and status deficiencies and nonconformances to ensure timely completion

- Attend kick-off meetings, and as necessary attend job walk-downs, progress meetings and safety meetings.

Qualifications

- High school diploma is the minimum requirement, prefer a post-secondary certificate or associate degree in quality control or a related field. Further education and specialized training, including certifications like American Society for Quality (ASQ) Certified Quality Inspector (CQI).
- Minimum of five (5) years of engineering, procurement and construction quality experience with roles that involve oversight, testing and inspections with a minimum of 3 years of experience with nuclear quality assurance programs (ASME NQA-1).

4.2.6. Safety Representative

Ensure a safe and healthy work environment by representing employee concerns, identifying hazards, and promoting safety protocols. They work with management to address workplace safety issues, conduct inspections, and educate employees on safety practices. Review and ensure that all site and regulatory requirements are met.

Responsibilities

The SUBCONTRACTOR'S Safety Representative will perform the following minimum activities:

- Submit a "Daily Safety Field Report" to the CONTRACTOR'S safety representative.
- Cease work, remove SUBCONTRACTOR'S personnel from the hazardous area if the safety or health of SUBCONTRACTOR'S personnel, other site personnel, or third parties is jeopardized by SUBCONTRACTOR'S work activities, and notify CONTRACTOR'S STR.
- Conduct or participate in daily pre/post job briefings and monthly (minimum) safety meetings for SUBCONTRACTOR'S employees.
- Provide work-specific training for new employees and orientations for visitors.
- Ensure compliance with CONTRACTOR'S work control process, as agreed.
- Ensure compliance with CONTRACTOR'S warning systems (including evacuation alarms, accountability rosters, assembly points, etc.).
- Ensure that proper chemical and safety postings are in place, are legible, and are removed when the project is complete.
- Ensure all operations are conducted to mitigate adverse environmental impacts (e.g., spill containment, erosion control).
- Establish and maintain the hazard communication program (e.g. Safety Data Sheets (SDS), training).
- Continuously evaluate the site for any hazards not identified in the hazard assessment process(es) and initiate safety measures required to protect personnel, the public and the environment. Revise applicable documents, accordingly.
- Ensure that all wastes generated are managed in compliance with applicable State, Federal, or Local laws and Subcontract requirements.
- Maintain first aid and Occupational Safety and Health Administration (OSHA) 300 logs, if required.
- Report accidents and injuries to the STR, and conduct accident/incident investigations, as required, including the completion and submission of appropriate forms to the STR.
- Ensure that the Site map, if required, includes safety information such as locations of fire extinguishers and eye wash stations, and ensure that the first-aid kits are kept current as appropriate.
- Ensure thermoluminescent dosimeters (TLDs), if used at the worksite, are exchanged by CONTRACTOR, as required (i.e., quarterly for radiological workers and monthly for declared pregnant workers).

- Coordinate with CONTRACTOR'S medical services, or local emergency responder organizations, if off site, to establish provided services and verify that phone numbers, addresses, and contacts are current and accurate.
- Interface with CONTRACTOR'S safety and health personnel and the STR to resolve safety issues and conduct periodic inspections and program review.
- Ensure safety requirements and goals have been set and communicated to workers.
- Represent SUBCONTRACTOR in incident investigations and/or critiques as requested by CONTRACTOR.
- If accepted by the CONTRACTOR, the SUBCONTRACTOR'S assigned Safety Representative may have other duties as long as they will not interfere with or prevent the employee from performing the above-stated responsibilities.

NOTE: The safety professional's oversight frequency shall increase if the SUBCONTRACTOR or MSTS determines that more rigorous oversight is required.

Qualifications

The SUBCONTRACTOR shall have a qualified Safety and Health Professional accepted by the CONTRACTOR at the worksite whenever SUBCONTRACTOR personnel are performing work.

The SUBCONTRACTOR's Safety Representative will have:

A degree in Occupational Safety or hold the designation of a Certified Safety Professional (CSP) or hold the designation of an Associate Safety Professional (ASP) with 1-3 years documented safety experience, Occupational Health and Safety Technician (OHST) or Construction Safety and Health Technician (CHST) certification with 2-3 years of experience in field providing safety duties.

Documented 5-10 years full-time safety experience (100% safety work). List of projects and description of duties where a person was a full-time safety professional.

Specialized training for specialized activities (High risk, diving, high voltage).

B-5 TECHNICAL SPECIFICATIONS AND DRAWINGS

The SUBCONTRACTOR shall perform work in accordance with the national codes, specifications, drawings, exhibits, and other documents, which by reference are made a part of the SOW.

Inspection of the work required by governmental agencies shall be arranged by the STR. The SUBCONTRACTOR shall request inspections through the STR, after the work is ready for inspection. In-process oversite of the SUBCONTRACTOR'S in-process Work shall be performed by the STR's construction project support personnel as appropriate.

5.1. Technical Specifications

DOCUMENT NUMBER	TITLE	REV	PAGES
FRD-985-000	*Functional Requirements Document for Principal Underground Laboratory for Subcritical Experiments (PULSE) New Access Project (PNAP)*	*0*	*All*
02855-COR-01	*PULSE New Access Project (PNAP) Code of Record*	*1*	*21*
N/A	*U1a Complex New Access Mission Need Statement & Program Requirements Document*	*A*	*16*
PULSE-SDS-24-001	*PULSE New Access Project Safety Design Strategy*	*1*	*16*

5.2. Conceptual Design

Documents identified in this section were produced for conceptual design. These documents are provided for reference to convey the CONTRACTOR's design intent and do not represent Issued for Construction (IFC) documents. The SUBCONTRACTOR shall be responsible for reviewing and incorporating the information from conceptual design documents in the SUBCONTRACTOR's deliverables as appropriate. Native files can be provided after the award at the request of the SUBCONTRACTOR.

DOCUMENT NUMBER	TITLE	REV	PAGES
02855-05-CDR-001	*PNAP Conceptual Design Report*	*B*	*154*
02855-11-1000C	*SHAFT PLAN LAYOUT*	*B*	*1*
02855-11-1002C	*COLLAR PLAN LAYOUT*	*B*	*1*
02855-11-1003	*UG SHAFT STATION - PILLAR BYPASS*	*B*	*1*
02855-11-1004A	*SURFACE GENERAL ARRANGEMENT PLAN - HOIST HOUSE AND HEADFRAME*	*B*	*1*
02855-11-1004C	*HOIST HOUSE PLAN, HOIST LAYOUT*	*B*	*1*
02855-11-1006A	*SURFACE SHEAVE GENERAL ARRANGEMENT DRAWING*	*B*	*1*
02855-11-1006B	*SURFACE SHEAVE HEAD FRAME LOADING DRAWING*	*B*	*1*
02855-11-1007A	*SHAFT CONVEYANCES - SERVICE CAGE GA ISOMETRICS*	*B*	*1*
02855-11-1007B	*SHAFT CONVEYANCES - SERVICE CAGE ISOMETRICS AND DETAILS*	*B*	*1*
02855-11-1008A	*SHAFT CONVEYANCES - SKIP LAYOUT AND ELEVATION*	*B*	*1*
02855-11-1008B	*SHAFT CONVEYANCES - SHAFT SKIP ISOMETRICS AND DETAILS*	*B*	*1*
02855-11-2000	*SHAFT LONG SECTION - COLLAR & STATION WITH CORRESPONDING DESIGN ELEVATIONS (GENERIC)*	*B*	*1*
02855-11-2001	*UG SHAFT STATION - PILLAR BYPASS SECTIONS*	*B*	*1*
02855-11-4003	*UG SHAFT STATION - LOADING POCKET DETAILS*	*B*	*1*
02855-11-4004	*SURFACE GENERALIZED SHAFT CONSTRUCTION PLAN LAYOUT PLAN - HOIST HOUSE, HEAD FRAME, WINCH HOUSE*	*B*	*1*
02855-11-6000A	*COLLAR AND SHAFT CONSTRUCTION, EXCAVATION & SUPPORT SEQUENCE 1-4*	*B*	*1*
02855-11-6000B	*COLLAR AND SHAFT CONSTRUCTION, EXCAVATION & SUPPORT SEQUENCE 5-7*	*B*	*1*
02855-11-6001A	*CONVENTIONAL SHAFT SINKING, TYPICAL SHAFT EXCAVATION SEQUENCE 1-3*	*B*	*1*
02855-11-6001B	*CONVENTIONAL SHAFT SINKING, TYPICAL SHAFT EXCAVATION SEQUENCE 4-7*	*B*	*1*
02855-11-6002A	*SHAFT EXCAVATION 13 FT - 100 FT, SEQUENCE #1-4*	*B*	*1*
02855-11-6002B	*SHAFT EXCAVATION 13 FT - 100 FT, SEQUENCE #5-8*	*B*	*1*
02855-11-6002C	*SHAFT EXCAVATION 13 FT - 100 FT, SEQUENCE #9-12*	*B*	*1*
02855-11-6002D	*SHAFT EXCAVATION 13 FT - 100 FT, SEQUENCE #13-16*	*B*	*1*
02855-11-6002E	*SHAFT EXCAVATION 13 FT - 100 FT, PLAN #1-3*	*B*	*1*

DOCUMENT NUMBER	TITLE	REV	PAGES
02855-11-6002F	*SHAFT EXCAVATION 100 FT - 991 FT 6-IN.: SEQUENCE #1-3*	*B*	*1*
02855-11-6002G	*SHAFT EXCAVATION 100 FT - 991 FT 6-IN.: SEQUENCE #4-6*	*B*	*1*
02855-11-6002H	*SHAFT EXCAVATION 100 FT - 991 FT 6-IN.: SEQUENCE #7-9*	*B*	*1*
02855-11-6002I	*SHAFT EXCAVATION 100 FT - 991 FT 6-IN.: SEQUENCE #10-12*	*B*	*1*
02855-11-6002J	*SHAFT EXCAVATION 100 FT - 991 FT 6-IN.: SEQUENCE #13-15*	*B*	*1*
02855-11-6002K	*SHAFT EXCAVATION 100 FT - 991 FT 6-IN.: SEQUENCE #16 & PLAN #1-3*	*B*	*1*
02855-11-6002L	*TEMPORARY SUPPORT BOLT SPECIFICATION SHEET*	*B*	*1*
02855-11-6002M	*STATION EXCAVATION GROUND SUPPORT - PILLAR BYPASS*	*B*	*1*
02855-11-6002N	*STATION EXCAVATION GROUND SUPPORT - DETAILS*	*B*	*1*
02855-11-6003	*PERMANENT SHAFT LINER DIAGRAM*	*B*	*1*
02855-11-6005	*HOIST POWER ONE LINE DIAGRAM*	*B*	*1*
02855-11-6006	*SURFACE SYSTEM OVERVIEW FUNCTIONAL BLOCK DIAGRAMS*	*B*	*1*
02855-13-CALC-101	*Concrete Foundations for Headframe*	*B*	*56*
02855-13-CALC-102	*Misc. Equipment Foundations*	*B*	*467*
02855-13-CALC-103	*PNAP Concrete Foundations for Hoist*	*B*	*69*
02855-13-CALC-201	*PNAP Structural Steel Head Frame –*	*B*	*103*
02855-13-CALC-202	*PNAP Structural Steel Hoist Building –*	*B*	*632*
02855-13-MAS-101	*Material Assignment Schedule*	*B*	*6*
02855-13-RPT-0101	*LOAD DEVELOPMENT AND GEOTECHNICAL EVALUATION*	*B*	*18*
02855-14-CALC-0001	*PNAP Hoist House Cooling and*	*B*	*13*
02855-14-CALC-0002	*PNAP Access Enclosure Cooling*	*B*	*12*
02855-14-MAS-001	*PNAP Material Assignment Schedule*	*B*	*3*
02855-15-LST-001	*PNAP MASTER EQUIPMENT LIST*	*B*	*3*
02855-15-MAS-001	*Material Assignment Schedule*	*B*	*3*
02855-16-MAS-001	*Material Assignment Schedule*	*B*	*4*
02855-17-CALC-001	*Electrical Lighting Calculation*	*B*	*36*
02855-17-CALC-002	*Short Circuit Analysis*	*B*	*13*
02855-17-LST-001	*Electrical Load List*	*B*	*7*
02855-17-MAS-001	*Material Assignment Schedule*	*B*	*3*
02855-17-RPT-001	*LIGHTNING PROTECTION ASSESSMENT*	*B*	*30*
02855-18-MAS-001	*Material Assignment Schedule*	*B*	*4*
02855-49-MAS-001	*Material Assignment Schedule*	*B*	*3*
02855-49-RPT-001	*PNAP Preliminary Fire Hazards Analysis*	*B*	*92*
02855-A-1201	*ACCESS ENCLOSURE FLOOR, ROOF, AND EGRESS PLANS*	*B*	*1*
02855-A-1202	*HOIST HOUSE FLOOR, ROOF, AND EGRESS PLANS*	*B*	*1*

DOCUMENT NUMBER	TITLE	REV	PAGES
02855-A-1203	*ACCESS ENCLOSURE ELEVATIONS AND 3D VIEW*	*B*	*1*
02855-A-1204	*HOIST HOUSE ELEVATIONS AND 3D VIEW*	*B*	*1*
02855-A-1205	*ACCESS ENCLOSURE SECTIONS*	*B*	*1*
02855-A-1206	*HOIST HOUSE SECTIONS*	*B*	*1*
02855-A-1207	*DOOR AND FINISH SCHEDULES*	*B*	*1*
02855-C-1200A	*PNAP COVER SHEET*	*B*	*1*
02855-C-1200B	*CIVIL COVER SHEET*	*B*	*1*
02855-C-1201	*CONSTRUCTION SITE PLAN*	*B*	*1*
02855-C-1202	*CONSTRUCTION ENLARGED SITE PLAN SHEET 1*	*B*	*1*
02855-C-1203	*CONSTRUCTION ENLARGED SITE PLAN SHEET 2*	*B*	*1*
02855-C-1204	*OPERATIONAL SITE PLAN*	*B*	*1*
02855-C-1205	*OPERATIONAL ENLARGED SITE PLAN*	*B*	*1*
02855-C-1206	*PNAP SHAFT SITE PLAN*	*B*	*1*
02855-C-1207	*OVERALL SITE UTILITY PLAN*	*B*	*1*
02855-C-1208	*OPERATIONAL SITE UTILITY PLAN*	*B*	*1*
02855-E-1000	*ONE-LINE DIAGRAM LEGEND*	*B*	*1*
02855-E-1001	*PLAN SYMBOLS LEGEND*	*B*	*1*
02855-E-1002	*ABBREVIATIONS AND EQUIPMENT TAGS LEGEND*	*B*	*1*
02855-E-1100	*OVERVIEW PAGING SYSTEM LAYOUT*	*B*	*1*
02855-E-1101	*HOIST HOUSE PAGING SYSTEM LAYOUT*	*B*	*1*
02855-E-1102	*ACCESS ENCLOSURE PAGING SYSTEM LAYOUT*	*B*	*1*
02855-E-1103	*HEAD FRAME PAGING SYSTEM LAYOUT*	*B*	*1*
02855-E-1200	*OVERVIEW POWER AND CONTROL LAYOUT*	*B*	*1*
02855-E-1201	*HOIST HOUSE POWER AND CONTROL LAYOUT*	*B*	*1*
02855-E-1202	*EXTERIOR ELECTRICAL EQUIPMENT POWER AND CONTROL LAYOUT*	*B*	*1*
02855-E-1203	*ACCESS ENCLOSURE POWER AND CONTROL LAYOUT*	*B*	*1*
02855-E-1204	*HEAD FRAME POWER AND CONTROL LAYOUT*	*B*	*1*
02855-E-1300	*OVERVIEW LIGHTING LAYOUT*	*B*	*1*
02855-E-1301	*HOIST HOUSE LIGHTING LAYOUT*	*B*	*1*
02855-E-1302	*ACCESS ENCLOSURE LIGHTING LAYOUT*	*B*	*1*
02855-E-1303	*HEAD FRAME LIGHTING LAYOUT*	*B*	*1*
02855-E-1400	*OVERVIEW LIGHTNING PROTECTION LAYOUT*	*B*	*1*
02855-E-5300	*LIGHTING SCHEDULE*	*B*	*1*
02855-E-6200	*ELECTRICAL ONE-LINE*	*B*	*1*
02855-FP-0001	*HOIST HOUSE FIRE SUPPRESSION OVERVIEW*	*B*	*1*
02855-FP-0003	*HOIST HOUSE FIRE ALARM OVERVIEW*	*B*	*1*
02855-M-4200	*HOIST HOUSE MECHANICAL EQUIPMENT ARRANGEMENT PLAN/SECTION*	*B*	*1*
02855-M-4201	*ACCESS ENCLOSURE MECHANICAL EQUIPMENT ARRANGEMENT PLAN/SECTION*	*B*	*1*
02855-M-4250	*HOIST HOUSE HVAC PLAN*	*B*	*1*

DOCUMENT NUMBER	TITLE	REV	PAGES
02855-M-4251	*ACCESS ENCLOSURE HVAC PLAN*	*B*	*1*
02855-M-6205	*HVAC EQUIPMENT SCHEDULE HOIST HOUSE AND ACCESS ENCLOSURE*	*B*	*1*
02855-M-6210	*VENTILATION FLOW DIAGRAM HOIST HOUSE*	*B*	*1*
02855-M-6211	*VENTILATION FLOW DIAGRAM ACCESS ENCLOSURE*	*B*	*1*
02855-S-0101	*STRUCTURAL GENERAL CONCRETE NOTES*	*A*	*1*
02855-S-0102	*STRUCTURAL GENERAL STEEL NOTES AND DETAILS*	*A*	*1*
02855-S-1000	*FOUNDATION LOCATION PLAN*	*B*	*1*
02855-S-1001	*HOIST HOUSE AND HOIST EQUIPMENT FOUNDATION PLAN*	*B*	*1*
02855-S-1002	*HEAD FRAME AND SLAB ON GRADE - FOUNDATION PLANS AND SECTIONS*	*B*	*1*
02855-S-1003	*ACCESS ENCLOSURE AND LIGHT POLE - FOUNDATION PLAN AND SECTIONS*	*B*	*1*
02855-S-1004	*ELECTRICAL EQUIPMENT - GENERATORS AREA - FOUNDATION PLANS AND SECTIONS*	*B*	*1*
02855-S-1005	*ELECTRICAL EQUIPMENT - 35kV TRANSFORMER FOUNDATION PLAN AND SECTIONS*	*B*	*1*
02855-S-1006	*ELECTRICAL EQUIPMENT - 5kV TRANSFORMER FOUNDATION PLAN AND SECTIONS*	*B*	*1*
02855-S-1102	*HEAD FRAME - STRUCTURAL STEEL - PLANS SHEET 1*	*B*	*1*
02855-S-1103	*HEAD FRAME - STRUCTURAL STEEL - PLANS SHEET 2*	*B*	*1*
02855-S-1104	*HEAD FRAME - STRUCTURAL STEEL ELEVATIONS*	*B*	*1*
02855-S-1105	*HEAD FRAME - STRUCTURAL STEEL ELEVATIONS AND SECTION*	*B*	*1*
02855-S-1106	*HOIST HOUSE - STRUCTURAL STEEL - FLOOR/ROOFING FRAMING PLANS*	*B*	*1*
02855-S-1107	*HOIST HOUSE - STRUCTURAL STEEL ELEVATIONS*	*B*	*1*
02855-S-3001	*HOIST HOUSE - FOUNDATION SECTIONS*	*B*	*1*
13-0-141	*CSI Specification Number 3-12000 Earth Moving*	*A*	*27*
13-0-330	*CSI Specification Number 0-03200 Concrete Reinforcement*	*A*	*54*
13-0-360	*CSI Specification Number 0-51200 Structural Steel Framing*	*A*	*20*
13-0-510	*CSI Specification Number 0-512000 Structural Steel Framing*	*A*	*33*
13-0-511	*CSI Specification Number 0-51200 Structural Steel Framing*	*A*	*31*
13-0-512	*CSI Specification Number 0-51200 Structural Steel Framing*	*A*	*52*
13-0-513	*CSI Specification Number 0-51200 Structural Steel Framing*	*A*	*45*
14-0-001	*CSI Specification Number 23 81 43 Air Conditioning Unit*	*B*	*28*
14-0-002	*CSI Specification Number 23 31 00 and 23 33 00 HVAC Ducts and Accessories*	*B*	*30*

DOCUMENT NUMBER	TITLE	REV	PAGES
17-0-100	*CSI Specification Number 26 32 13.13 Standby Diesel Generator System*	*B*	*40*
17-0-101	*CSI Specification Number 26 12 13 Liquid-Filled Type Transformer*	*B*	*32*
17-0-102	*CSI Specification Number 26 22 13 Dry Type Transformer*	*B*	*24*
18-0-001	*CSI Specification Number 074116 Insulated Core Metal Roof Panels*	*B*	*19*
18-0-002	*CSI Specification Number 074213.19 Insulated Core Metal Wall Panels*	*A*	*19*
18-0-003	*CSI Specification Number 081213.13 Standard Hollow Metal Frames*	*A*	*12*
18-0-004	*CSI Specification Number 081213.13 Standard Hollow Metal Doors*	*A*	*13*
18-0-005	*CSI Specification Number 083323 Overhead Coiling Doors*	*B*	*20*
18-0-006	*Gypsum Board Assemblies*	*B*	*26*
18-0-007	*CSI Specification Number 092116 Gypsum Board Assemblies*	*A*	*17*
18-0-008	*CSI Specification Number 099000 Painting and Coating*	*A*	*23*
18-0-009	*CSI Specification Number 133419 Metal Building Systems*	*B*	*19*
18-0-010	*CSI Specification Number 054000 Cold-Formed Metal Framing*	*A*	*16*
02855-11-1000D	*SHAFT PLAN LAYOUT - ALTERNATIVE LAYOUT*	*A*	*1*
02855-11-1002D	*COLLAR PLAN LAYOUT - ALTERNATIVE LAYOUT*	*A*	*1*
02855-11-1003D	*ALCOVE BYPASS - ALTERNATIVE LAYOUT*	*A*	*1*
02855-C-1205B	*OPERATIONAL PNAP SHAFT PLAN - ALTERNATIVE LAYOUT*	*A*	*1*
14EA-DG-25-0002	*PNAP DESIGN OPTIONS DECISIONS FOR PNAP 60% CONCEPTUAL DESIGN*	*N/A*	*6*
14EA-DG-25-0003	*PULSE NEW ACCESS PROJECT (PNAP) DESIGN OPTIONS DECISIONS FOR PNAP 90% CONCEPTUAL DESIGN*	*N/A*	*6*
14EA-DG-25-0006	*PRINCIPAL UNDERGROUND LABORATORY FOR SUBCRITICAL EXPERIMENTS (PULSE) NEW ACCESS PROJECT (PNAP) DESIGN OPTIONS DECISIONS FOR PNAP 100% CONCEPTUAL DESIGN*	*N/A*	*4*
N/A	*PULSE NEW ACCESS PROJECT (PNAP) DESIGN OPTIONS DECISION RECOMMENDATIONS FOR PNAP 100% CONCEPTUAL DESIGN*	*N/A*	*10*
14EA-DG-25-0007	*PRINCIPAL UNDERGROUND LABORATORY FOR SUBCRITICAL EXPERIMENTS (PULSE) NEW ACCESS PROJECT (PNAP) CONCEPTUAL DESIGN REVIEW*	*N/A*	*2*
N/A	*PNAP 90% Conceptual Design Review Record*	*N/A*	*135*

5.3. Provided Information

Documents identified in this section are being provided to the SUBCONTRACTOR as reference for use in the execution of this subcontract. These documents are furnished for information, coordination, and incorporation into the SUBCONTRACTOR's work products and shall be used in accordance with applicable standards, directives, and contractual obligations.

DOCUMENT NUMBER	TITLE	REV	PAGES
01889-RPT-11	U1a Complex Enhancements Project (UCEP) Mining Assessment	0	26
N/A	Delphi U1a Mining Study	0	57
N/A	Geologic Site Char-Lyner Horizontal Drift Complex-3-1995	0	74
N/A	FLAC3D Numerical Modeling of an Alternative Design for the 05B Drift U1A Underground Complex Nevada National Security Site	0	29
N/A	FLAC3D Numerical Modeling U1A Underground Complex	2	125
02207-RPT-G01	U1a Surface Improvements Geotechnical Investigation	0	318
N/A	U1a Alluvium Block Report – Feb 2018 Draft	1	41
N/A	U1a Physical Properties Report_28August2017	0	17
N/A	U1a_Alluvium_Blocks_for SPE_SAND2019-10645	0	60
N/A	U-1i_Completion_Report_June2020	0	56
N/A	NUMERICAL_ANALYSIS_U1A_COMPLEX_R_284868	1	68
N/A	U1a Shaft Cade History Briggs Musick 1999	0	22
N/A	U-1g_history	0	9
N/A	GUIDE 5-4 DRAFTING STANDARDS	2	47
PULSE-CSDR-25-001*	*PULSE New Access Conceptual Safety Design Report*	TBD	TBD

*These documents are classified as Unclassified Controlled Nuclear Information (UCNI) and will be shared on-site.

B-6 PLACE OF PERFORMANCE

6.1. Work Location

Work will be performed at Nevada National Security Sites – Area 1, PULSE Facility, NV 89023 For any work performed on the NNSS site or in an MSTS controlled facility, the provision of the On-Site services shall apply to this subcontract.

6.2. Site Access and Work Hours

MSTS personnel at the NNSS work a standard 4/10 schedule. The standard work week consists of ten (10) hours of work between 7:00 a.m. and 5:30 p.m. with one-half hour designated as an unpaid period for lunch, Monday through Thursday.

Onsite work performed outside normal operating hours shall be coordinated and/or approved through the STR and/or the Procurement Specialist at least one week in advance before performing the work.

MSTS observes 10 Federal holidays per year and 4 weeks of non-productive time in December/January. The 4 weeks of nonproductive time includes 2 weeks of craft furlough days (end of calendar year holiday period) and 2

weeks of block training at the PULSE facility. In addition, the facility may experience additional outages or unavailability on average of about 40 non-productive days per fiscal year for PULSE.

6.3. Badging

Any on-site work will be coordinated with the STR in accordance with the SOW and site-specific training requirements. The SUBCONTRACTOR shall wear a MSTS issued security badge identifying themselves. A minimum of 14 working days advance notice is needed for site badging. SUBCONTRACTOR employees shall be required to submit to vehicle searches and not personally carry or transport certain prohibited articles.

B-7 CLEARANCE REQUIREMENTS

The following access authorization or clearance requirements are required.

1) Check all that apply:

- ☒ No security clearance; unclassified work
- ☐ DOE L
- ☐ DOE Q
- ☐ HSPD-12 PIV Credential

2) If applicable, add any or all parts of the following statement security qualifications:

- ☐ The SUBCONTRACTOR shall have the ability to obtain a U.S. Department of Energy (DOE) facility security clearance and have personnel capable of obtaining a Q-type or L-type security clearance.
- ☐ Q- or L-type security clearance is required for all SUBCONTRACTOR personnel having access to classified information or special nuclear material when performing such work.
- ☐ A corresponding level of security clearance from another federal agency may be applicable if approved by the MSTS and DOE.
- ☒ N/A

B-8 SPECIAL REQUIREMENTS

8.1. Personal Protective Equipment

SUBCONTRACTOR shall be responsible for providing Personal Protective Equipment (PPE) for all SUBCONTRACTOR personnel. PPE shall be suitable for the working environment of the project

Minimum PPE is defined as:

- Steel-Toed boots (safety shoes).
- Ear Protection.
- Hard hat.
- Safety glasses.
- Hi Vis Vest.
- Miner's body belt.
- Self-rescuer respirator.
- Flashlights or cap lights.

8.2. Qualifications, Licensing, Certifications

In order to determine whether the SUBCONTRACTOR is qualified to perform the scope of work as outlined, the SUBCONTRACTOR shall have the following qualifications:

1. Experience - SUBCONTRACTOR shall have the following job experience
   1.1. A minimum of 10 years of experience in engineering, procurement, and construction (EPC) projects that includes experience with Federal Government and includes a minimum of three years with nuclear facility EPC projects.
   1.2. A minimum of 5 years of experience with mining, hoist, and shaft EPC projects.

1.3. Shall have demonstrated experience at a government facility, working with multiple regulators and clients in an EPC environment.

1.4. Shall have demonstrated experience in DOE O 413.3B Line-Item acquisition process and Earned Value Management Systems.

2. Licenses – SUBCONTRACTOR shall have the following job-specific licenses:

   2.1. Not Applicable

3. Certifications – SUBCONTRACTOR shall have the following job-specific certifications:

   3.1. Not Applicable

In addition to the above, the SUBCONTRACTOR shall provide qualified personnel throughout the period of performance of the Subcontract. SUBCONTRACTOR shall be responsible for ensuring its personnel meet and/or maintain current and valid training requirements, certifications and are fully capable to complete the duties described through the entirety of the Subcontract period of performance.

8.3. Government Assets

8.3.1 Use of Government Vehicles	
☒	There is **NO** anticipated need for any SUBCONTRACTOR employees to use a Government-furnished vehicle in the performance of this SOW. The SUBCONTRACTOR's employees, therefore, are specifically prohibited from driving any Government-furnished vehicles under the performance of this SOW unless this SOW is formally so modified by the parties and the employee(s) will present a valid driver's license to the STR for review.
☐	One or more SUBCONTRACTOR employees will have access to Government-furnished vehicles while performing this SOW.

8.3.2 Government Property	
☒	Government Property **NOT** anticipated to be furnished to or acquired by the SUBCONTRACTOR under this SOW.
☐	Pursuant to FAR 52.245.1 – Government Property, the following Government-owned property will be furnished to the SUBCONTRACTOR. The SUBCONTRACTOR shall be responsible for managing the Government-Furnished Property (GFP) below and/or CONTRACTOR-Acquired Property (CAP) as required in accordance with FAR 52.245-1.

8.4. Permits

Except for permits furnished by MSTS the SUBCONTRACTOR shall, without additional expense to the MSTS be responsible for obtaining any and all necessary licenses and permits.

The MSTS will without cost to the SUBCONTRACTOR, furnish the permits listed below. All such MSTS-furnished permits are available for examination at the project office of MSTS during regular business hours.

- NNSS Air Quality Operating Permit AP9711-9557

The SUBCONTRACTOR shall also be responsible and liable for all materials delivered and Work performed until completion and acceptance of the entire Work, except for any completed unit of Work which may have been accepted under the SUBCONTRACTOR.

8.5. Quality Assurance (QA) Requirements

This work scope includes the design, procurement, fabrication, installation and testing of nuclear safety related systems, structures and components used in support of the nuclear facility at the Nevada National Security Site, therefore:

The SUBCONTRACTOR shall implement and maintain a Quality Assurance (QA) program using a graded approach that supports both the nuclear safety and commercial/non-nuclear aspects of the project in accordance with at least one the following quality assurance criteria and requirements relevant to engineering design, procurement, and construction work scope:

- ASME NQA-1 (2015) quality assurance requirements for nuclear facility applications (Part I and appliable sections of Part II)
- ASME NQA-1 (2008 with 2009 addenda) quality assurance requirements for nuclear facility applications (Part I and appliable sections of Part II)
- Equivalent program authorized in writing by the CONTRACTOR's quality assurance organization.

In addition, the SUBCONTRACTOR shall be responsible:

Configuration Management

The configuration management and associated process for controlling and maintaining consistent design requirements, documentation, and physical configuration of Structures, Systems, and Components (SSC) that are important to the protection of workers, the public, and the environment for the nuclear facilities in accordance with:

- American National Standards Institute/Electronic Industries Alliance Standard ANSI/EIA 649B, "Configuration Management Standard.
- DOE STD-1073-2016, "Configuration Management"

Price Anderson Amendments Act (PAAA)

The service identified in this Statement of Work is intended to be used in the performance of activities that (1) prevent or mitigate radiological or harm to the worker, the public or the environment or (2) provide a healthful and safe workplace for DOE/NNSA CONTRACTOR personnel. Therefore, the SUBCONTRACTOR is responsible for assuring that the items or services provided under this purchase agreement meet the stated requirements.

Suspect/Counterfeit Items

The SUBCONTRACTOR will take positive measures to ensure that only new, unused equipment/material from acceptable sources is provided under this subcontract. Notwithstanding any other provisions of this subcontract, should any suspect/counterfeit items or components be found within or on this equipment during CONTRACTOR receipt inspection, SUBCONTRACTOR shall, at its expense, promptly replace such items or components.

8.6. Lower-Tier Subcontracts

The SUBCONTRACTOR shall ensure that LOWER-TIER SUBCONTRACTORS performing elements of the Subcontracted Scope of Work at sites controlled/managed by the CONTRACTOR or NNSA adhere to the SUBCONTRACTOR'S Site-Specific Safety Plan (SSSP). The SUBCONTRACTOR is responsible for ensuring that its LOWER-TIER SUBCONTRACTORS are included in the SUBCONTRACTOR'S SSSP and that they comply with all the requirements of this Subcontract.

If, after award, the SUBCONTRACTOR proposes to use any new LOWER-TIER SUBCONTRACTORS not listed in initial subcontract, the SUBCONTRACTOR shall notify the MSTS's Procurement Specialist at least 10 business days before the proposed start date of the new LOWER-TIER SUBCONTRACTOR. The SUBCONTRACTOR will submit any required LOWER-TIER SUBCONTRACTOR'S, forms and documentation including "Safety and Health History" for CONTRACTOR review and acceptance. LOWER-TIER SUBCONTRACTORS shall not perform any work prior to the CONTRACTOR'S approval in writing provided by the Procurement Specialist.

B-9 ENVIRONMENTALLY PREFERABLE PRODUCTS

MSTS is required by the U.S. Department of Energy to purchase Environmentally Preferable Products (EPP) (also known as green or sustainable purchasing) and are also required to flow those procurement requirements to their SUBCONTRACTOR. When designing materials and/or supplying materials to be used onsite as part of a subcontract SOW, those materials must meet these same requirements.

The following is a list of EPP types that must be used if they are available:

- **Products with Recycled Content.** MSTS supports efforts that reduce or eliminate environmental hazards, conserve environmental resources, minimize life-cycle cost and liabilities. Towards the end, the acquisition cycle is viewed as an important key in understanding what is brought onto the Site as well as identifying what can be reused/recycled. Focus is directed on recycled-content, biobased-content, ozone-depleting substances, and other environmental impacts. Specific additional clauses are included in this solicitation that address potential requirements and preferences based on the nature of the item being considered for purchase.
- **Water Efficient Plumbing Products**. When purchasing commercially available, off-the-shelf water consuming products, products must meet EPA's WaterSense standards (http://www.epa.gov/watersense).
- **Non-Toxic or Less Toxic Alternatives**
- **Green Certified Products**. (e.g., Design for Environment, Green Seal)
- **Bio-Based Products**. MSTS will give preference to acquiring Department of Agriculture designated biobased products. For more information to this program, see www.biopreferred.gov.
- **Energy Efficient Products**.
    - EPA Energy Star® When purchasing commercially available, off-the-shelf energy-consuming products, products must be Energy Star rated (www.energystar.gov).
    - Federal Energy Management Program designated products When purchasing commercially available, off-the-shelf energy-consuming products, products must use no more than one watt of standby power as defined and measured by International Electrotechnical Commission (IEC) code 62301 or otherwise met FEMP specifications for low standby power consumption. If FEMP has not specified a standby power level for a product category, the item shall be the lowest standby power consumption available.
- **Energy Efficient Electronics**. When purchasing the following products, EPEAT ratings will apply:
    - Desktop and Notebook Computers – must meet the EPEAT silver rating or higher
    - Displays, Monitors, Integrated Desktop Computers, Workstation Desktops, Thin Client, Workstation Notebooks, and/or Tablet Notebooks – must meet the EPEAT silver rating or higher
    - Fax Machines, Multifunction Devices, and Printers – must meet the EPEAT bronze rating or higher
    - Copiers and Digital Duplicators – must meet the EPEAT silver rating or higher
- **Reuse of Leased IT Electronic Equipment** In accordance with DOE Order 436.1, Departmental Sustainability, MSTS is striving to reduce or eliminate environmental hazards, conserve environmental resources, minimize life-cycle cost and maximize operational sustainability through the incorporation of electronics stewardship practices thereby minimizing the economic and environmental impacts of managing toxic by-products and hazardous wastes generated in the conduct of site activities. Therefore, MSTS requires that at the end of the lease period, the equipment is to be reused, refurbished, donated, or recycled using environmentally sound management practices.

B-10 MEETINGS

After subcontract award, a Subcontract Kickoff Meeting, is requested, which may be a conference call, an internet meeting, or a meeting to be held at MSTS. The time, date, and agenda for the meeting will be provided to the SUBCONTRACTOR by MSTS.

The SUBCONTRACTOR shall interface with various MSTS (and other) organizations through MSTS' Procurement Specialist (or STR for in-scope work), as required, or at points and frequency determined by the Procurement Specialist.

The CONTRACTOR will issue meeting notices and prepare an agenda and minutes for each meeting addressed in this Section. When applicable, minutes will identify action items, assigned actioner, and due dates. The purpose of the meetings is the exchange of work-related information. The person or persons designated by the SUBCONTRACTOR to attend all meetings shall have all required authority to make decisions and commit SUBCONTRACTOR to technical decisions made during meetings.

A. **Site Labor Conference**: Will be held between CONTRACTOR, the appropriate union(s), and the SUBCONTRACTOR before work commences at the NNSS in accordance with the applicable Project Labor Agreements.

B. **Kickoff Meeting**: after issuance/acceptance of the subcontract, CONTRACTOR will conduct a meeting with the SUBCONTRACTOR and major lower-tier SUBCONTRACTORS. The meeting's purpose is to provide the SUBCONTRACTOR with additional information as required to accomplish the scope specified in this SOW, and to develop lines of communications, and a working relationship. This meeting will focus on a discussion of the work scope and goals and roles and responsibilities of each participant. Pertinent documents will be reviewed and discussed. The SUBCONTRACTOR shall prepare meeting minutes that emphasize agreements, commitments, and planned actions.

The SUBCONTRACTOR shall submit the final minutes after the meeting in accordance with the Submittal Register.

C. **Status Meetings**: Project status meetings will be held weekly either by MS Teams or in person to review the progress, to provide weekly schedule status, and exchange work-related information, including but not limited to design and scope changes, progress, coordination with functional utility providers, and scheduling issues. The SUBCONTRACTOR shall prepare meeting minutes that emphasize agreements, commitments, and planned actions. The SUBCONTRACTOR shall submit the final minutes after the meeting in accordance with the MSR.

FREQUENCY	DURATION	TITLE	DESCRIPTION / PURPOSE
Weekly	1 hour	MSTS Integrated Project Team (IPT)	Operational Meeting to discuss project Status, overall performance, risks and issues requiring resolution.
Monthly	1 hour	Federal IPT	Operational Meeting to discuss project Status, overall performance, risks and issues requiring resolution.

D. **Safety Meetings**: SUBCONTRACTOR shall perform and document daily pre-job meeting using the MSTS Pre-job Briefing Form 1063B. Late arrivals and/or visitors shall be provided with the same daily briefing. The SUBCONTRACTOR is also required to hold a documented weekly safety meeting. This documentation shall be maintained onsite for the job duration for review upon request.

B-11 SUBMITTALS

Appendix A, *Submittal Register*, identifies deliverables due during the execution of this subcontract and the recipient.

B-12 DELIVERABLES

A. Schedule and Management Reports

The SUBCONTRACTOR shall submit a Monthly Activity Status Report by the fifth of each month for the previous month. The Monthly Activity Status Report shall include but not be limited to the following information.

- Project Manager's narrative accomplishment highlights status assessment for activities planned for the next month (i.e., accomplishments and 30 day look ahead)
- Issues and concerns (cost, schedule, technical), recommended solutions, and progress made toward resolution.
- New or outstanding agreements and/or commitments for problem or technical issue resolution.
- Schedule performances with respect to the Performance Measurement Baseline for current month and contact-to-date.
- Action Items List showing the cumulative status of action.
- Monthly Accrual Report

B. The SUBCONTRACTOR is required to participate in the project turnover process by assisting the STR and CM in developing and completing the project punch list. The SUBCONTRACTOR shall notify the STR and CM no later than one (1) day after completing the punch list item(s).

B-13 PROJECT CONTROLS, MILESTONES & PERFORMANCE SCHEDULE REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. The development and submission of all project schedules, schedule updates, recovery plan schedules, changes, and Schedule of Values.
2. Utilize a Project Scheduler to perform all the scheduling, invoice backup documentation and project controls management listed herein.

1.02 DESCRIPTION

The SUBCONTRACTOR shall prepare and maintain a detailed resource-loaded Baseline schedule, approved by the CONTRACTOR, utilizing Critical Path Method (CPM). The CONTRACTOR reports Planned Value (PV) and Earned Value (EV) data based on Early Start/Early Finish dates. This is the key schedule progress measurement tool utilized by the CONTRACTOR in evaluating the SUBCONTRACTOR's performance. The SUBCONTRACTOR shall develop, implement and status for the CONTRACTOR a reasonable and achievable schedule that supports the CONTRACTOR's Earned Value Management System. This schedule shall be the SUBCONTRACTOR's Baseline (target) schedule that shall be used to plan, organize and execute the entire scope of work. The SUBCONTRACTOR shall maintain a statused copy of the resource-loaded Baseline schedule that shall be used to record the SUBCONTRACTOR's actual performance and report the critical path to contract completion. The SUBCONTRACTOR shall be extensively familiar with the schedule and shall be able to discuss the development, the progress and the logic detail.

The SUBCONTRACTOR shall prepare a Schedule of Values (SOV) structured in the Construction Specifications Institute (CSI) format. A budgeted cost for each activity in the resource loaded schedule will be coded to the CSI category in the Schedule of Values, which will be used for monthly payment applications. The Schedule of Values shall be developed, generated and produced from the scheduling software. Associated WBS elements shall be provided by the CONTRACTOR.

1.03 EARNED VALUE MANAGEMENT SYSTEM (EVMS) SUBMITTALS

A. The SUBCONTRACTOR shall submit both electronic and hard copies of the Statused Schedule with the assigned Baseline weekly to the CONTRACTOR. A revised Baseline Schedule shall be submitted only when there is an approved change in the Baseline scope or work, contract cost, or schedule that has been enacted via Contract Revision (Imposed Finish Date, Original Duration and / or Logic) or upon the CONTRACTOR's request.

1. Electronic Copies: The SUBCONTRACTOR shall include Status and Baseline schedule files (. xer format) in the weekly submission. The following electronic media formats are acceptable for submittals: Email (.zip format)

B. The SUBCONTRACTOR submit both electronic and hard copies of the Baseline and Status schedule files (. xer format) in the monthly schedule update. The monthly update shall contain the same information as the Weekly Submission.

C. The SUBCONTRACTOR shall submit different layouts for the two weekly schedule submittals on 11" x 17" sheets:

1. 3 Week Look-Ahead: Identify the week of actual progress up to the Data Date and 3 weeks of projected activities based on Early Start (ES), Early Finish (EF).
2. Critical Path: Utilize a CRITICAL PATH filter, select and sort by ES / EF.
3. 30 Day look ahead
4. 60 Day look ahead
5. 90 Day look ahead
6. Full Schedule: Includes all scheduled activities sorted by WBS/ES/EF.
7. To – Go Activities: Includes activities that are not completed.

D. The SUBCONTRACTOR shall format all hardcopy and electronic submissions per the following details:

1. Each submission shall have the following information provided in a clear concise format: Project start date, Project Finish date, Data date, and Run date, file name, CONTRACTOR Name, Project Title, a brief title describing the schedule (i.e.: "3 Week Look Ahead"), and the "Page # of # " number
2. The submission shall have, at a minimum, the following required columns (in order from left to right): Responsible Party, Activity ID, Activity Description, Original Duration (OD), Remaining Duration (RD), Actual Duration (AD), Percent Complete, Early Start (ES), Early Finish (EF), Baseline Start (BS), Baseline Finish (BF), Start, Finish, Total Float (TF), and Variance to Target 1 EF (Target 1 = Baseline Schedule). All activity bars for the two weekly schedule submittals must be visible on the balance of the paper schedule. Requests for modifications to this format shall be submitted to the CONTRACTOR in writing for approval.

PART 2 - PRODUCTS

2.01 SOFTWARE

A. All Schedules shall be developed in Primavera P6, version 19 or compatible unless approved, in advance, by CONTRACTOR.

PART 3 - DEVELOPMENT AND IMPLEMENTATION

3.01 SCHEDULE DEVELOPMENT

A. Schedule Criteria: The schedule shall identify and show all activities required to complete the project and their dependency relationships. All schedule submittals shall have a well-defined and continuous Critical Path from the Data date to the final milestone "Contract Complete". The Critical Path shall not include any Level of Effort (LOE) activities.

B. The CONTRACTOR shall provide any WBS, activity codes, milestones and calendars that are to be included in the Project Schedule.

C. Milestones:

1. All Schedules shall initiate with a milestone identified as "Contract Award" and end with a milestone identified as "Contract Complete"
2. Include the major and intermediate milestones necessary to track important events.

D. Required Activities:

1. Include activities in the schedule that will be identified in the Schedule of Values and for monitoring purposes as listed in Part 7Additional Information below.
   a. The schedule shall identify General Conditions as a separate, individual activity by month, for each work package.
2. The activities shall meet the following criteria:

a. Activities shall be broken out by MasterFormat categories. No activity shall be co-owned by more than one MasterFormat area. Activities shall be broken down through all lower tier levels down to a granularity that allows for accurate earned value measurement.

b. Each activity shall have a unique identification number.

c. Each activity shall have a unique description.

d. Each activity shall have a Work Breakdown Structure (WBS) number that correlates its scope with the WBS provided by the CONTRACTOR

e. Each activity shall be coded as required using the codes identified by the CONTRACTOR. Activities that are added via Change Order will be coded with the Contract Revision number in the “CHANGE ORDER” code.

f. All activities with more than (zero) 0% complete must have an Actual Start date. All activities that are 100% complete must have an Actual Finish date.

g. Each activity shall have Total Float measured against the Contract Completion or Target completion date as agreed to by the Project Manager through an unobstructed logic string (no constraint dates other than the contract complete milestone).With the exception of the two key milestones “Contract Award” and “Contract Complete”, all activities and milestones shall have a minimum of one predecessor and one successor within the schedule logic.

h. Lags are not allowed. Additionally, a Start to Start (SS) relationship cannot be the only successor tie for any single activity. There shall be at least a Finish to Finish (FF) or a Finish to Start (FS) relationship.

i. Finish to Finish lags are not allowed.

j. Negative lags or leads are not allowed.

k. Activity durations shall be in whole day units based on the CONTRACTOR Standard Work Hour Calendar and shall not exceed 22 working days, unless otherwise agreed to by the Project Manager except for the following:

(1) Non-resource loaded activities for fabrication, manufacture and delivery of equipment or materials.

(2) Any CONTRACTOR activities including, but not limited to: inspections, reviews, approvals, GFE and Materials (GFM).

(3) General Conditions monthly activity.

l. Each activity shall be Cost loaded (DOLLARS) to represent its value and correlate with the Schedule of Values.

3.02 RESOURCE LOADED BASELINE SCHEDULE DEVELOPMENT

A. Baseline Schedule Submission: Within 30 calendar days after release of the option, the SUBCONTRACTOR shall submit the cost loaded schedule logic, which shall include activities for the entire scope of the Contract.

1. Prior to submission to the CONTRACTOR, the schedule must be reviewed, agreed to and signed off by the CONTRACTOR’s STR and Project Controls Manager (PCM). Schedules not meeting this requirement will be rejected without review by the CONTRACTOR. Any delay to Notice to Proceed (NTP) or Contract Completion Date due to failure of the SUBCONTRACTOR to meet the requirements set forth in this specification is the sole responsibility of the SUBCONTRACTOR.

B. The CONTRACTOR shall review and provide comments on the cost-loaded schedule logic within 14 calendar days of the submittal. At the SUBCONTRACTOR’s request, a meeting will be held after the 14th day of the CONTRACTOR review to issue and discuss those comments with the SUBCONTRACTOR.

C. Resource Loaded Baseline Schedule Submission: Within the next 7 calendar days after the CONTRACTOR review comments have been received, the SUBCONTRACTOR shall complete resource loading the schedule and resolve the CONTRACTOR’s initial comments. The SUBCONTRACTOR shall then submit the resource loaded schedule to the CONTRACTOR.

D. Resource loading of the schedule shall not be constrained by logic development.

1. The following resources shall be required to be loaded into the schedule:

a. Budgeted Cost (Resource ID: DOLLARS)

E. The SUBCONTRACTOR shall resolve all comments and issue the non-statused cost-loaded Baseline (target) Schedule within 7 calendar days of receiving final comments from the CONTRACTOR. Once approved by the CONTRACTOR, this schedule shall become the Baseline Schedule. Changes to the Baseline Schedule shall be made via approved Contract Change Orders only.

F. If, at any time during the above review process, the SUBCONTRACTOR is late with any phase of the submittals, The CONTRACTOR is not obligated to expedite or cut short the review process. Any delay to NTP due to failure of the SUBCONTRACTOR to submit the schedule for review on time is the sole responsibility of the SUBCONTRACTOR.

G. Notice to Proceed shall not be issued until the resource loaded schedule has been approved by the CONTRACTOR.

PART 4 - SCHEDULE SUBMITTAL AND MAINTENANCE REQUIREMENTS

4.01 BASELINE SCHEDULE

A. The Baseline Schedule shall contain no status.

B. Changes to the Baseline Schedule shall only be made via approved Contract Change Orders.

C. The resource loaded Baseline Schedule budgeted cost shall always match the base value of the Contract plus all approved Change Orders.

4.02 STATUSED SCHEDULE

A. The SUBCONTRACTOR shall submit a statused schedule weekly in advance of the MSTS IPT status meeting and monthly as backup for the Pay Application / SUBCONTRACTOR Invoice (Status Schedule).

B. Unless otherwise indicated by the CONTRACTOR, the Data Date for the Status Schedule shall be the Monday after each reporting week, and the day after the CONTRACTOR’s fiscal month end.

C. The Statused Schedule budgeted cost shall always match the base value of the Contract plus all approved Change Orders.

4.03 WEEKLY SCHEDULE UPDATE REQUIREMENTS

A. The first schedule update shall occur no sooner than (7) calendar days after the CONTRACTOR acceptance of the Baseline Schedule.

B. Updates shall be submitted weekly thereafter and shall be used as the basis of percent complete for evaluating weekly earned value. The updates shall be accompanied by the following information as required:

1. When progress or changes impact the Contract Complete milestone date more than 4 days and less than 10 days, a written narrative explaining the reasons for the impact shall accompany the schedule submittal.

a. The narrative shall explain in clear terms what activities are causing the impact.

b. An analysis by the sub-CONTRACTOR as to whether the trend will improve or will continue to impact the end date is required.

2. A detailed recovery schedule submittal developed in a copy from the last status file (.xer format) and narrative recovery plan shall be submitted to The CONTRACTOR within 7 calendar days of identification of a delay to the Contract Complete milestone date where the impact is 14 or more calendar days.

a. Manhour information and crew size shall be provided by the SUBCONTRACTOR to justify

any duration changes. The SUBCONTRACTOR shall identify existing information, as well as planned information so that the changes can easily be identified.

b. The SUBCONTRACTOR shall identify any required changes to the logic and be prepared to furnish justification for the proposed changes.

c. Details in the narrative describing actions to be taken by the SUBCONTRACTOR to implement the recovery must be clear, quantifiable, reasonable and achievable. The details shall include the following items:

(1) A description of what the proposed changes will accomplish, as well as their effect on the critical path.

(2) Identification of the SUBCONTRACTORs that will be involved with the recovery plan

(3) For all activities that overtime is identified as a recovery plan, identify the SUBCONTRACTOR and amount of overtime.

(4) Additional resources, changes in working time, etc. that are required for schedule recovery shall be at no cost to The CONTRACTOR.

d. The schedule submittal and recovery plan shall be reviewed and commented on by the CONTRACTOR within 7 calendar days of receipt.

3. Weekly Update Submittals (Schedule Status with approved Baseline) shall include the following data:

a. Actual start and finish dates.

b. Activity percent complete.

c. Remaining duration for started activities.

d. Forecasted Early Finish Dates for activities that have started.

e. Forecasted Start dates that were scheduled to start but have not yet started (including their Durations).

f. Baseline Start date.

g. Baseline Finish date

h. Finish Date Variance

i. Planned Value [PV] through the data date.

j. Earned Value [EV], based on the physical percent complete of work accomplished through the data date.

k. Weekly Progress Reviews: The CONTRACTOR and the SUBCONTRACTOR shall jointly review the status schedule weekly in the Construction Progress Meeting.

l. The SUBCONTRACTOR shall be responsible to furnish color 11” x 17” copies of the schedules to all meeting attendees at the meeting.

4. The two schedule layouts to be reviewed are the 3 Week Look Ahead and the Longest Path.

5. The SUBCONTRACTOR shall lead a discussion about progress in areas of interest and the Longest Path and any changes in the critical path since the previous week.

6. The SUBCONTRACTOR shall discuss specific schedule activity delays and/or improvements that represent the general progress.

7. The SUBCONTRACTOR shall report the number of personnel on Site, Planned Value (PV) and Earned Value (EV) for the week.

4.04 MONTHLY SCHEDULE UPDATE REQUIREMENTS

A. An electronic copy (P6. xer) and hardcopies (2) of the Baseline and Status schedule source files shall be submitted to The CONTRACTOR according to the SUBCONTRACTOR Month End Status and Invoice Schedule in support of each Pay Application. The monthly updates shall contain the same information required for the Weekly Submissions.

PART 5 - SCHEDULE EVALUATION AND CHANGE INCORPORATION

5.01 SCHEDULE EVALAUATION

A. The CONTRACTOR shall review each schedule submission and evaluate the SUBONTRACTOR's project status based on Earned Value obtained from the Planned Value (PV) and Earned Value (EV) and Total Float (TF). The CONTRACTOR determines a project to be "On Schedule" when the CONTRACTOR meets the following two conditions:

1. The Earned Value (EV) equals the Planned Value (PV).
2. The Critical Path Total Float to the contract completion date equals 0 (Zero).

B. The Longest Path determines the Critical Path to the Contract Complete milestone.

5.02 SCHEDULE BASELINE CHANGE PROPOSALS

A. Any major restructuring, original duration changes, re-logic or splitting of activities into additional area detail at any point in the progress of the project shall be accompanied by a written Baseline Change Proposal (BCP) from the SUBCONTRACTOR. The proposed changes shall be reviewed by The CONTRACTOR within 14 calendar days. The CONTRACTOR may reject the request for any reason at their discretion.

B. For any Change Order requested, the SUBCONTRACTOR shall indicate if the requested change impacts the schedule – individually or in aggregate. Under no circumstances will aggregate changes to the schedule be accepted unless the CONTRACTOR has submitted the change to the CONTRACTOR for review.

C. The SUBCONTRACTOR shall create at least one new resource loaded activity for each approved Change Order.

1. A new resource activity shall be created for each SUBCONTRACTOR's scope that is affected by the change order.
2. This activity(s) shall accurately represent the approved, cost and scope to be performed.
3. The activity(s) shall be added in the schedule sequence at the logical point the work should be performed.
4. Added Change Order Activities shall be identified with the Change Order number followed by the Change Order description.
5. Adding Change Order activities to the end of the base activity the new scope is derived from does not constitute thoughtful planning and may not be accepted by The CONTRACTOR. (The new scope may be required to complete before the base scope can continue, or it may be required to be performed in parallel with the base scope.) This type of analysis is encouraged to be performed prior to placing the activity(s) into the logic.

D. All time extension requests or changes that may affect the critical path of the Project and consequently the Contract End Date shall be accompanied by a written time impact analysis illustrating the influence of each change or delay on the current contract schedule completion date.

1. The written impact analysis shall be accompanied by a fragnet schedule network using the Baseline Schedule. The fragnet schedule network shall be evaluated in the Baseline Schedule with no consideration given to the Statused Schedule.
2. This narrative shall be included with each Change Order submitted that affects the Project Schedule and shall meet the details of the schedule information listed herein.

E. Negotiations for contract extensions shall be considered only to the extent that equitable time adjustments for the activity or activities affecting the critical path of the project past performance on activities by the SUBCONTRACTOR along the completed and in-progress portion of the critical path shall be evaluated and included in any analysis to determine ownership of the delay.

1. Poor performance by the SUBCONTRACTOR shall not warrant a contract extension.

2. Concurrent delays by the SUBCONTRACTOR shall be subtracted from any proposed CONTRACTOR delays.

NOTE: The CONTRACTOR project management owns the float for the project.

PART 6 - SCHEDULE OF VALUES

6.01 SCHEDULE OF VALUES DEVELOPMENT

A. Within 14 calendar days of contract award, the SUBCONTRACTOR shall submit a Schedule of Values for review. The CONTRACTOR shall review the Schedule of Values and provide comments to the SUBCONTRACTOR within 7 calendar days.

B. The Schedule of Values shall be aligned with the CONTRACTOR WBS and generated as a report from the scheduling software (P6).

C. The SUBCONTRACTOR shall resolve the CONTRACTOR's comments.

D. The approved Schedule of Values shall be submitted with the invoice.

E. The Schedule of Values shall be organized and based upon CSI Division 16 format with work package and SUBCONTRACTORs identified and sorted.

PART 7 ADDITIONAL INFORMATION

Schedule Activities:

The schedule shall incorporate (but not limited to) the following activities:

1. General Conditions by month.
2. Construction activities broken out by Master Format.
3. Testing and Start-up
4. Submittals and Shop drawings: Preparation, review, and approval.
5. Purchase, manufacture, fabrication, shipping and delivery of major equipment (Long Lead Items).
6. Pre-payment activities for off-site vendor's manufactured and/or fabricated equipment and/or materials delivered to the site. Note all materials stored off site will be paid at 60% of their value until brought onsite.
7. Critical inspection activities to be performed by the CONTRACTOR (i.e. Above Ceiling)
8. The CONTRACTOR operated utilities or equipment shutdowns [outages].
9. Close-out (such as O&M Manual Submittals).
10. As-Built Drawings submittals.
11. Systems Commissioning.
12. Government Furnished Equipment and material. All items as specified in "Other Conditions" of the Subcontract.

B-14 APPENDIX

APPENDIX NUMBER	TITLE	REV	PAGES
Appendix A	Submittal Register	Rev 0	5
Appendix B	Work Breakdown Structure	Rev 0	1
Appendix C	MSTS Building Authority NNSS Construction Office and Equipment Trailer Permit Application	Rev 6/23/25	3
Appendix D	30-60-90% Design Review Deliverables (FRM-DRD)	Rev 0	14
Appendix E	Supplier Deviation Disposition Request (FRM-SDDR)	Rev 0	4
Appendix F	Supplier Request for Information (FRM-SRFI)	Rev 0	1

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

APPENDIX A
SUBMITTAL REGISTER

Section A: Purchase Order/Subcontract Information		
SUBCONTRACTOR Name:	*insert SUBCONTRACTOR name or TBD during RFP activities*	SOW Title: PNAP Design Build Subcontract
Purchase Order and Release Number:	*Subcontract release number TBD*	Requisition Number: REQ-0023849

Section B: Submittal Delivery Requirement
Submittals shall be electronically, unless otherwise noted, to: *Procurement Specialist; and Subcontract Technical Representative;*

Section C: Submittal Requirement Details					
NO.	TITLE	REFERENCE	DUE DATE / FREQUENCY	REVIEWED BY	COMMENTS
001.	Subcontract Schedule	Section B-12	No later than 30 calendar days from date of award, update *insert SOW required frequency*	ProcSpec STR	
002.	Project Specific Quality Assurance Plan	Section 8.5	No later than 30 calendar days from date of award,	ProcSpec STR	Plan should support project activities and identify appropriate procedures that address requirements. The plan can be revised and updated as the project moves through design and construction phases.
003.	Project Management Plan	Section B-3	No later than 30 calendar days from date of award,	ProcSpec STR	Plan should support project activities and identify appropriate procedures that address requirements. The plan can be revised and updated as the project moves through design and construction phases
004.	Subcontractors Site Specific Safety Plan	Exhibit E	No later than 90 calendar days from date of award,	ProcSpec STR	Plan will meet the requirements specified in Exhibit E Section E-5. The plan can be revised and updated as the project moves through site preparation and construction phases.
005.	CD-3A Submittal Support Package	B-3, 1.1.1	No later than 60 calendar days from date of award		Provide a site preparation plan to include supporting documents (e.g., shaft sinking plan, construction equipment needs, temporary structures, batch plant, etc.) to support CD-3A submittal requirements

APPENDIX A
SUBMITTAL REGISTER

Section A: Purchase Order/Subcontract Information		
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Purchase Order and Release Number:	*Subcontract release number TBD*	Requisition Number: REQ-0023849

Section B: Submittal Delivery Requirement
Submittals shall be electronically, unless otherwise noted, to: *Procurement Specialist; and Subcontract Technical Representative;*

Section C: Submittal Requirement Details					
NO.	TITLE	REFERENCE	DUE DATE / FREQUENCY	REVIEWED BY	COMMENTS
006.	CD-3B Submittal Support Package	B-3, 1.1.3	No later than 30 calendar days after submittal of the 60% design review package.		Provide a plan that identifies the necessary long lead procurements to support construction of SSCs the acquisition strategy and necessary documentation g to support CD-3B submittal requirements
007.	Timesheets/Field Tickets Progress Report/Employee Count	Exhibit E	Monthly, NLT 5th day of new month	ProcSpec STR	
008.	Subcontract Hours, FRM-1253	Exhibit E	On or prior to the 28th of the month	STR	
009.	Monthly Total Recordable Incident Rate (TRIR) and Days Away, Restricted or Transfer Case Rate (DART):	Exhibit E	On or prior to the 28th of the month	STR	
010.	Injury/Illness Infraction Report, FRM-0018	Exhibit E	Immediately	STR	The SUBCONTRACTOR is required to report all job-related injuries and illnesses, regardless of severity,
011.	NNSS Construction Office and Equipment Trailer Permit Application	3.6.4	28 days prior to being on site	STR	
012.	Meeting Minutes	*Section B-10*	*Four (4) business days after meeting*	ProcRep, STR	
013.	30% Conceptual Design Validation	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	The SUBCONTRACTOR shall submit a list of specific documents included in this submittal for CONTRACTOR approval.
014.	30% Conceptual Design Validation Review Record	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	

APPENDIX A
SUBMITTAL REGISTER

Section A: Purchase Order/Subcontract Information		
SUBCONTRACTOR Name:	*insert SUBCONTRACTOR name or TBD during RFP activities*	SOW Title: PNAP Design Build Subcontract
Purchase Order and Release Number:	*Subcontract release number TBD*	Requisition Number: REQ-0023849

Section B: Submittal Delivery Requirement
Submittals shall be electronically, unless otherwise noted, to: *Procurement Specialist; and Subcontract Technical Representative;*

Section C: Submittal Requirement Details					
NO.	TITLE	REFERENCE	DUE DATE / FREQUENCY	REVIEWED BY	COMMENTS
015.	60% Preliminary Design	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	The SUBCONTRACTOR shall submit a list of specific documents included in this submittal for CONTRACTOR approval.
016.	60% Preliminary Design Review Record	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	
017.	90% Final Design	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	The SUBCONTRACTOR shall submit a list of specific documents included in this submittal for CONTRACTOR approval.
018.	90% Final Design Review Record	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	
019.	Issue for Construction Design	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	The SUBCONTRACTOR shall submit a list of specific documents included in this submittal for CONTRACTOR approval.
020.	Issue for Construction Design Review Record	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	
021.	Vendor Submittals	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	The SUBCONTRACTOR shall submit a list of specific documents included in this submittal for CONTRACTOR approval.
022.	Field Change Requests	*Section B-3*	As necessary	ProcRep, STR	
023.	Non-Conformance Reports	*Section B-3*	As necessary	ProcRep, STR	
024.	Request for Information	*Section B-3*	As necessary	ProcRep, STR	

APPENDIX A
SUBMITTAL REGISTER

Section A: Purchase Order/Subcontract Information		
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Section B: Submittal Delivery Requirement
Submittals shall be electronically, unless otherwise noted, to: *Procurement Specialist; and Subcontract Technical Representative;*

Section C: Submittal Requirement Details					
NO.	TITLE	REFERENCE	DUE DATE / FREQUENCY	REVIEWED BY	COMMENTS
025.	Conformed Design Documents	*Section B-3*	As necessary	ProcRep, STR	
026.	Redline As-Builts	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	The SUBCONTRACTOR shall submit a list of specific documents included in this submittal for CONTRACTOR approval.
027.	Shop Drawings for SS or Life Safety Systems	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	The SUBCONTRACTOR shall submit a list of specific documents included in this submittal for CONTRACTOR approval.
028.	System Design Descriptions (SDDs)	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	The SUBCONTRACTOR shall submit a list of specific documents included in this submittal for CONTRACTOR approval.
029.	Facility & Configuration Management Drawings including Technical Baseline Documents	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	The SUBCONTRACTOR shall submit a list of specific documents included in this submittal for CONTRACTOR approval. CONTRACTOR will provide document numbers to align with the document management system
030.	Factory Acceptance Testing including but not limited to Plans, Procedures, Results, Reports, Calibration Certificates, and Nonconformance Reports (if any)	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	The SUBCONTRACTOR shall submit a list of specific documents included in this submittal for CONTRACTOR approval.
031.	Construction Acceptance Testing including but not limited to Testing and Inspection Plans, Procedures, Results, Reports, Data Sheets,	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	The SUBCONTRACTOR shall submit a list of specific documents included in this submittal for CONTRACTOR approval.

APPENDIX A
SUBMITTAL REGISTER

Section A: Purchase Order/Subcontract Information		
SUBCONTRACTOR Name:	*insert SUBCONTRACTOR name or TBD during RFP activities*	SOW Title: PNAP Design Build Subcontract
Purchase Order and Release Number:	*Subcontract release number TBD*	Requisition Number: REQ-0023849

Section B: Submittal Delivery Requirement
Submittals shall be electronically, unless otherwise noted, to: *Procurement Specialist; and Subcontract Technical Representative;*

Section C: Submittal Requirement Details					
NO.	TITLE	REFERENCE	DUE DATE / FREQUENCY	REVIEWED BY	COMMENTS
	Calibration Certificates, Records, Punch List Reports, and Nonconformance Reports (if any)				
032.	Code Certifications and Compliance including but not limited to Material Certifications, Welding Certifications, Concrete Certifications, Regulatory Compliance Certification, and Third-Party Inspection Reports	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	The SUBCONTRACTOR shall submit a list of specific documents included in this submittal for CONTRACTOR approval.
033.	Spare Parts & Equipment Support including but not limited to Spare Parts List, Consumables List, and Warranty Information	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	The SUBCONTRACTOR shall submit a list of specific documents included in this submittal for CONTRACTOR approval.
034.	Operation and Maintenance Documentation including but not limited to O&M Manuals, Preventive Maintenance Schedule and Requirements, Lubrication & Service Charts, and Training Requirements	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	The SUBCONTRACTOR shall submit a list of specific documents included in this submittal for CONTRACTOR approval.
035.	Equipment & System Data including but not limited to Equipment Data Sheets, Performance Curves, and Safety Data Sheets	*Section B-3*	As stated in CONTRACTOR approved Subcontract Schedule	ProcRep, STR	The SUBCONTRACTOR shall submit a list of specific documents included in this submittal for CONTRACTOR including copies of native software.

APPENDIX A
SUBMITTAL REGISTER

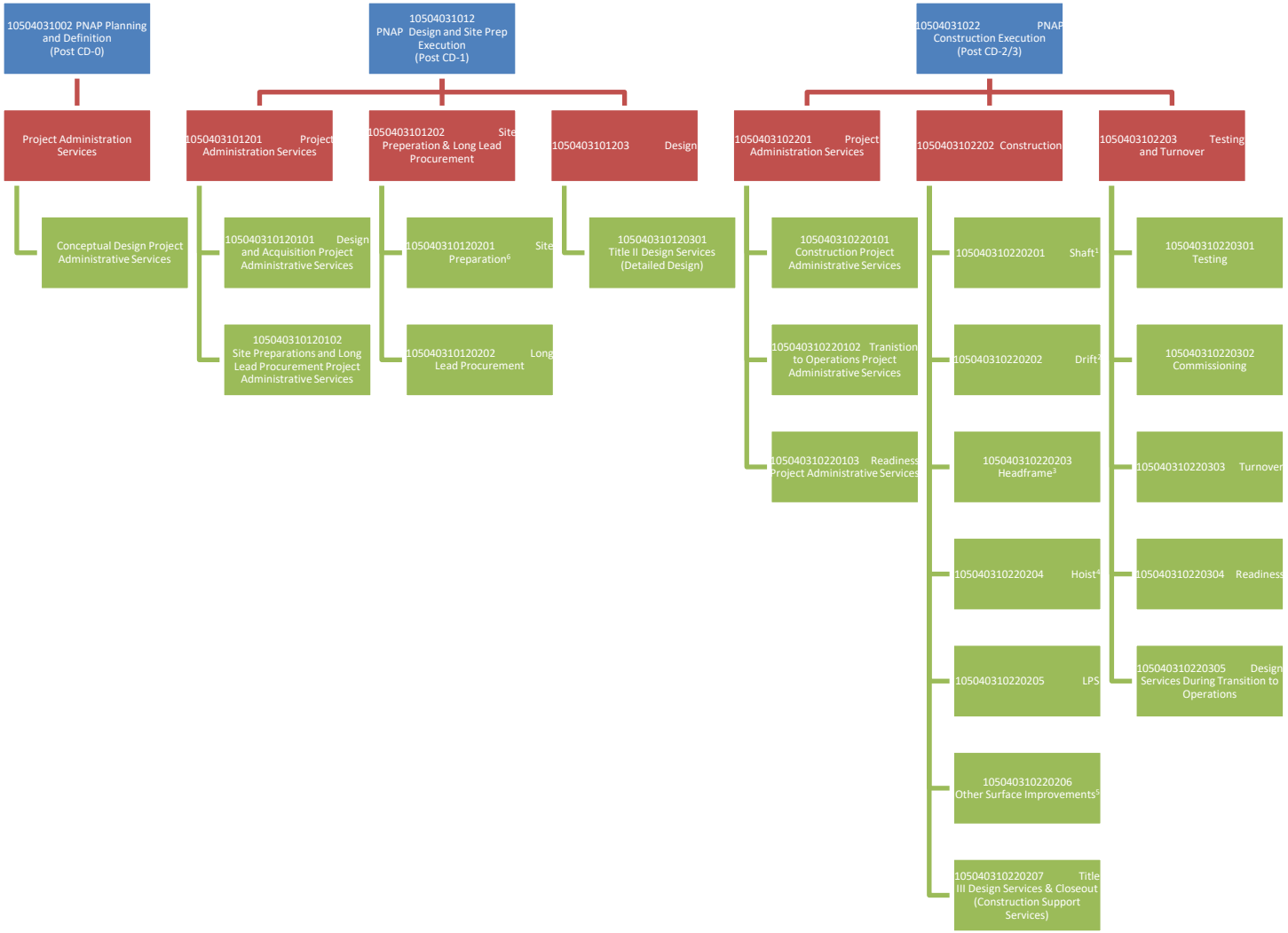
Section A: Purchase Order/Subcontract Information		
SUBCONTRACTOR Name:	*insert SUBCONTRACTOR name or TBD during RFP activities*	SOW Title: PNAP Design Build Subcontract
Purchase Order and Release Number:	*Subcontract release number TBD*	Requisition Number: REQ-0023849

Section B: Submittal Delivery Requirement
Submittals shall be electronically, unless otherwise noted, to: *Procurement Specialist; and Subcontract Technical Representative;*

Section C: Submittal Requirement Details					
NO.	TITLE	REFERENCE	DUE DATE / FREQUENCY	REVIEWED BY	COMMENTS

NLT = No Later Than
NTP = Notice to Proceed
TLO = Transmittal Letter Only

APPENDIX B
WORK BREAKDOWN SCHEDULE



Appendix C

MSTS Building Authority NNSS Construction Office and Equipment Trailer Permit Application

Effective 06/23/25

MSTS Building Authority

NNSS Construction Office and Equipment Trailer Permit Application

Submit one application for each trailer over 120sf at least 28 Days before the trailer is planned to be on site. Connex boxes, ARMAGs, or other container types even when used exclusively for storage are considered trailers for the purpose of this application.

MSTS Applicant & Trailer Owner Information			Project Information		
1	Date		6	Name/ID	
2	Name		7	Location	
3	Email		8	Construction Start Date	
4	Owned By		9	Construction End Date	
5	Occupant		10	Charge #	

Complete application items 1-21. See Page 2 for detailed instructions by item number and Page 3 for submittal instructions.

11.	What is the trailer's primary use (office, storage, restrooms, etc.)?		
12.	What is the overall size of the trailer? *Provide exterior dimensions in feet*	**L:** **W:** **H:**	**Square Footage:**
13.	Will the trailer be grounded?	☐ **Yes**	☐ **No**
If the answer to #13 is **No**, provide: Detailed explanation why grounding will not be required.			
14.	What are the dates during the project duration the trailer is scheduled to be on site?	**Mobilize on:**	**Demobilize on:**
15.	Is the trailer body on supports/wheels/chassis or is the bottom set directly on the grade/ground?	☐ **Supports**	☐ **Grade**
If the answer to #15 is **Supports**, anchors or tie/hold downs are required, provide the following: Details for an anchoring system that will withstand 89.1 mph nominal and 115 mph ultimate wind speed per IBC 2015.			
16.	Does the trailer have interior walls/partitions?	☐ **Yes**	☐ **No**
If the answer to #16 is **"Yes"**, provide: A floor plan showing the dimensions of the rooms and the door locations.			
17.	Will power be supplied to the trailer by generator or by site utility power?	☐ **N/A** ☐ **Site**	☐ **Gen**
18.	Will the trailer have any plumbing fixtures connected to site utilities?	☐ **Yes**	☐ **No**
If the answer to #17 is **"Site"** and/or the answer to #18 is **"Yes"**, provide: The completed design documents for all site utility connections issued or accepted by Design Engineering.			
19.	Will the trailer be located within 100' of any type of infrastructure?	☐ **Yes**	☐ **No**
If the answer to #19 is **"Yes"**, provide: • A site plan with dimensions showing the separation distances from all other infrastructure. • NFPA 80A calculation requirements from a Qualified Fire Protection Engineer (FPE). **Note:** The minimum separation distance is 15'-0" or the NFPA 80A calculated distance, whichever is greater.			
20.	Will work activities occur during non-daylight hours?	☐ **Yes**	☐ **No**
If the answer to #20 is **"Yes"**, provide: A site plan with layout of required lighting. Select which option will be used to verify illumination meets minimum OSHA levels at egress paths and work areas: ☐ Option 1 ☐ Option 2			
21.	Will the trailer be in the same location as the Project Location above?	☐ **Yes**	☐ **No**
If the answer to #21 is **"No"**, provide: Area # and either a facility or complex name or the name of access road:			

*Application is **only** for trailers and containers used to support specific construction activities for and during the duration of the identified project. It is **NOT** for experiment, ongoing mission support, or other trailers. All trailers to be removed from the site at project completion. Page 1 of 3*

Appendix C

MSTS Building Authority NNSS Construction Office and Equipment Trailer Permit Application

Effective 06/23/25

MSTS Building Authority

NNSS Construction Office and Equipment Trailer Permit Application

ALL REQUIRED ADDITIONAL DOCUMENTATION SHOULD BE PROVIDED WITH APPLICATION OR PERMIT MAY BE DELAYED OR DENIED

Item 1: Date that the application is completed on.

Item 2: The Applicant should be the Project Manager (PM) or Subcontractor Technical Representative (STR) or their designee but must be an MSTS employee. Subcontractors cannot be the Applicant but can complete items 11-21.

Item 3: Provide your company email address. ***Note:*** Applicant will be the Point of Contact for the Building Authority throughout the mobilization duration.

Item 4: If the trailer is owned by the M&O Contractor or DOE, then state "MSTS" or the DOE organization name. If the trailer is owned by the construction Subcontractor, or Subcontractor's lower tier, then state "Subcontractor" in this section.

Item 5: State who will be the main occupant or user of this trailer. If it is being occupied/used by a Subcontractor, then provide the company name of that subcontractor. If it is being occupied/used by MSTS or DOE then provide the name of the specific division or group (Construction, Field Engineering, Los Alamos, NNSA, etc.)

Item 6: Provide the official title of the Project or another name/ID# the project is known by (e.g. Building Number of a new building). If the trailer will be providing continuous support for multiple projects without moving from its initial location, then provide the information for the first project on this form and include the information required in Items 6-9 for every other project it will support while in this location in the submission email.

Item 7: If the project is located at a current facility or named complex (PULSE, DAF, Mercury, etc.) then use that name for the location. If the project is not located in such an area or is creating a new facility/complex, then provide the Area # and the access road name at a minimum (e.g. Area 27, 27-01 Road).

Item 8: Provide the scheduled date of the construction Subcontractor mobilization or first scheduled construction activity to be performed for the project, **not** the date the trailer is scheduled to be mobilized.

Item 9: Provide the date construction activity is scheduled to end or substantial completion, **not** the trailer demobilization date. Trailers cannot remain onsite past this date unless otherwise approved by the Building Authority.

Item 10: Provide an active charge number that is open to org #14D0 for use by the Building Authority Program to process the application and complete the permitting process.

Item 11: State what the trailer is being used for, its main purpose, or what takes up the most space or will be used most often if it has a mix of usages. If the trailer only provides restroom and/or shower facilities, then state that in this section.

Item 12: Provide each exterior dimension of the trailer in feet. Multiply the length by the width to get the square footage.

Item 13: Trailers brought to the site should be grounded as required in NFPA 70, Article 545, latest edition.

When Required: Provide a detailed explanation along with any back-up on why the trailer does not require grounding.

Item 14: The mobilization date is the day the trailer will be brought on the site (even if it will not be immediately used or occupied) and the demobilization date is the day the trailer will be removed from the site (even if it has not been used or occupied for some time before removal). These should be the same as or within the dates in items 8 and 9 unless they are for the "first project" as noted in item 6 or otherwise accepted by the Building Authority.

Item 15: If the trailer has an attached wheeled frame or the bottom of the structure is lifted any distance above ground level when in use, then check the box for "Supports". If the trailer structure has the bottom of the trailer itself directly set on level ground like a Connex box or ARMAG, then check the box for "Grade".

When Required: Attach drawings, calculations, and/or detailed instructions either from the trailer manufacturer or a qualified engineer that show how the trailer will be anchored or tied down to resist the wind loading for the site. If the anchoring system provided does not clearly state that it will meet or exceed the required wind load, then it will need to be reviewed and validated by Design Engineering. If there is no existing documentation that provides the required anchoring information, then the required documentation will need to be completed by Design Engineering in house or completed and stamped by a licensed engineer then reviewed and accepted by Design Engineering.

Item 16: If there is only one open area inside the trailer without any kind of physical separation then check "No". If there is any kind of physical separation between areas in the trailer whether by interior walls (full or partial height) or because two or more modules, trailers, or containers are combined at the site to form one unit (this includes if two or more structures are connected by a shelter that creates a covered open area) then check "Yes".

When Required: Most manufacturers provide a floor plan/layout for their trailers. If the available floor plan does not have interior dimensions on it, then the applicant should add those to the plan in a legible manner. If a floor plan does not exist for the trailer, then create one to show the dimensioned interior layout or open covered area. A schematic line drawing with the required dimensions included is acceptable.

Item 17: If the trailer will not be connected to any power source check "N/A". If it will be connected to a generator as the

*Application is **only** for trailers and containers used to support specific construction activities for and during the duration of the identified project. It is **NOT** for experiment, ongoing mission support, or other trailers. All trailers to be removed from the site at project completion. Page **2** of 3*

Appendix C

MSTS Building Authority NNSS Construction Office and Equipment Trailer Permit Application

Effective 06/23/25

MSTS Building Authority

NNSS Construction Office and Equipment Trailer Permit Application

power source check the "Gen". If power will be supplied by the NNSS site power grid either by connecting to a panel or transformer, then check "Site".

Item 18: If the trailer does not have usable plumbing fixtures or all plumbing fixtures are self-contained for both water and sewage, then check "No". If the trailer contains plumbing fixtures that will require a connection to the site water and/or sewer system, then check "Yes".

When Required: Any connection to site utilities requires a design that is either completed by Design Engineering or by a subcontracted licensed engineer with acceptance by Design Engineering through the design submittal process. At a minimum it should show the detail at the point of connection to the trailer itself along with the connection detail to the existing utility, including any equipment required to support connection.

Item 19: If the location the trailer is placed is within, or going to be within, 100 feet of any existing or planned structure including but not limited to other trailers, fuel tanks, storage containers, magazines, ARMAGs, dumpsters, buildings, transformers, drilling equipment, etc. then check "Yes". If the trailer will be the only structure within 100' in any direction over the entire duration it will be at the site, then check "No".

When Required: The results of the NFPA 80 calculation can be provided either on the site plan itself or as a separate attachment. The site plan can be a schematic layout, but it does need to identify the trailer specific to this application and all other structures. Label each structure type and note the Building or Property ID Number if available. The exact distances between the trailer and the other structures on each side of the trailer should be shown on the plan.

Item 20: If the project will only have work activities being performed during daylight hours, defined as anytime between the hour of sunrise and the hour of sunset, over the entire duration it will be on site check "No". If work activities will be performed before the hour of sunrise or after the hour of sunset at any point during the scheduled duration the trailer will be on site, then check "Yes".

When Required: The site plan should show the location of the trailer, parking, and the location of the Evacuation Assembly Area at a minimum and where each light pole will be located to illuminate the egress path from the trailer to parking and assembly area. If there is a work area in the vicinity of the trailer (e.g. a welding area is set up right outside the material and equipment Connex), then show the boundaries of that work area and the location of the light stands to illuminate that area. Choose which option will be used to verify light levels then check the appropriate box:

OPTION 1: Provide verification that an Electrical Engineer has reviewed the layout and verified the foot candles at ground level along the entire path of travel and the work area will meet the minimum OSHA levels. The site plan will need to provide survey or GPS data points for the exact locations of the light poles.

OPTION 2: Install the light stands and have a light survey completed either internally by Industrial Hygiene or by a third-party inspector and provide the results on the site plan to show the foot candles at ground level along the entire path of travel and the work areas will meet the minimum OSHA levels. If the original layout that was provided does not meet the requirements, then revise site plan with the locations and survey results meeting the requirements.

Item 21: If the trailer will not be located at the same job site where the Project work activities are being completed for whatever reason, then check "No". If the trailer will be located at the same job site as the Project's work activities, then check "Yes".

When Required: Input the Area # the trailer will be located in. If that location is part of or near a facility or named complex, then use that for the location. If not, then provide the name of the closet road the trailer can be accessed from.

FOR JOB SITES WITH MULTIPLE TRAILERS:

One site plan showing the dimensioned layout for every trailer, and any other information required per application, can be created and submitted once with the associated trailer applications. When one site plan is used for multiple applications, each individual trailer application shall be easily matched to a trailer shown on the plan. When submitting a new application for an existing job site, the site plan shall be updated to capture any changes that occurred after the last submittal to the BA as well as showing the proposed location(s) of the trailer(s) in the new application(s).

Email the completed form with all required additional documentation as attachments to BuildingAuthority@NV.DOE.GOV

For Building Authority Use Only

Date Received:	Req. Info Included: ☐ Yes ☐ No	Permit #:	Issued Date:	Closed Date:

Permit expires on the Demobilization Date in Item 14. If an extension is required, please contact the Building Authority. Keep a copy of this form with permit number and issuance date posted in the trailer until it is demobilized. Contact the BA when trailer is demobilized for permit closure.

Application is only for trailers and containers used to support specific construction activities for and during the duration of the identified project. It is NOT for experiment, ongoing mission support, or other trailers. All trailers to be removed from the site at project completion. Page 3 of 3

Appendix D
30-60-90% Design Review Deliverables (FRM-DRD)

Use the "Design % Complete" column, determine if the design has progressed enough to convene an effective 30-60-90% design review.

For example: Follow down the 30% Design Complete column where there is an "X". **IF** the checklist can be answered "Y" or "N/A" for the majority of the items, **THEN** the design is considered to be (approximately) 30% complete and has progressed enough to conduct a 30% design review.

Y = Requirement/Deliverable IAW template N/A = Requirement/Deliverable not required or not applicable (Graded Approach) Note: All boxes must be checked "Y" or "N/A"		**Design % Complete**		
Discipline	**Requirement / Deliverable / Guidance**	**30%**	**60%**	**90%**
General				
☐ Y ☐ N/A	Formal written responses to review comments from previous phase(s)		**X**	**X**
☐ Y ☐ N/A	Clearly-defined testing requirements and acceptance criteria for the safety and functionality of all subsystems			**X**
☐ Y ☐ N/A	Project Equipment List			**X**
☐ Y ☐ N/A	Master Document List – Documents in process to date (reference CD ECP section)	**X**	**X**	
☐ Y ☐ N/A	Finalize Master Document List/Engineering Change Package. Includes modifications and updates to existing facility technical baseline documents and Configuration Management Plans			**X**
☐ Y ☐ N/A	Identification of major equipment pieces with Functional Classification	**X**	**X**	
☐ Y ☐ N/A	For existing and new facilities requiring (re)configuration of floor plan(s) notify Facilities for Record Floor & Emergency Evacuation Plans updating			**X**
☐ Y ☐ N/A	Identification and/or update of the facility technical baseline documents (existing or new) to reflect current configuration. [CD-5400.002]			**X**
☐ Y ☐ N/A	Engineering DCD addressed/incorporated?	**X**	**X**	
☐ Y ☐ N/A	Final Functional Classification including all known components (may lack unknown data for constructor-supplied SSCs)			**X**
Project Defined/Project Specific (as required)				
☐ Y ☐ N/A	Project defined/specific deliverables and milestones as necessary or N/A. Add rows as necessary.			
☐ Y ☐ N/A				
Facility Design Description and/or System Design Descriptions (if required)				
☐ Y ☐ N/A	Preliminary – major systems described conceptually, preliminary design criteria and constraints	**X**		
☐ Y ☐ N/A	Updated – major system descriptions matching drawing representations and complete design criteria and constraints; minor systems described conceptually and have preliminary design criteria and constraints		**X**	
☐ Y ☐ N/A	Final – SDDs and all FDD information			**X**

Appendix D
30-60-90% Design Review Deliverables (FRM-DRD)

Y = Requirement/Deliverable IAW template N/A = Requirement/Deliverable not required or not applicable (Graded Approach) Note: All boxes must be checked "Y" or "N/A"		Design % Complete		
Discipline	**Requirement / Deliverable / Guidance**	**30%**	**60%**	**90%**
Specifications				
☐ Y ☐ N/A	Spec maturity at 30%: 1. A listing of intended master specification sections (numbers and titles) 2. As a minimum, numbers and titles for additional sections to be written.	**X**		
☐ Y ☐ N/A	Spec maturity at 60%: 1. Specifications shall portray the complete scope of work, have non-applicable sections removed. 2. Some quality, manufacturer, and execution details may be TBD. Unedited masters are not acceptable.		**X**	
☐ Y ☐ N/A	Specification maturity at 90%: Specifications complete, checked, cross-discipline coordinated, and ready for approval (including submittal schedule)			**X**
Demolition				
☐ Y ☐ N/A	Preliminary demolition layout drawings and elevations	**X**		
☐ Y ☐ N/A	Fully annotated drawings with details for demolition of critical SSCs		**X**	
☐ Y ☐ N/A	Fully annotated drawings with details for demo and/or temporary support of critical SSCs			**X**
☐ Y ☐ N/A	See Specifications section for specification maturity at 30% and 60%.	**X**	**X**	
☐ Y ☐ N/A	Demolition specifications shall portray complete scope of work, checked, cross-discipline coordinated, and ready for approval (including submittal schedule)			**X**
Civil				
☐ Y ☐ N/A	Preliminary, for topics described in Civil design criteria	**X**		
☐ Y ☐ N/A	Site survey to establish existing site grading, drainage, structure locations, existing overhead and underground utilities, and special site conditions and/or constraints	**X**		
☐ Y ☐ N/A	Existing site conditions plan with locations of existing buildings, structures, existing contours, and drainage features	**X**		
☐ Y ☐ N/A	Preliminary site grading and drainage plan with established building location and orientation, access roads, parking location, and finish floor elevations	**X**		
☐ Y ☐ N/A	Preliminary plan view of proposed improvements including geometry, typical sections, pavement sections, site grading and drainage, utility locations with applicable clearance offsets	**X**		
☐ Y ☐ N/A	Plan view of proposed site grading and drainage improvements identifying locations of roads, curb and gutter, parking areas, sidewalks, buildings and structures		**X**	

Appendix D
30-60-90% Design Review Deliverables (FRM-DRD)

Y = Requirement/Deliverable IAW template N/A = Requirement/Deliverable not required or not applicable (Graded Approach) Note: All boxes must be checked "Y" or "N/A"		Design % Complete		
Discipline	**Requirement / Deliverable / Guidance**	**30%**	**60%**	**90%**
☐ Y ☐ N/A	Roadway or drainage structure plan and profile sheets with appropriate horizontal and vertical design information		X	
☐ Y ☐ N/A	Utility plan sheets identifying the proposed improvements with existing utilities clearly identified in locations where conflicts could exist		X	
☐ Y ☐ N/A	Civil details as required		X	
☐ Y ☐ N/A	Final			X
	Civil Calculations			
☐ Y ☐ N/A	Drainage calcs and hydrologic analysis, where applicable		X	
☐ Y ☐ N/A	Earthwork calcs of cut and fill volumes with applicable cross sections		X	
☐ Y ☐ N/A	Pressure, demand, and capacity analysis for sizing and material proposed in the utility system improvements		X	
☐ Y ☐ N/A	Pavement design calcs.		X	
☐ Y ☐ N/A	Road design calculations including horizontal and vertical alignment, curve data, super elevation, minimum sight distances, and pavement thickness.		X	
☐ Y ☐ N/A	Traffic counts and future volume projections to a traffic impact analysis and to establish design parameters as required.		X	
☐ Y ☐ N/A	Calcs complete, checked, cross-discipline coordinated, and ready for M&O Contractor acceptance.			X
	Civil Specs			
☐ Y ☐ N/A	See Specifications section above for specification maturity at 30%	X		
☐ Y ☐ N/A	See Specifications section above for specification maturity at 60%		X	
☐ Y ☐ N/A	Specifications complete, checked, cross-discipline coordinated, and ready for approval.			X
☐ Y ☐ N/A	Test and inspection requirements for related civil work			X
☐ Y ☐ N/A	Commissioning Plan for utilities ready to issue for approval.			X
Architectural				
☐ Y ☐ N/A	Completed Design Criteria (Including Life Safety and IBC/IEBC Code Analysis, ADA requirements, etc.)	X		
☐ Y ☐ N/A	Updated Design Criteria if required.		X	
☐ Y ☐ N/A	Calculations complete, checked, cross-discipline coordinated, and ready for acceptance.			X
☐ Y ☐ N/A	**Architectural Drawings**			
☐ Y ☐ N/A	Plan layouts and exterior elevations—preliminary.	X		
☐ Y ☐ N/A	Updated version of 30% plan layouts and exterior elevations; preliminary wall sections and details and ADA requirements finalized.			
☐ Y ☐ N/A	Preliminary landscaping plans and schedules.		X	

Appendix D
30-60-90% Design Review Deliverables (FRM-DRD)

Y = Requirement/Deliverable IAW template N/A = Requirement/Deliverable not required or not applicable (Graded Approach) Note: All boxes must be checked "Y" or "N/A"		Design % Complete		
Discipline	**Requirement / Deliverable / Guidance**	**30%**	**60%**	**90%**
☐ Y ☐ N/A	Plans, elevations, sections, details, interior elevations, and schedules completed, authorized, and ready for approval.			X
	Architectural Specifications			
☐ Y ☐ N/A	See Specifications section above for specific maturity at 30%	X		
☐ Y ☐ N/A	See Specifications section above for specific maturity at 60%		X	
☐ Y ☐ N/A	Specifications complete, checked, cross-discipline coordinated, and ready for approval.			X
☐ Y ☐ N/A	Test and inspection requirements for architectural systems.			X
	Structural			
☐ Y ☐ N/A	Draft structural design basis document with building function, design methodology, performance category, hazard category, acceptance criteria, etc.	X		
☐ Y ☐ N/A	30% review comments addressed		X	
☐ Y ☐ N/A	60% review comments addressed, complete			X
	Structural Calculations			
☐ Y ☐ N/A	Foundation description and preliminary sizing (e.g., footings, mats, slabs, piles, tie-beams, etc.)	X		
☐ Y ☐ N/A	Superstructure description and preliminary sizing (e.g., concrete or steel, cast-in-place vs pre-stress, lateral force resisting system, demonstration of complete load path, etc.)	X		
☐ Y ☐ N/A	Descriptions of special structural considerations	X		
☐ Y ☐ N/A	Completed structural scheme with all members sized		X	
☐ Y ☐ N/A	Calculations or manufacturer's catalog data validating sizing and selection of all components		X	
☐ Y ☐ N/A	Secondary component designs (e.g., baseplates, seismic bracing, support stands, etc.)		X	
☐ Y ☐ N/A	Foundation design(s)		X	
☐ Y ☐ N/A	Anchorage designs including nonstructural components and R&D equipment		X	
☐ Y ☐ N/A	Calculations complete, checked, cross-discipline coordinated, and ready for M&O Contractor acceptance			X
	Structural Drawings			
☐ Y ☐ N/A	Preliminary floor plans and cross-sections	X		
☐ Y ☐ N/A	Complete and accurate with correct dimensions, tolerances, detail references, general and keyed notes and compatibility with other disciplines		X	
☐ Y ☐ N/A	Beam, column and footing schedules as applicable		X	

Appendix D
30-60-90% Design Review Deliverables (FRM-DRD)

Y = Requirement/Deliverable IAW template N/A = Requirement/Deliverable not required or not applicable (Graded Approach) Note: All boxes must be checked "Y" or "N/A"		Design % Complete		
Discipline	**Requirement / Deliverable / Guidance**	**30%**	**60%**	**90%**
☐ Y ☐ N/A	Secondary component details		X	
☐ Y ☐ N/A	Foundation details		X	
☐ Y ☐ N/A	Anchorage details (including, for existing concrete, strength, thickness, and min. embedment depth as required by ICC-ESR). If being deferred to after procurement of major equipment, note as such in design.		X	
☐ Y ☐ N/A	Reinforcement and connection details, including bolt and weld sizes		X	
☐ Y ☐ N/A	Final and complete structural package.			X
☐ Y ☐ N/A	**Structural Specs**			
☐ Y ☐ N/A	See Specifications section above for specification maturity at 30%	X		
☐ Y ☐ N/A	See Specifications section above for specification maturity at 60%		X	
☐ Y ☐ N/A	Specifications complete, checked, cross-discipline coordinated, and ready for approval.			X
☐ Y ☐ N/A	Test and inspection requirements for structural SSC.			X
HVAC				
	HVAC Calculations			
☐ Y ☐ N/A	Preliminary HVAC heating and cooling loads corrected for altitude	X		
☐ Y ☐ N/A	Preliminary ventilation calcs with exhaust, outside air and building pressurization requirements	X		
☐ Y ☐ N/A	Preliminary duct sizing calcs including system pressure drops	X		
☐ Y ☐ N/A	Preliminary energy conservation/sustainable design analysis	X		
☐ Y ☐ N/A	Updated and resolving/addressing comments from the 30% design		X	
☐ Y ☐ N/A	HVAC calculations complete, checked, cross-discipline coordinated, and ready for approval			X
	HVAC Drawings			
☐ Y ☐ N/A	Preliminary mechanical symbols and legend	X		
☐ Y ☐ N/A	Preliminary HVAC floor plans showing major equipment, duct runs, and VAVs/heating coils	X		
☐ Y ☐ N/A	Preliminary HVAC plans showing office layout and equipment room, major equipment, penetrations, and pipe/duct runs	X		
☐ Y ☐ N/A	Preliminary PFDs/airflow diagrams including major equipment, supply & return diffusers, transfer grills, dampers, VAV/reheat coils, airflow rates, and facility/room pressurization requirements	X		
☐ Y ☐ N/A	Preliminary P&IDs including major system equipment, control devices, control wiring & logic, and sequence of operation	X		
☐ Y ☐ N/A	Preliminary equipment schedule including all major equipment with significant operating parameters and equipment specs	X		

Appendix D
30-60-90% Design Review Deliverables (FRM-DRD)

Y = Requirement/Deliverable IAW template N/A = Requirement/Deliverable not required or not applicable (Graded Approach) Note: All boxes must be checked "Y" or "N/A"		Design % Complete		
Discipline	**Requirement / Deliverable / Guidance**	**30%**	**60%**	**90%**
☐ Y ☐ N/A	Drawings updated and that resolve/address comments from the 30% design		X	
☐ Y ☐ N/A	Preliminary mechanical sections, elevations, and details		X	
☐ Y ☐ N/A	Complete P&IDs and PFDs, revisions under change control		X	
☐ Y ☐ N/A	Other drawings are complete, authorized, and ready for approval			X
	HVAC Specs			
☐ Y ☐ N/A	See Specifications section above for specific maturity at 30%	X		
☐ Y ☐ N/A	See Specifications section above for specific maturity at 60%		X	
☐ Y ☐ N/A	Specifications complete, checked, cross-discipline coordinated, and ready for approval.			X
☐ Y ☐ N/A	Test and inspection requirements for HVAC SSC.			X
Piping and Plumbing (not pressure-safety related)				
	Piping Calculations			
☐ Y ☐ N/A	Preliminary piping system calcs including flow rates, pipe sizing with friction factors, velocities, expansion/contraction and system equipment pressure drops for pump selection.	X		
☐ Y ☐ N/A	Preliminary plumbing, natural gas, and steam systems calculations including the water supply and drainage fixture unit requirements per the UPC.	X		
☐ Y ☐ N/A	Preliminary Plumbing Equipment Schedule including all major equipment and fixtures.	X		
☐ Y ☐ N/A	Updated and resolve/address comments from the 30% design.		X	
☐ Y ☐ N/A	Calculations complete, checked, cross-discipline coordinated, and ready for M&O Contractor acceptance.			X
	Piping Drawings			
☐ Y ☐ N/A	Preliminary heating water P&ID	X		
☐ Y ☐ N/A	Preliminary chilled water P&ID (as necessary)	X		
☐ Y ☐ N/A	Preliminary Plumbing Floor Plans including office layout, restrooms, janitor closets and equipment room, major equipment locations, fixture locations, and distribution and vent piping; enlarged plans as necessary show the plumbing systems in certain areas, e.g. equipment rooms.	X		
☐ Y ☐ N/A	Preliminary Plumbing Diagrams including riser diagrams for the potable water system, sanitary waste/vent system, roof drainage, and make-up water system. Major equipment, fixtures, and piping included on the riser diagrams.	X		

Appendix D
30-60-90% Design Review Deliverables (FRM-DRD)

Y = Requirement/Deliverable IAW template N/A = Requirement/Deliverable not required or not applicable (Graded Approach) Note: All boxes must be checked "Y" or "N/A"		Design % Complete		
Discipline	**Requirement / Deliverable / Guidance**	**30%**	**60%**	**90%**
☐ Y ☐ N/A	Preliminary HVAC Piping Plans including all major equipment, pipe runs, pipe sizes (including refrigerant), and water flow rates. Enlarged plans may be required to clearly show the systems in certain areas, e.g., equipment rooms.	X		
☐ Y ☐ N/A	Complete P&IDs.		X	
☐ Y ☐ N/A	Drawings updated to resolve/address comments from the 30% design.		X	
☐ Y ☐ N/A	Preliminary Plumbing Details include major equipment requirements and specialties, e.g. backflow preventer installation assemblies, PRV piping details, floor drain details, and cleanout details.		X	
	Piping Specs			
☐ Y ☐ N/A	See Specifications section above for specification maturity at 30%	X		
☐ Y ☐ N/A	See Specifications section above for specification maturity at 60%		X	
☐ Y ☐ N/A	Specs complete, checked, cross-discipline coordinated, and ready for approval.			X
☐ Y ☐ N/A	Test and inspection requirements for piping SSC.			X
	Pressure Safety			
☐ Y ☐ N/A	Pressure Safety Implementation Plan (determination of code of record, roles and responsibilities, and documentation of requirements. (Reference CD-1016.000 and CD-1017.000)	X		
☐ Y ☐ N/A	Updated version		X	
☐ Y ☐ N/A	Final version			X
	Calculations			
☐ Y ☐ N/A	Preliminary piping system calcs including flow rates, pipe sizing with friction factors, velocities, expansion/contraction and system equipment pressure drops for pump selection, compressor and pressurized gas systems (bottle or cryogen).	X		
☐ Y ☐ N/A	Preliminary pressure systems calculations.	X		
☐ Y ☐ N/A	Preliminary equipment schedule including all major equipment and fixtures.	X		
☐ Y ☐ N/A	Update and resolve/address comments from the 30% design.		X	
☐ Y ☐ N/A	Pressure safety calcs and other documentation for piping and vessels.		X	
☐ Y ☐ N/A	Calcs complete, checked, cross-discipline coordinated, and ready for M&O Contractor acceptance.			X
	Piping Drawings			
☐ Y ☐ N/A	Preliminary Pressure Symbols and Legend	X		
☐ Y ☐ N/A	Preliminary P&IDs	X		

Appendix D
30-60-90% Design Review Deliverables (FRM-DRD)

Y = Requirement/Deliverable IAW template N/A = Requirement/Deliverable not required or not applicable (Graded Approach) Note: All boxes must be checked "Y" or "N/A"		Design % Complete		
Discipline	**Requirement / Deliverable / Guidance**	**30%**	**60%**	**90%**
☐ Y ☐ N/A	Preliminary Floor Plans	X		
☐ Y ☐ N/A	Preliminary Piping Plans Enlarged plans may be required to clearly show the systems in certain areas, e.g., equipment rooms	X		
☐ Y ☐ N/A	Other drawings updated to resolve/address comments from the 30% design		X	
☐ Y ☐ N/A	Complete P&IDs		X	
☐ Y ☐ N/A	Pressure Symbols and Legend		X	
☐ Y ☐ N/A	Floor Plans		X	
☐ Y ☐ N/A	Piping Plans Enlarged plans may be required to clearly show the systems in certain areas, e.g., equipment rooms		X	
☐ Y ☐ N/A	Piping Details include major equipment requirements and specialties, e.g. pressure vessels, boilers, air receivers, and pressure relief devices piping details,		X	
☐ Y ☐ N/A	Other drawings updated to resolve/address comments from the 60% design			X
☐ Y ☐ N/A	Pressure Symbols and Legend			X
☐ Y ☐ N/A	P&IDs – Final			X
☐ Y ☐ N/A	Floor Plans – Final			X
☐ Y ☐ N/A	Piping Plans; enlarged plans may be required to clearly show the systems in certain areas, e.g., equipment rooms			X
☐ Y ☐ N/A	Piping Details include major equipment requirements and specialties, e.g. pressure vessels, boilers, air receivers, and pressure relief devices piping details.			X
	Piping Specs			
☐ Y ☐ N/A	See Specifications section above for specific maturity at 30%	X		
☐ Y ☐ N/A	See Specifications section above for specific maturity at 60%		X	
☐ Y ☐ N/A	Specs complete, checked, cross-discipline coordinated, and ready for approval.			X
Fire Protection				
	NOTE: Detailed alarm and sprinkler system design, installation drawings, and calcs are typically prepared by the installing sub-contractor after the design/construction contract is approved. These plans are reviewed and approved by the M&O Contractor as required deferred design submittals. If subcontractor work is deferred/delegated, note as such in the design.			
☐ Y ☐ N/A	Scope and code analysis - Location, size, number of stories, construction, and occupancy of buildings and identification of locations to be provided with fire protection and fire alarm systems	X		

Appendix D
30-60-90% Design Review Deliverables (FRM-DRD)

Y = Requirement/Deliverable IAW template N/A = Requirement/Deliverable not required or not applicable (Graded Approach) Note: All boxes must be checked "Y" or "N/A"		Design % Complete		
Discipline	**Requirement / Deliverable / Guidance**	**30%**	**60%**	**90%**
☐ Y ☐ N/A	Preliminary Fire Hazard Analysis for the preferred alternative	**X**		
☐ Y ☐ N/A	Updated FHA		**X**	
☐ Y ☐ N/A	Final complete FHA			**X**
	Fire Protection Drawings			
☐ Y ☐ N/A	Building Plan showing building layout, fire areas, and fire walls	**X**		
☐ Y ☐ N/A	Site Plan showing size, type and location of underground water mains and location of hydrants, sprinkler system lead-ins, and sectional valves	**X**		
☐ Y ☐ N/A	Building drawings, coordinated with the architectural drawings, showing: • The architect's life safety analysis with applicable codes of record, IBC construction type, IEBC Alteration Level and IBC and NFPA 101 occupancy types • Egress routes, common paths of travel, dead ends, exit widths, exit doors, etc. • Location and rating of all fire walls, barriers, doors and dampers • Location of all HVAC ducts with cfm ratings for intake and exhaust ducts for each HVAC unit, and duct smoke detectors • All areas to be sprinklered, including features of construction and HVAC that could present obstructions of which the sprinkler contractor must be aware • All fire alarm system areas of coverage • Location and rating of emergency lights • Fire extinguisher types and locations		**X**	
☐ Y ☐ N/A	Final drawings incorporating previous review comments			**X**
	Fire Protection Specs			
☐ Y ☐ N/A	See Specifications section above for specific maturity at 30%	**X**		
☐ Y ☐ N/A	See Specifications section above for specific maturity at 60%		**X**	
☐ Y ☐ N/A	Specifications for fire related construction features including rated walls, doors, and dampers		**X**	
☐ Y ☐ N/A	Specifications for built-up roof construction, where used		**X**	
☐ Y ☐ N/A	Sprinkler systems - Specify type of system (wet pipe, dry-pipe, deluge) how actuated; type, style, and temperature rating of sprinkler heads; hydraulic design criteria, (e.g., Ordinary Hazard, Group 2) Allowed types of pipe and fittings, backflow preventer, and other equipment anticipated on the installation		**X**	
☐ Y ☐ N/A	For alarm systems: type of system, type of detectors, what calcs will be required, what interlocks are to be provided		**X**	

Appendix D
30-60-90% Design Review Deliverables (FRM-DRD)

Y = Requirement/Deliverable IAW template N/A = Requirement/Deliverable not required or not applicable (Graded Approach) Note: All boxes must be checked "Y" or "N/A"		Design % Complete		
Discipline	**Requirement / Deliverable / Guidance**	**30%**	**60%**	**90%**
☐ Y ☐ N/A	Specifications complete, checked, cross-discipline coordinated, and ready for approval			X
☐ Y ☐ N/A	Test and inspection requirements for piping SSC			X
Electrical				
	Electrical Calculations			
☐ Y ☐ N/A	Preliminary electrical load estimate for component sizes	X		
☐ Y ☐ N/A	Preliminary fault current calcs or 1st approximation/estimate	X		
☐ Y ☐ N/A	Interior lighting calcs complete	X		
☐ Y ☐ N/A	Preliminary paging system sound distribution calculations (if being deferred/delegated, note that)	X		
☐ Y ☐ N/A	Load study with best estimates; circuits sized and distribution components selected		X	
☐ Y ☐ N/A	Fault current calculations with best estimates		X	
☐ Y ☐ N/A	Voltage drop calculations with best estimates		X	
☐ Y ☐ N/A	Preliminary coordination study		X	
☐ Y ☐ N/A	Preliminary arc-flash hazard calculations		X	
☐ Y ☐ N/A	Exterior lighting calculations with best estimates		X	
☐ Y ☐ N/A	Paging system calculations complete; wiring sized and components selected (if being deferred/delegated, noted as such in design)		X	
☐ Y ☐ N/A	Calculations complete, checked, cross-discipline coordinated, and ready for M&O Contractor acceptance			X
	Electrical Drawings			
☐ Y ☐ N/A	Preliminary site plan includes power and telephone service connection points and routing to project	X		
☐ Y ☐ N/A	Preliminary one-line diagram portrays service and distribution system arrangement	X		
☐ Y ☐ N/A	Preliminary power plans include electrical rooms and major electrical equipment locations	X		
☐ Y ☐ N/A	Preliminary enlarged electrical room plans show electrical service and distribution equipment and NEC required working spaces (if required)	X		
☐ Y ☐ N/A	Preliminary lighting plans include luminaire locations, type designators, and control device locations	X		
☐ Y ☐ N/A	Preliminary luminaire schedule includes basic descriptions of luminaires shown on the preliminary lighting plans	X		
☐ Y ☐ N/A	Preliminary paging system plans show speaker locations	X		
☐ Y ☐ N/A	Site plan further developed to include site lighting		X	

Appendix D
30-60-90% Design Review Deliverables (FRM-DRD)

Y = Requirement/Deliverable IAW template N/A = Requirement/Deliverable not required or not applicable (Graded Approach) Note: All boxes must be checked "Y" or "N/A"		Design % Complete		
Discipline	**Requirement / Deliverable / Guidance**	**30%**	**60%**	**90%**
☐ Y ☐ N/A	Power plans and One-line diagram further developed to show all component sizes and calculated fault currents developed to show receptacles, mechanical equipment, building equipment, user equipment, and preliminary branch circuiting.		**X**	
☐ Y ☐ N/A	Final enlarged electrical room plans (if required)		**X**	
☐ Y ☐ N/A	Lighting plans are further developed to show complete branch circuiting and lighting controls		**X**	
☐ Y ☐ N/A	Luminaire schedule further developed to include complete descriptions and catalog numbers of all luminaires		**X**	
☐ Y ☐ N/A	Paging system plans further developed to show speaker circuiting and equipment locations (if being deferred/delegated, noted as such in initial construction package and provided later)		**X**	
☐ Y ☐ N/A	Preliminary paging system riser diagram includes paging controllers, amplifiers, speakers, and interconnections		**X**	
☐ Y ☐ N/A	Preliminary lightning protection system plans include locations of air terminals, main conductors, down conductors, ground ring, test wells, and surge protective devices (may not be delegated to construction Subcontractor)		**X**	
☐ Y ☐ N/A	Preliminary grounding diagram includes main grounding electrode, main electrode ground bar, supplemental ground bars, and bonding locations for piping and structural steel		**X**	
☐ Y ☐ N/A	Preliminary motor control diagram created for typical each motor control configuration		**X**	
☐ Y ☐ N/A	Preliminary Panel Schedules created for each panel not detailed on the one-line. Include load descriptions and values.		**X**	
☐ Y ☐ N/A	Preliminary Nameplate Schedules including information required for equipment ID tags, category I nameplates, and arc-flash warning labels			**X**
☐ Y ☐ N/A	Drawings complete, checked, cross-discipline coordinated, and ready for approval			**X**
	Electrical Specifications			
☐ Y ☐ N/A	See Specifications section above for specific maturity at 30%	**X**		
☐ Y ☐ N/A	See Specifications section above for specific maturity at 60%		**X**	
☐ Y ☐ N/A	Specifications complete, checked, cross-discipline coordinated, and ready for approval.			**X**
☐ Y ☐ N/A	Test and inspection requirements for electrical SSC.			**X**
Instrumentation & Controls				

Appendix D
30-60-90% Design Review Deliverables (FRM-DRD)

Y = Requirement/Deliverable IAW template N/A = Requirement/Deliverable not required or not applicable (Graded Approach) Note: All boxes must be checked "Y" or "N/A"		Design % Complete		
Discipline	**Requirement / Deliverable / Guidance**	**30%**	**60%**	**90%**
	NOTE: Detailed control system design, installation drawings, and calcs are typically prepared by the installing subcontractor after the design/construction contract is approved. If being deferred/delegated, note as such in design.			
	I&C Calculations			
☐ Y ☐ N/A	Preliminary device sizing calculations	X		
☐ Y ☐ N/A	Preliminary calculations for engineered instrumentation devices		X	
☐ Y ☐ N/A	Calculations complete, checked, cross-discipline coordinated, and ready for M&O Contractor acceptance			X
	I&C Drawings			
☐ Y ☐ N/A	Preliminary network drawing	X		
☐ Y ☐ N/A	Preliminary control or P&ID drawing for each system, nearly final, under change control	X		
☐ Y ☐ N/A	Preliminary sequence of operations	X		
☐ Y ☐ N/A	Preliminary Instrument List	X		
☐ Y ☐ N/A	Preliminary Control Schematics (as required)	X		
☐ Y ☐ N/A	Preliminary instrument location drawing (may be on P&ID)	X		
☐ Y ☐ N/A	Complete P&IDs under change control		X	
☐ Y ☐ N/A	Drawings updated to portray complete scope of work and substantially complete		X	
☐ Y ☐ N/A	Completed instrument point list		X	
☐ Y ☐ N/A	Completed Instrument List		X	
☐ Y ☐ N/A	Completed instrument location drawing (may be on P&ID; include critical distances/diameters from bends, etc.)		X	
☐ Y ☐ N/A	Major control panels shown on mechanical and electrical drawings		X	
☐ Y ☐ N/A	Control power feeds shown on electrical floor plans and panel schedules		X	
☐ Y ☐ N/A	Finalized with Bill of Materials and ready to issue for approval			X
	I&C Specifications			
☐ Y ☐ N/A	Outline or preliminary specs, to include commissioning requirements including pre-functional testing, functional testing, and checklists. See Specifications section above for specification maturity at 30%	X		
☐ Y ☐ N/A	See Specifications section above for specification maturity at 60%		X	
☐ Y ☐ N/A	Specifications complete, checked, cross-discipline coordinated, and ready for approval.			X
☐ Y ☐ N/A	Test and inspection requirements for I&C SSC.			X
	Software QA/Control Documentation			

Appendix D
30-60-90% Design Review Deliverables (FRM-DRD)

Y = Requirement/Deliverable IAW template N/A = Requirement/Deliverable not required or not applicable (Graded Approach) Note: All boxes must be checked "Y" or "N/A"		Design % Complete		
Discipline	**Requirement / Deliverable / Guidance**	**30%**	**60%**	**90%**
☐ Y ☐ N/A	Development, operating, and verification documentation for any design agency developed process-operating software.			X
Physical Security				
	Security Calculations			
☐ Y ☐ N/A	Preliminary versions of any required calculations	X		
☐ Y ☐ N/A	Calcs complete, checked, cross-discipline coordinated, and ready for M&O Contractor acceptance			X
	Security Drawings			
☐ Y ☐ N/A	Prelim. Arrangement including fence, gate, barrier, PIDA(D)S, Limited Area, vault, VTR, and SCIF locations/boundaries	X		
☐ Y ☐ N/A	Preliminary security plans include room locations and preliminary cable tray routing	X		
☐ Y ☐ N/A	Updated security plans including rough-in/device locations, type designators, and circuiting		X	
☐ Y ☐ N/A	Device schedule including basic descriptions of devices shown on the preliminary plans		X	
☐ Y ☐ N/A	Drawings complete, checked, cross-discipline coordinated, and ready for approval			X
	Security Specifications			
☐ Y ☐ N/A	See Specifications section above for specific maturity at 30%	X		
☐ Y ☐ N/A	See Specifications section above for specific maturity at 60%		X	
☐ Y ☐ N/A	Specifications complete, checked, cross-discipline coordinated, and ready for approval.			X
Telecom				
	Telecom Calculations			
☐ Y ☐ N/A	Preliminary versions of calculations, as applicable	X		
☐ Y ☐ N/A	Calculations complete, checked, cross-discipline coordinated, and ready for M&O Contractor acceptance			X
	Telecom Drawings			
☐ Y ☐ N/A	Preliminary site plan includes service connection points and routing to project	X		
☐ Y ☐ N/A	Preliminary plans including telecom room, rack locations, and preliminary cable tray routing	X		
☐ Y ☐ N/A	Updated telecom room plans include cable trays, receptacles, grounding, and equipment racks		X	
☐ Y ☐ N/A	Beyond-room plans showing telecom outlet locations and final conduit and cable tray routing		X	

Appendix D
30-60-90% Design Review Deliverables (FRM-DRD)

Y = Requirement/Deliverable IAW template N/A = Requirement/Deliverable not required or not applicable (Graded Approach) Note: All boxes must be checked "Y" or "N/A"		Design % Complete		
Discipline	**Requirement / Deliverable / Guidance**	**30%**	**60%**	**90%**
☐ Y ☐ N/A	Telecom system riser diagram includes system from service to station outlets		**X**	
☐ Y ☐ N/A	Drawings complete, checked, cross-discipline coordinated, and ready for approval			**X**
	Telecom Specifications			
☐ Y ☐ N/A	See Specifications section above for specific maturity at 30%	**X**		
☐ Y ☐ N/A	See Specifications section above for specific maturity at 60%		**X**	
☐ Y ☐ N/A	Specifications complete, checked, cross-discipline coordinated, and ready for approval.			**X**
Commissioning (Cx)				
	Cx Plan			
☐ Y ☐ N/A	Preliminary plan defining Cx authority, how authority will verify that design agency and constructor will implement the F&OR requirements and addressing coordination of all disciplines from design through the construction and warranty periods. **Note:** Inspection and testing requirements must be provided in the Cx Plan, if they are not provided separately.		**X**	
☐ Y ☐ N/A	Finalized and ready to issue including list of design checklists, list of all Cx specification sections			**X**
	Cx Specifications			
☐ Y ☐ N/A	See Specifications section above for specific maturity at 30%	**X**		
☐ Y ☐ N/A	See Specifications section above for specific maturity at 60%		**X**	
☐ Y ☐ N/A	Specifications complete, checked, cross-discipline coordinated, and ready for approval			**X**
	Cx Schedule			
☐ Y ☐ N/A	Proposed Cx Schedule			**X**

MSTS
MISSION SUPPORT AND TEST SERVICES LLC

Appendix E
Supplier Deviation Disposition Request (FRM-SDDR)

SDDR NUMBER: YR-XXXX	**Procurement Document Number 0021845**	**DATE:**
PROJECT NUMBER:	**PROJECT ENGINEER:**	
PROJECT NAME:	**SUBCONTRATOR TECHNICAL REPRESENTATIVE:**	

DEVIATION REQUESTED

Supplier Name:	**Supplier Contact Information:**
Supplier Part No.:	**Supplier's Part Name:**
MSTS Requirement Document No.:	**MSTS Requirement Document Title.:**
Nuclear Safety Related	**YES NO**
Requirement Reference Page/Section:	**MSTS Procurement Representative/STR Notified** **Date: Method:**
Deviation Description:	

Supplier Proposed Disposition	**Use As Is**	**Repair**	**Modify MSTS Requirement**	**Nomenclature**

Cost Impact **YES NO**	**Schedule Impact** **YES NO**
Proposed Disposition and Technical Justification	
Associated Supplier Document Change(s) **YES NO**	
Authorized Supplier Requestor: (Name, Title & Sign) **Date:**	

MSTS RESPONSE

ENGINEERING RESPONSE: **Accepted Rejected**

Appendix E
Supplier Deviation Disposition Request (FRM-SDDR)

TECHNICAL JUSTIFICATION	
PROJECT ENGINEER: (Print & Sign)	**DATE:**
RESPONSIBLE ENGINEERING MANAGER: (Print & Sign)	**DATE:**
NUCLEAR SAFETY REVIEW (Print & Sign)	**DATE:**
PROCURMENT REPRESENTATIVE (Print & Sign)	**DATE:**
SUBCONTRACTOR TECHNICAL REPRESENTIVE (Print & Sign)	**DATE:**
PROJECT MANAGER: (Print & Sign)	**DATE:**

Appendix E
Supplier Deviation Disposition Request (FRM-SDDR)
INSTRUCTIONS FOR COMPLETING SDDR

This form is to be used by a supplier to:

a) Notify MSTS when manufactured product or service does not meet established contract requirements and to document the supplier's proposed disposition, with their technical (and where appropriate, Cost/Schedule) justification.
b) Notify MSTS when the supplier wants to propose changes to the contract documents unanticipated at time of award
c) Record the MSTS disposition of the SDDR.

A deviation is any departure from the requirements of the procuring documents, which the supplier has incorporated or proposes to incorporate in the completed item or service provided. Deviation dispositions can be classified as Use- As-Is, Repair, or Modify Requirement.

Repair is defined as the process of restoring a nonconforming characteristic to a condition such that the capability of an item to function reliably and safely is unimpaired, even though that item may not conform to the original requirement. Repair includes alterations to the properties of the material through heat-treating, welding, metal disposition, chemical processing, etc. The SDDR form is not to be used for cases where the MSTS has previously provided authorization to proceed using an accepted repair procedure covering a specific type of repair; however, records must be maintained for each specific repair.

MSTS project engineering action and disposition statement does not relieve the supplier from responsibility for the accuracy, adequacy, or suitability of the item or service being provided as defined in the procuring documents, nor does it constitute waiver of the right to renegotiate the terms of the procuring documents.

Entry Information

1. Supplier's name and address – city and state and zip. List same information for lower-tier suppliers if applicable.

2. Supplier's Part No.(s) as applicable from the drawing, catalog, internal specifications, etc.

3. Supplier's Part Name.

4. MSTS Requirement Document/Specification No.:

5. MSTS Requirement Document/Specification Title:

6. Nuclear Safety Related Yes or No

7. MSTS notification

8. Describe deviating characteristics and define the extent of the out-of-specification condition for each identified piece affected. Include quantities and serial, lot, batch, heat, or other numbers as appropriate. Identify the location of the deviating characteristics by print coordinates or specific location, as applicable.

Appendix E
Supplier Deviation Disposition Request (FRM-SDDR)

Attach reproducible quality extra sheets, sketches, photographs, etc., as necessary. When proposing a change in either supplier or M&O engineering documents, describe the change; identify the documents completely including title or subject, date and revision; and where appropriate, attach a copy of areas in question.

9. Check proposed disposition. If proposed change is to modify a MSTS requirement, state the requirement and provide a detailed description of the modification. If change is Nomenclature only (e.g., administrative change, part number change that does not involve physical changes to the item or change the function of the item), provide a statement that there is no change in form, fit, or function of the item.

10. Check Yes or No and enter cost impact that would result from proposed changes and which will be reflected in appropriate Procurement Documents.

11. Check Yes or No and enter delivery schedule impact that would result from proposed changes.

12. Describe the proposed disposition and provide technical (and where appropriate, Cost/Schedule) justification for MSTS project engineering evaluation. Attach reproducible quality copies whenever required. If the deviation is correctable by repair, submit a detailed repair procedure or reference the procedure previously submitted and used in similar situations.

13. Check Yes or No and identify the nature of changes that may be needed on associated supplier documents (drawings, specifications, procedures, installation instruction, etc.).

14. Enter the name (typed or printed) and title of the supplier representative authorizing the disposition request and appropriate signature and date signed.

Transmittal of SDDR to MSTS:

After supplier completion required blocks, the supplier shall transmit one original signed SDDR document to contact information provided in the procurement document initiating the purchase.

15. Check applicable box to define the action required by project engineering.

16. Provide appropriate justification for the MSTS action(s). When changes to drawings, specifications, requisitions, or other MSTS documents are involved, each document should be identified and the associated change briefly described. If other suppliers are affected, indicate who they are and the document that initiated resolution of that involvement. Other follow-up actions (e.g., the need for additional calculations, additional drawings or sketches, inspection by a Project Engineering representative, etc.) should also be identified here. If construction action is required, so indicate.

MSTS
MISSION SUPPORT AND TEST SERVICES LLC

Appendix F
Supplier Request For Information (FRM-SRFI)

Supplier RFI NUMBER: YR-XXXX	**Procurement Document Number 0021845**	**DATE:**
PROJECT NUMBER:	**RELATED DOCUMENT TITLE**	**RELATED DOCUMENT TITLE**
PROJECT NAME	**RELATED DOCUMENT NO:**	**RELATED DOCUMENT NO:**

REQUEST

REQUESTOR:	**INFORMATION REQUESTED FROM:**
REQUEST TITLE:	**NEED BY DATE:**
Nuclear Safety Related	**YES** **NO**
PROBLEM / QUESTION / CONCERN / ISSUE:	**SUGGESTED SOLUTION:**
	ATTACHMENTS & AFFECTED DOCUMENTS:
Requestor: (Print & Sign) **Date:**	**Requesting Manager:** (Print & Sign) **Date:**

RESPONSE

RESPONSE:	
Document Modifications Needed Due to Response: ☐ **Yes** ☐ **No** **SDDR Required to Address Response:** ☐ **Yes** ☐ **No**	
PROJECT ENGINEER: (Print & Sign)	**DATE:**
PROCURMENT REPRESENTATIVE (Print & Sign)	**DATE:**
SUBCONTRACTOR TECHNICAL REPRESENTIVE (Print & Sign)	**DATE:**