

**SECTION 010010 – GENERAL REQUIREMENTS**  
**PROJECT NAME**

**PART 1 GENERAL**..... 2

    1.1 PURPOSE ..... 2

    1.2 SUMMARY ..... 2

    1.3 REFERENCES ..... 2

    1.5 DESCRIPTION OF WORK ..... 3

    1.6 MATERIALS & EQUIPMENT FURNISHED BY FRA and/or SDSTA ..... 3

    1.7 BUY AMERICAN ACT ..... 3

    1.8 SERVICES FURNISHED BY FRA and/or SDSTA..... 4

    1.10 ELECTRONIC PROJECT DRAWINGS..... 5

    1.11 PARKING AND STAGING AREA..... 6

    1.12 SITE ACCESS AND HAULING ..... 6

    1.13 TRANSPORTATION OF EQUIPMENT AND MATERIALS..... 7

    1.14 TEMPORARY SERVICES AND FACILITIES ..... 7

    1.15 SURF CLOSURE ..... 8

    1.16 MATERIAL SUBSTITUTIONS ..... 9

    1.17 DOCUMENTATION ..... 9

**PART 2 PRODUCTS - Not Used**..... 11

**PART 3 EXECUTION** ..... 11

    3.1 NOTICE TO PROCEED..... 11

    3.2 CONSTRUCTION SCHEDULE ..... 12

    3.3 QUALITY CONTROL AND CONTROL OF INSTALLATION ..... 13

    3.4 ACCEPTANCE ..... 14

ATTACHMENT A     REQUEST FOR INFORMATION

ATTACHMENT B     QA/QC PUNCHLIST ITEM STATUS

**SECTION 010010 – GENERAL REQUIREMENTS**  
**PROJECT NAME**

**PART 1 GENERAL**

1.1 PURPOSE

- A. The following specification provides the project-specific requirements that are supplementary to the requirements of the Fermi Research Alliance, LLC (FRA) Subcontract General Provisions and the FRA Construction Subcontract Terms and Conditions.
- B. The Subcontractor is required to plan, control, and deliver the final project according to the project specifications. The project must possess complete functional systems and be assembled safely and in quality fashion following industry standards, regulatory requirements, and best practices.

1.2 SUMMARY

- A. The Subcontractor shall provide in the performance of the work under this subcontract all labor, materials, equipment, transportation, services, occupational exposure monitoring and supervision required to maintain work sites that meet the ES&H requirements found in Section **013100**.
- B. All major elements of the work are believed to be adequately described herein. The Subcontractor is expected, as a requirement of the Subcontractor's qualifications, to utilize his or her knowledge and experience to anticipate, and include in the cost of the work any incidentals of work which may be required, but are not specifically expressed herein, in order to provide a complete and fully functional facility and/or system.
- C. Definitions and roles and responsibilities can be found in Section **013100**.
- D. FRA Construction Management Office:
  - 1. Construction (Project) Manager: <name, email, phone number>
  - 2. Design Coordinator: <name, email, phone number>
  - 3. Construction Coordinator: <name, email, phone number>
  - 4. ES&H Coordinator: <name, email, phone number>

1.3 REFERENCES

- A. The publications listed below form a part of this subcontract to the extent referenced.
  - 1. Fermi Research Alliance, LLC General Terms and Conditions For Design Build Subcontractors at LBNF Far Site
  - 2. 013100 Environment, Safety, and Health Requirements
- B. The publications listed below form a part of this specification to the extent referenced.
  - 1. 013300 Submittals
  - 2. 014100 Quality Requirements
  - 3. 015100 Construction Waste Management Recycling
  - 4. 015200 Indoor Air Quality during Construction

- 5. 018100 DOE Guiding Principles
- 6. 018200 Commissioning Requirements

C. Drawings:

- 1. A101 Description of Drawing or state Not Applicable

#### 1.4 SITE LOCATION

- A. The Subcontractor shall confine all operations to areas authorized or approved by FRA and SDSTA. The Subcontractor shall hold and save FRA and the Government, its officers and agents, free and harmless from liability of any nature occasioned by the Subcontractor's performance.
- B. The project is located on the Sanford Underground Research Facility (SURF) Site, in the city of Lead, South Dakota.

#### 1.5 DESCRIPTION OF WORK

- A. The Subcontractor shall furnish all required supervision, labor, materials, tools, plant and appurtenances necessary to perform diligently and fully all work as described in the drawings and technical specifications. All work includes transportation, overhead, bonding costs, safety oversight, quality control oversight, and supervision as required to construct the project described in the drawings, technical specification and the detailed description contained herein.
- B. The Subcontractor's scope of work is not limited to the general work outline described below. The Subcontractor shall perform all work required to complete the construction work in accordance with the drawings and/or specifications. The description and quantities listed below are general in nature and are only intended to describe the range and complexity of this scope of work. The description and quantities provided below are not to be used as the basis for establishing a cost proposal. Specific quantities and definitions of the scope of work for providing proposals shall be based solely on estimates developed by the Offer from the drawings, specifications, and the information obtained from examining of the project site.
  - 1. Include major trades/discipline description of work. State if necessary if this is Base Proposal Includes.....

#### 1.6 MATERIALS & EQUIPMENT FURNISHED BY FRA and/or SDSTA

- A. State if or if not materials and equipment is anticipated to be furnished for this project.

#### 1.7 BUY AMERICAN ACT

- A. FRA maintains a preference for domestic construction material. In accordance with FRA Construction Subcontract Terms and Conditions, the following construction material or components are exempt from the Buy American Act.
- B. State if there are no exemptions for this project or if there are exemptions, detail them here.

## 1.8 SERVICES FURNISHED BY FRA and/or SDSTA

- A. FRA/SDSTA will furnish the services as described below:
1. Electrical Power: **Electrical power at 120v for hand tools will or will not be provided at the project site.**
  2. Drinking Water: **FRA or SDSTA will or will not provide drinking water for this project.**
  3. Toilet Facilities: **FRA or SDSTA will or will not provide toilet facilities for this project.**
  4. Utility Locates: Subcontractor will obtain locates of existing known utilities as defined in Section **013100** Articles 1.12 and 3.1. The Subcontractor shall excavate electrical, fiber optics, and gas utilities, in accordance with Section **013100** Article 1.12, paragraph A, 4.
  5. Hoists at the ROSS Shaft will be available for the movement of people, equipment, and material to underground spaces.
- B. SURF existing utility and building services shall be coordinated with the FRA Construction Coordinator:
1. FRA will de-energize and re-energized the existing Domestic Water System (DWS), Industrial Cooling Water (ICW), Low Conductivity Water (LCW), fire protection suppression system, electrical services entering facilities, and fire detection in the building(s) and/or underground space(s). These activities shall be coordinated through the FRA Construction Coordinator. The construction Coordinator shall be notified a minimum 48 hour prior to systems needing to be de-energized.
- C. FRA or SDSTA furnished services shall be coordinated with the FRA Construction Coordinator.
1. The FRA Construction Coordinator coordinates issuance of permits, reference Section **013100** for additional information;
  2. The FRA Construction coordinator or designee requests for and provides disablement of existing systems; Availability and use of existing SURF utility services will comply with Section **013100**.
- D. Electrical Power:
1. Article 1.8, paragraph A.1 above describes the electric power that will be furnished by SDSTA for the Subcontractor's use;
  2. Installation of the Subcontractor's electrical power distribution shall include ground-fault circuit protection and shall be subject to FRA approval;
  3. Any additional power required not specified shall be furnished and paid for by the Subcontractor.
- E. Drinking Water:
1. Article 1.8, paragraph A.2 above describes the drinking water that will be furnished by SDSTA for the Subcontractor's use;
  2. The FRA Construction Coordinator shall approve drinking water distribution containers. Water shall be adequate, clean and dispensed from a fully enclosed potable water container with individual paper drinking cups;
  3. The Subcontractor shall furnish and pay for any additional potable water required.

## F. Toilet Facilities:

1. Article 1.8, paragraph A.3 above describes the SURF toilet facilities that will be available for the Subcontractor's use;
2. When SURF toilet facilities are not available to the Subcontractor, the Subcontractor shall provide an adequately serviced chemical toilet for every twenty (20) personnel on the project;
3. The FRA Construction Coordinator shall approve of the toilet type and locations.

## 1.9 ITEMS AFFECTING WORK PLANNING

- A. Safety Representative: State: "Subcontractor Safety Representative is" or "is not required on the project." Reference Section **013100**, Article 1.15 for further information.
- B. Additional Training: Additional training provided by SDSTA and/or FRA other than the subcontractor's orientation as specified in Section **013100**, Article 1.17 for further information.
1. ODH training is required
  2. Or State, "No additional training is anticipated for this project."
- C. Erosion Control: State if Erosion Control is required on this project, if so, reference in accordance with Section **013100**. If no erosion control is required, then state, no erosion control is anticipated for this project as delineated in Section **013100**.
- D. Metal Recycling: Metals are acceptable for commercially recycling, reference Section **013100** for additional information.
- E. Waste Disposal: The Subcontractor is permitted to dispose of any regulated waste that is generated during the performance of this subcontract. However, the subcontractor is required to notify the FRA Construction Coordinator prior to the commencement of any regulated waste generation and off-site shipments of any waste materials destined for disposal.
1. State if regulated waste is expected to be encountered and if so, what kind. Ok, to say "No regulated waste is anticipated for this project."
- F. Reporting: Subcontractor shall submit recycling data from vendor, reference Section **013100** for additional information.
- G. Property Protection: State if the Subcontractor has to accommodate on-going operations, .e.g., covering and protecting equipment during painting.
- H. SURF On-Going Operations: State if the Subcontractor has to accommodate any on-going SURF operations, such as overhead crane access, access to existing mechanical or electrical equipment. Also state if the Subcontractor is responsible to provide covering or enclosure to protect existing equipment and employees as necessary. This whole paragraph may be omitted if it does not apply.

## 1.10 ELECTRONIC PROJECT DRAWINGS

- A. FRA may, at the Subcontractor's request and in accordance with technical specifications, release "electronic" project drawings, including 3D models, for use in

preparation of shop drawings by the Subcontractor or Sub-tier subcontractors or vendors.

- B. These electronic drawings will be distributed to the Subcontractor utilizing FRA's current file and media format.
- C. The project design drawings reflect the intent and scope of the project and general routing. The routing of utilities and building/facility services indicated on the design drawings is for providing proposal only. The Subcontractor and/or Sub-subcontractors are expected to make a site visit and make allowances for all necessary adjustments for the actual system installation and to examine physical conditions which may be material to the performance of his or her work, and coordinate the actual routing as necessary to accommodate the existing conditions, obstructions, and the work of other trades.

#### 1.11 PARKING AND STAGING AREA

- A. Parking of the Subcontractor's and the Sub-tier subcontractor's vehicles shall be confined to the Subcontractor's designated construction area or general public parking spaces.
- B. The Subcontractor shall provide and maintain temporary barricades, fences, or other means to delineate the construction limits, as required for the protection of public and FRA/ SDSTA employees. Provide signage at all entrances to the construction site with the Subcontractor's company's name and contact information. Signage shall include: Danger Construction Area, Do Not Enter. Visitors shall sign-in with the Subcontractor's representative and must be aware of the current hazards and conditions, and be escorted either by the Subcontractor or a representative of the Construction Management Office.
- C. The Subcontractor's parking and staging area is described in **as specific as possible. Include requirement if the staging area is to be fenced, where trailers can be located, etc.**
- D. No material shall be stored beyond the construction limits unless prior written arrangements have been made through the FRA Construction Coordinator.

#### 1.12 SITE ACCESS AND HAULING

- A. The Subcontractor shall, under regulations prescribed by FRA, use only established roadways and use such temporary roadways constructed by the Subcontractor when and as may be authorized by FRA. Where materials are transported during the course of the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicles or prescribed by any Federal, State or local community requirements or regulation. When it is necessary to cross curbs or sidewalks, the Subcontractor shall protect them from damage. The Subcontractor shall repair or pay for the repair of any damaged curbs, sidewalks or roads.
- B. SURF site access and hauling shall be subject to the following conditions:
  - 1. Electronic communication devices, such as cell phones, texting devices, laptops, etc. must not be used while driving any motor vehicle on SURF's site;

2. All roads shall remain open to emergency traffic at all times;
3. All equipment and vehicles shall be confined to operating along defined construction roads and approved access routes;
4. No overland hauling or off-road travel shall be permitted without prior approval of the FRA Construction Coordinator;
5. Interruption of normal traffic patterns or temporary road closings necessitated by movement of equipment or delivery of materials or utility installations shall require advance notice and shall require proper barricades, signage and flag persons to divert normal traffic safely;
6. Traffic on paved roads shall be restricted to rubber-tired vehicles. Where crawler mounted equipment is required to cross paved roads or areas, the pavement shall be suitably protected from damage to the satisfaction of the FRA Construction Coordinator;
7. Dust, debris mud, and litter on any SURF and public roads caused by the Subcontractor's operations shall be removed by the Subcontractor in a manner as directed by the FRA Construction Coordinator;
8. South Dakota's Rules of the Division of Motor Vehicles shall apply to the Subcontractor's use of all existing roads.

#### 1.13 TRANSPORTATION OF EQUIPMENT AND MATERIALS

- A. Other than hoisting services describe in Article 1.8, transportation of equipment and materials shall be subject to the following conditions:
  1. Transportation of equipment and materials used by the Subcontractor at the job site shall be furnished by the Subcontractor at his/her own expense;
  2. The Subcontractor shall be responsible for minimizing any interference with local traffic, other Subcontractors and SDSTA operations;
  3. The Subcontractor shall coordinate the anticipated schedule for major material deliveries and site hauling of excavated materials with the FRA Construction Coordinator.

#### 1.14 TEMPORARY SERVICES AND FACILITIES

- A. Temporary services and facilities shall be subject to the following conditions:
  1. Temporary services and facilities required during the construction period shall be furnished, installed, and paid for by the Subcontractor;
  2. All installations shall be subject to FRA approval;
  3. Temporary lighting shall be installed throughout the project to provide safe access and exit conditions and adequate lighting for the various work operations. The installation shall comply with the National Electrical Code (NFPA 70);
  4. Telephone/Internet service outside underground for the project will be provided by and paid for by the Subcontractor;
  5. Temporary fire protection shall be in accordance with the OSHA (29 CFR 1926);
    - a. An approved fire extinguisher shall be provided by the Subcontractor on all trucks and similar equipment, at all enclosures, and at on-site construction offices;
    - b. Each extinguisher shall be inspected monthly and a date tag certifying adequacy of the charge and workability of the extinguisher shall be affixed;



- c. The Subcontractor shall remove the temporary extinguishers at the conclusion of the job.
- B. Temporary ventilation shall be sufficient to provide a safe working environment for construction personnel, in accordance with OSHA 29 CFR 1926.57. Subcontractor shall provide exhaust and supply air fans, ducting and other equipment as needed.
- C. Temporary heating shall include heating devices, protective coverings and temporary enclosures as necessary to protect the work and to provide a safe working environment for personnel.
  1. Coal or kerosene type salamanders, pots or open fires shall not be permitted;
  2. Where permanent heating equipment has been installed and made operational prior to completion of the project, the Subcontractor may request temporary use of such equipment, at no cost, provided it is properly maintained by the Subcontractor and that all required warranties are extended to include the period of use by the Subcontractor prior to Final Acceptance of the project by FRA. Such equipment shall be turned over to FRA or SDSTA in like-new condition, including new filters and similar consumables.
- D. Temporary Drainage shall be sufficient to remove standing water and prevent flooding.
  1. Subcontractor shall furnish pumping equipment and other dewatering equipment as required for proper operation;
  2. Pump discharges from dewatering activities shall be intercepted by silt removal or sedimentation basins before being directed to natural drainage courses and away from adjacent work limits of other subcontractors.
- E. Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected or spaces established underground by the Subcontractor only with the FRA approval and shall be built with labor and materials furnished by the Subcontractor without expense to FRA. The temporary buildings and utilities shall remain the property of the Subcontractor and shall be removed by the Subcontractor at its expense upon completion of the work.

#### 1.15 SURF CLOSURE

- A. The SURF site is closed for major holiday and no construction activities shall occur, unless specifically approved by the FRA Construction Coordinator, on these days:
  1. New Year's Day – January 1<sup>st</sup>
  2. Dr. Martin Luther King Jr. Day – 1<sup>st</sup> Monday after January 15<sup>th</sup>
  3. President's Day – 3<sup>rd</sup> Monday in February
  4. Memorial Day – Last Monday in May
  5. Independence Day – July 4<sup>th</sup>
  6. Labor Day – 1<sup>st</sup> Monday in September
  7. Native American Day – 2<sup>nd</sup> Monday in October
  8. Veterans Day – November 11<sup>th</sup>
  9. Thanksgiving Day – 4<sup>th</sup> Thursday in November
  10. Day After Thanksgiving – Friday after Thanksgiving
  11. Christmas Eve (1/2 Day) – December 24<sup>th</sup>
  12. Christmas Day – December 25<sup>th</sup>
  13. New Year's Eve (1/2 Day) – December 31<sup>st</sup>



14. Plus, any administrative holidays proclaimed by the Governor of South Dakota (typically, days before or after official holidays leading into or out of weekends)

B. If any of these holidays occur on a weekend day, a weekday will be used for the holiday.

#### 1.16 MATERIAL SUBSTITUTIONS

- A. In accordance with FRA Construction Subcontract Terms and Conditions, products or materials that are equivalent of those specified will be considered for approval by FRA. The submittal procedure described elsewhere will be followed, with the following additional conditions:
  1. In addition to the required information for the proposed substitute material, the submittal shall contain the same information pertaining to the original specified product for purposes of comparison;
  2. The submittal shall explain fully the differences, if any, between the original specified product and proposed substitute product;
  3. Any change to the drawings or specifications for related work required for proper installation of the proposed substitute product shall be indicated in the submittal;
  4. If the proposed substitute product requires alterations of any kind to other equipment or construction, or necessitates any engineering design changes for its proper installation, such alterations and engineering design changes shall be accomplished at no cost to FRA;
  5. The substitute submittal must contain a statement detailing the cost and schedule impact of the proposed substitution;
- B. FRA is the sole judge of the acceptability of the proposed substitution.

#### 1.17 DOCUMENTATION

- A. The FRA Construction Coordinator may prepare weekly progress meeting minutes including on-going punch list items, ESH issues, corrective actions, and status of these items. These minutes will become part of the FRA project file. At the discretion of the FRA Construction Management Office, the weekly progress meeting may be reduced or eliminated depending on safety, quality, and schedule of the project.
- B. Quality Control Documentation reference article 3.3.
- C. On-going punch list: During the duration of the project, the FRA Construction Coordinator shall identify deficient items that do not adhere to the technical specifications/drawings. This list will be kept current through the duration the project by the Subcontractor's Field Superintendent and made part of the Weekly Progress Meeting Minutes. At a minimum, the subcontractor shall, within five (5) working days, submit a proposed corrective action plan that details the mitigation method including a schedule for the correction of the noncompliance. Reference Attachment B.
- D. Notification of punch list items: The FRA Construction Coordinator will notify the Subcontractor of deficiencies and/or discrepancies in the quality of the construction. These notifications will include:
  1. Date Identified;

2. Identifier;
3. Location;
4. Description, including specification or drawing reference.

E. As-Builts (Record Documents):

1. The Subcontractor shall maintain a set of prints, either electronically or paper, of the Subcontract drawings in the construction office at the project site;
2. A daily record, in red, shall be kept on these prints of the work installed with all modifications or changes thereon. This set of prints shall be available to FRA for inspection at all times and print copies provided upon request to FRA within 24 hours of the request being made;
3. The FRA Construction Management Office and the Subcontractor's Field Superintendent should review the as-built drawings prior to the Monthly Construction Schedule Updates described elsewhere, in order to determine if the as-built mark-up set is current and accurate. The processing of the monthly payment request is contingent of the up-to-date status of the as-built documentation;
4. Prior to Final Acceptance described elsewhere in article 3.4, the Subcontractor shall transmit the complete set of marked-up prints to FRA.
5. The Final Acceptance submittal shall include a statement from the Subcontractor that indicates that the work was installed as shown thereon;
6. Final Acceptance of the work is contingent on the receipt and approval of the complete as-built documentation in electronic format, acceptable to FRA.

F. Final Acceptance Documentation: Final Acceptance of the work is contingent on the receipt and approval of the following documentation:

1. As-built documentation as described elsewhere in the subcontract documents;
2. Shop drawing record set as described in (Specifications and Drawings for Construction) in accordance with FRA Construction Subcontract Terms and Conditions;
3. Warranty documentation;
4. Spare stock (materials or consumables), if required by the technical specifications/drawings;
5. Operations and Maintenance manuals.

#### 1.18 SUBCONTRACTOR'S REQUESTS FOR INFORMATION (RFI)

- A. When the Subcontractor is unable to determine from the Contract Documents, the exact material, process or system to be installed; or when the items of construction are required to occupy the same space (interference); or when an item of work is described differently at two places in the Contract Documents; or when other clarification is required; FRA shall be requested to make a clarification of the indeterminate or interfering item. The RFI procedure given shall be the method for requesting the clarification.
- B. RFIs shall be submitted on a form found in Attachment A or FRA approved Subcontractor's form. Each RFI shall be given a discrete, consecutive number. Each page of the RFI and of attachments to the RFI shall bear the RFI number and Project

number. Resubmitted RFIs with additional information shall be RFI number with a .01 prefix for the first resubmitted RFI, .02 for the second, etc.

- C. RFIs from sub-subcontractors shall be submitted through, reviewed by, given a number, and signed by the Subcontractor prior to submittal to FRA. The Subcontractor shall keep a log of the RFIs. RFIs submitted directly by sub-subcontractors would be returned unanswered to the sender and the Subcontractor. Subcontractor shall be responsible for delays resulting from the necessity to resubmit an RFI.
- D. Subcontractor shall review the subcontract documents to assure that the requested information is not available therein.
- E. In all cases where RFIs are issued to request clarification of coordination issues (e.g., pipe and duct routing, clearances, specific locations of work shown diagrammatically, apparent interference and similar items) the Subcontractor shall furnish all information required for FRA to analyze and/or understand the circumstances causing the RFI in order to prepare a clarification or direction as to how Subcontractor shall proceed.
- F. RFIs shall not be used for the following purposes:
  - 1. To request approval of submittals;
  - 2. To request approval of substitutions;
  - 3. To request changes which entail additional cost or credit;
  - 4. To request different methods of performing work than those indicated on the drawings and/or specified.
- G. In the event the Subcontractor believes that a clarification by FRA results in additional cost, Subcontractor shall not proceed with the work indicated by the RFI until authorized by FRA to proceed by an approved Change Order.
- H. FRA will return RFIs to the Subcontractor within ten (10) calendar days of receipt. RFIs received after 12:00 noon shall be considered received on the next regular work day for the purpose of establishing the start of the ten (10) calendar day response period.

## **PART 2 PRODUCTS - Not Used**

## **PART 3 EXECUTION**

### **3.1 NOTICE TO PROCEED**

- A. The Notice To Proceed (NTP) represents the basis of the start of the project duration. The following describes the requirements for the Notice to Proceed:
  - 1. The NTP is issued by the FRA Procurement Administrator;
  - 2. The issuance of the NTP establishes the start of work on the FRA job site.
- B. Submittals Required Prior to Notice to Proceed. Within ten (10) business days after subcontract award, the Subcontractor shall submit the following to FRA for acceptance. These items must be submitted and accepted by FRA prior issuance of Notice-To-Proceed (NTP).

1. Project Hazard Analysis (if NTP is waived, a project Hazard Analysis is still required prior to commencement of work);
2. Cost-loaded Construction Schedule;
3. Soil Erosion and Sediment Control Plan (if required in Article 1.9);
4. Project-specific Quality Control Plan (if required in Article 3.3);
5. Quality Control Plan (if required in Article 3.3);
6. Reference **013100** for ES&H Submittals.

### 3.2 CONSTRUCTION SCHEDULE

- A. This project includes the following milestones:
1. Milestone 0 – 0 Calendar Days - Notice to Proceed, This milestone marks the point where construction work may begin;
  2. Milestone 1 – XX Calendar Days – All material submittals;
  3. Milestone 2 – XX Calendar Days – Substantially complete, cooling water piping installed and tested and placed into operations.
  4. Milestone 3 – XX Calendar Days - Project Complete
- B. This Project Complete milestone marks the completion of the project including punch list items, clean-up and acceptance of as-built drawings and if required, submittals.
- C. Weekly progress meetings will be held, unless the FRA Construction Management Office reduces or eliminates the progress meetings, to coordinate the work with Subcontractor and FRA. The roles and responsibilities of the participants for this meeting are as follows:
1. FRA Construction Coordinator:
    - a. Responsible for chairing the weekly progress meetings;
    - b. Responsible for meeting documentation;
    - c. Identification of the work completed since the previous progress meeting;
    - d. Identification of deficiencies in the quality of construction.
  2. FRA ES&H Safety Coordinator:
    - a. Responsible for discussion on corrective action and preventative actions on ES&H items;
    - b. Can provide guidance on safe work practices and answer questions related to ES&H by the subcontractor.
  3. FRA Design Coordinator or FRA Construction Coordinator:
    - a. Submittal status;
    - b. Status of Request for Information.
  4. FRA Procurement Administrator
    - a. Provide status on any sub-contractual changes;
    - b. Any administration concerns related to the subcontract.
  5. Subcontractor's Project Manager and/or Field Superintendent:
    - a. Prior to the weekly progress meeting, the Subcontractor shall submit a "two week look ahead" schedule that will present the status of activities that are currently in progress or expected to begin within two (2) calendar weeks from the date of the weekly progress meeting;
    - b. Subcontractor's Environment, Safety and Health observations;
    - c. Submit Quality Control documents (if required by article 3.3);

- d. Status of deficiency list of those items of the work that do not conform to the subcontract documents;
  - e. Providing a summary of the work-hours worked during the previous week;
  - f. Identification of any impact to the project cost or schedule due to the activities of SDSTA or FRA;
  - g. Identification of any work activities commenced or expected to commence that are outside the scope of the subcontract.
- D. Monthly construction schedule update meetings shall accurately reflect the execution of the project. This is a requirement for payment. The construction schedule update shall include the following:
- 1. Actual start and completion dates for activities that finished during the update period;
  - 2. Percent complete and predicted completion date for those activities that are in progress;
  - 3. Any necessary changes to the schedule required to accurately reflect the actual sequence of work;
  - 4. Clear identification of the critical path work activities and logic ties;
  - 5. The FRA Construction Coordinator and the Subcontractor shall jointly review all construction schedule updates prior to formal submittal;
  - 6. The date of the update will be selected by FRA to coincide with accepted FRA financial accounting periods;
  - 7. The construction schedule shall reflect all subcontract changes that have been issued via supplemental agreement;
  - 8. A revision summary of the changes shall be maintained on the schedule;
  - 9. The Subcontractor shall submit a Schedule Variance (SV) report when any of the projected FRA specified milestones are behind schedule by more than 5% (SV=0.95 or less) of the total remaining project schedule. This report shall identify those activities that are contributing to the schedule variance;
  - 10. When the construction schedule indicates that a FRA-specified milestone will be late by more than 5% of the total remaining schedule the Subcontractor shall submit a recovery schedule that will mitigate the schedule variance. This recovery shall identify those activities that are contributing to the schedule variance and the actions the Subcontractor is proposing to mitigate.

### 3.3 QUALITY CONTROL AND CONTROL OF INSTALLATION

- A. The Subcontractor is responsible for all activities necessary to manage, control, and document that work complies with the Subcontract documents. The Subcontractor's responsibility includes ensuring adequate Quality Control services are provided for work accomplished on- and off-site by his/her organization, suppliers, sub-tier contractors, technical laboratories, and consultants.
- B. The work activities include safety, submittal management, testing and inspection, and all other functions relating to the requirement for quality construction. Subcontractor is responsible to respond to Non-Compliance Notices that may be issued by the Subcontractor or by FRA. Further, the Subcontractor shall contain procedures for tracking construction deficiencies from identification through acceptable corrective

action. The Subcontractor shall track and log deficiencies on form found in Attachment B or FRA approved Subcontractor's form.

- C. Subcontractor shall perform periodic inspection for potential suspect counterfeit materials. The most common suspect counterfeit materials found at US Department of Energy facilities have been threaded fasteners fraudulently marked as high strength bolts. Also included are electrical circuit breakers with false certifications. If the subcontractor suspects any counterfeit material being utilized, contact the Construction Coordinator immediately.
- D. If required by article 1.3, reference Section **014100** for additional quality requirements.

### 3.4 ACCEPTANCE

- A. Beneficial Occupancy: An interim inspection process used when FRA assumes responsibility for portions of the work. The following details concern Beneficial Occupancy:
  - 1. The Subcontractor shall provide a 10-day notice to the FRA Construction Coordinator before this inspection is performed;
  - 2. The Subcontractor's deficiency list with status noted shall be attached to the Beneficial Occupancy documentation;
  - 3. The FRA Construction Coordinator will complete the Beneficial Occupancy form;
  - 4. For further information, reference (Use and Possession Prior to Completion) of FRA Construction Subcontract Terms and Conditions.
- B. Final punch list Inspection: An inspection of the uncompleted items of the subcontract documents. The following describes the punch list process:
  - 1. When the Subcontractor believes the work is substantially complete, the Subcontractor shall update the deficiency list for presentation to the FRA Construction Coordinator;
  - 2. The Subcontractor shall provide a 10-day notice to the FRA Construction Coordinator in order to make arrangements for the final inspection of the construction project with FRA personnel;
  - 3. The FRA Construction Coordinator will arrange for a final inspection visit of FRA stakeholders to verify the accuracy of the Subcontractor's deficiency list and to add, as necessary, those items of work that are not complete;
  - 4. The FRA Design Coordinator will develop a comprehensive punch list and issue it to the Subcontractor after the final inspection;
  - 5. The Subcontractor and the FRA Construction Coordinator will sign off on the completion of each punch list item.
- C. Final Acceptance: This inspection will document the completion of the project scope. The following describes this process:
  - 1. The Subcontractor shall provide a five (5) day notice prior to the Final Acceptance inspection;
  - 2. The Subcontractor shall submit documentation that the work associated with the punch list is complete;
  - 3. The FRA Construction Coordinator will coordinate the final inspection walkthrough with FRA stakeholders;
  - 4. The FRA Construction Coordinator will develop and issue the final acceptance documentation when the punch list items have been completed.

**END OF SECTION**



**ATTACHMENT A**



## REQUEST FOR INFORMATION

Date:

|               |               |
|---------------|---------------|
| Project Name: | RFI No.:      |
| To:           | Project No.:  |
| Subject:      | Submitted By: |

|             |               |            |         |
|-------------|---------------|------------|---------|
| Spec.. No.: | Article/Par.: | Drwg. No.: | Detail: |
|-------------|---------------|------------|---------|

Request:

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Response:

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**ATTACHMENT B**



**QA/QC Punch List Item Status**

| Item# | Room/<br>Location | Description | Author<br>Initials | Subcontractor<br>Responsible | Date<br>Inspected | Date Due | Date<br>Completed | Subs<br>Initials | Closed/<br>Confir<br>med By | Notes |
|-------|-------------------|-------------|--------------------|------------------------------|-------------------|----------|-------------------|------------------|-----------------------------|-------|
| 1     |                   |             |                    |                              |                   |          |                   |                  |                             |       |
| 2     |                   |             |                    |                              |                   |          |                   |                  |                             |       |
| 3     |                   |             |                    |                              |                   |          |                   |                  |                             |       |
| 4     |                   |             |                    |                              |                   |          |                   |                  |                             |       |
| 5     |                   |             |                    |                              |                   |          |                   |                  |                             |       |
| 6     |                   |             |                    |                              |                   |          |                   |                  |                             |       |
| 7     |                   |             |                    |                              |                   |          |                   |                  |                             |       |
| 8     |                   |             |                    |                              |                   |          |                   |                  |                             |       |
| 9     |                   |             |                    |                              |                   |          |                   |                  |                             |       |
| 10    |                   |             |                    |                              |                   |          |                   |                  |                             |       |
| 11    |                   |             |                    |                              |                   |          |                   |                  |                             |       |
| 12    |                   |             |                    |                              |                   |          |                   |                  |                             |       |
| 13    |                   |             |                    |                              |                   |          |                   |                  |                             |       |
| 14    |                   |             |                    |                              |                   |          |                   |                  |                             |       |
| 15    |                   |             |                    |                              |                   |          |                   |                  |                             |       |

| <b>QA/QC Punch list Items Status</b> |                           |                     |                       |                 |                |
|--------------------------------------|---------------------------|---------------------|-----------------------|-----------------|----------------|
| <b>&lt;Subcontractor&gt;</b>         | <b>Assigned<br/>Items</b> | <b>Closed Items</b> | <b>Open<br/>Items</b> | <b>% Closed</b> | <b>% Open</b>  |
|                                      | <b>0</b>                  | <b>0</b>            | <b>0</b>              | <b>#DIV/0!</b>  | <b>#DIV/0!</b> |
| <b>Totals</b>                        |                           |                     |                       |                 |                |
|                                      |                           |                     |                       |                 |                |