SUBCONTRACTOR SAFETY- OTHER THAN CONSTRUCTION

INTRODUCTION

Subcontracted activities in many instances are routine, low hazard activities that do not need much in the way of analyzing hazards (e.g. copier repair, consulting services, some repair activities and office work). There are subcontract activities that have potential exposure to hazards that require additional planning. It is necessary to look at both the scope of work and the environment where the work takes place. For example, copier repair work in itself may be a low risk activity unless it occurs in a building where cryogenics are used or stored, where their release may cause an oxygen deficient atmosphere.

This chapter establishes a set of procedures that help to minimize the risk of injury to subcontractors by implementing integrated safety management protocols that consider the worker, the environment and the activity and then place controls to mitigate hazards. These procedures guide employees involved in requisitioning and directing the work through a process that places safety planning and hazard control at the same level as productivity and quality.

APPLICABILITY

This chapter applies to subcontractors performing work that involves an activity other than construction. If the work involves construction activities, it is covered by FESHM 7010 for fixed price subcontractors, and FESHM 7011 for Time and Materials subcontractors.

DEFINITIONS

Construction - Any combination of engineering, procurement, erection, installation, demolition, or fabrication used to create a new facility or to alter, add to, rehabilitate, dismantle, or remove an existing facility. It also includes the alteration (including dredging, excavating, and painting) of buildings, structures, or other real property, as well as any construction and excavation activities conducted as part of environmental remediation efforts. Construction does not involve the manufacture, production, finishing, construction, alteration, repair, processing, or assembling of personal property.

Hazard Analysis (HA) - The process by which hazards are identified for anticipated phases of work, and the work processes to be used to eliminate or reduce those hazards

and/ or the employee exposure.

Imminent Danger - Any condition or practice that could reasonably be expected to cause death or serious physical harm (permanent or prolonged impairment of the body or temporary disablement requiring hospitalization) to employees or the public unless immediate actions are taken.

Landlord – The division/ section responsible for the space.

Other Than Construction - Activities that clearly fall out of the definition of construction activity.

Procurement Administrator - The procurement department representative, with Laboratory signature authority, who is responsible for the negotiation and administration of subcontract terms and conditions.

Senior Safety Officer *(*SSO*)* – A designated individual who is assigned duties as the principal advisor to the division/ section head and a consulting resource for division/ section personnel on safety and environmental matters based on demonstrated knowledge, skills, and experience in these fields.

Service Coordinator - The Laboratory employee who is the point of contact between the service provider and the Laboratory. The requester of services and the service coordinator may be the same person.

Site Specific Planning Meeting - The meeting held by the service coordinator to review the hazard analysis prior to commencement of work.

RESPONSIBILITIES

Division/ Section Head

- Ensure the requirements of this chapter are implemented within their area of responsibility.
- Assign a qualified service coordinator.
- Maintain project documentation for a period of six (6) years from project completion date.

Environment, Safety and Health Section

- Provide subcontractor safety orientation and assists the service coordinator by providing training and technical advice when requested.

Requisitioner

- Prepares a scope of work that clearly describes the job and classifies the work under the criteria provided in Table 1 – Potential Hazards Guideline.
- Adds the information required in paragraph 11 of Exhibit A and attaches the Exhibit to the requisition. Exhibit A is found at the end of this chapter.

Senior Safety Officer

- Reviews purchase requisitions for identification of safety requirements.
- When requested, assists the service coordinator with the review of the hazard analysis.
- Reviews and approves the work permit and notification form (see FESHM Chapter 2020).
- Provides technical support and oversight.

Service Coordinator

- Reviews the safety plans and hazard analysis submitted by the subcontractor for acceptance and advises the Procurement Administrator, in writing, that the safety plan and/ or hazard analysis is accepted for use.
- Oversees that the subcontractor work activities are in compliance with the subcontract requirements, including the ES&H requirements. Insures that as conditions change through the life of the subcontract, or within a specific work activity, the same level of rigor for planning, approval, and oversight is maintained as would have been required for a new subcontract activity.
- Obtains necessary permits and distributes them.
- Reviews incident reports submitted by the subcontractor.
- Acts as the liaison between Laboratory organizations and the subcontractor.
- Coordinates orientation training for subcontractor employees: Fermilab site training (ES&H video) and job specific orientation.
- Coordinates the Site Specific Meeting.
- Notify the subcontractor in a timely manner of uncorrected deficient or non-compliant work or safety violation using the Subcontractor ES&H Stop Work Order (Form #5) found in FESHM 7010, with a copy sent to the Procurement Administrator.

- Reviews change orders for applicable HA revisions, as may be required.
- Completes the SubContractor Performance Evaluation Form found at the end of this chapter and submits to the Procurement Administrator.

Procurement Administrator

- Screens the requisition for completeness.
- Obtains the corporate safety plan from service providers whose contract exceeds $100,000 in value.
- Forwards the safety plans and hazard analysis to the service coordinator for review and acceptance.
- Drafts and sends a letter of recognition based on the recommendations submitted by the service coordinator in the "SubContractor Evaluation Form- Service found at the end of this chapter.
- Coordinates the subcontractor performance evaluation process.
- Notifies the subcontractor of issues and concerns.

PROCEDURE

Service Requisition Preparation

The service requester will complete a requisition for services that includes a detailed scope of work, or the performance objective, and clearly identifies the service coordinator within the "DESCRIPTION" section of the purchase order.

Service Requisition Processing

The division/ section will perform a safety review/ approval. The D/ S review should include:

- The nature and complexity of the work and the associated hazards. The subcontract Terms and Conditions shall indicate if Fermilab-provided ODH or Radiation Worker training is required.
- Other conditions which may enhance safety of operations.

This review is aimed at verifying that the clauses stipulated by the requisitioner are applicable and also serves as quality assurance for thoroughness in the description of the scope of work and subcontract clauses.

Service Coordinator Training

Divisions/ Sections shall designate Service Coordinators based upon individual knowledge, skill, ability, and experience, and the associated nature and complexity of the service work activity. An optional-course covering procedures for administering Service Subcontracts is available, and highly recommended for all individuals involved in regular or recurring service contract oversight. Course FN000319 subjects include identification of hazards, requirements for hazard analysis, subcontractor training, and work activity documentation.

Subcontractor Training and Documentation

All service subcontractor companies shall maintain records of training completed by all personnel working on the Fermilab site. Training needs shall be based upon statutory requirements, Fermilab requirements, the nature and complexity of the work, and/ or the associated hazards. These training records will be subject to audit and verification by Fermilab. Training records for certain high hazard activities will be inspected prior to exposing employees to the respective hazard. These activities include, but are not limited to:

- Entry into a permit-required confined space (Training provided by subcontractor)
- Entry into a facility or area classified as an Oxygen Deficiency Hazard (Training provided by Fermilab)
- Entry into a radioactive or controlled work area (Training provided by Fermilab)
- Use of respiratory protection (provided by the subcontractor – verify medical clearance, fit testing, and training)

Subcontractor Safety Plan and Hazard Analysis

The Exhibit A attached to the subcontract shall require a safety plan from the service subcontractor whose scope of work exceeds a dollar value of $100,000.

A hazard analysis (HA) shall be prepared for work activities fitting the hazard screening criteria of Table 1. The service coordinator has the authority to request an HA if, in their opinion, the work and the environment where the service is to be performed introduces complexities or other hazards not otherwise covered in Table 1. Use the Hazard Analysis Form found in FESHM 2060 for this purpose (http:/ / www-esh.fnal.gov/ FESHM/ 2000/ 2060_FormHA.doc).

The procurement administrator will forward the safety plan and hazard analysis to the service coordinator for review and acceptance.

When either a written safety plan or a written HA is required, it shall be accepted before work is allowed to proceed. All safety plans and hazard analysis records are required

to be retained by the division/ section for six (6) years from the completion of the project.

Work Notification Form

The service coordinator will complete a work notification form to notify the affected division/ section and affected parties that work is to start.

Work Planning, Briefing and Orientation

All subcontractor employees shall attend Fermilab subcontractor orientation once every two years. The orientation is available daily in Wilson Hall. The division/ section may waive the requirement for ~~a~~ subcontractor orientation based upon a review of the potential hazards associated with the specific service provided.

In conjunction with the bi-annual orientation, or at the commencement of a new or different type activity, the service coordinator shall conduct a site-specific briefing with the subcontractor employee/ s. This briefing will include a review of the work process and an analysis of the associated hazards (HA), procedures concerning fire, tornadoes, medical emergencies, handling of spills, and other pertinent site or building-specific information. The service coordinator will document the briefing and obtain signatures of the participants acknowledging the briefing and, if required, the review of the HA.

Safety Violation Program

Service coordinators are expected to monitor the subcontractor to ensure their safety program is effective. Fermilab personnel will document safety violations observed in the field to support actions under the terms of the subcontract. The Fermilab Services Subcontract Terms and Conditions provides contractual support for Fermilab actions from suspension for a period of days up to, and including, immediate requests to leave the Fermilab premises. Use form #5- Subcontractor ES&H Stop Work Order found in FESHM 7010 to notify the subcontractor and the procurement administrator of uncorrected, deficient or non-compliant work or safety violations.

Change Orders

When a scope change order occurs, additional hazards may be introduced. This may require a revision to the hazard analysis, and the associated Fermilab review and acceptance.

Loaning of Fermilab Tools and Tool Inspections

Fermilab does not loan tools and equipment unless the tools or equipment is specifically authorized in the contract documents. Excluded from this policy are non-powered hand held tools and lockout/ tagout locks and tags.

Conditions may arise where a service coordinator finds it absolutely necessary to loan a tool or piece of equipment. In these instances, the tool or equipment may be loaned but

under very strict conditions. To loan a tool or equipment:

a. There must be a compelling reason.

b. The subcontractor and the service coordinator must inspect the item loaned.

c. The subcontractor employee using the tool or equipment must certify that he/ she has had training in the use of the tool or equipment.

d. The subcontractor superintendent releases Fermilab of any liability if an injury occurs to the subcontractor employee while using the tool or equipment owned by Fermilab.

e. The subcontractor superintendent accepts the tool for the intended use.

ES&H Form #20 at the end of this chapter shall be used for this purpose. The original of the form will be sent to the procurement administrator for filing after the tool is returned to Fermilab control. A copy of the completed form will also be sent to the T&M Manager in the case of T&M contracts. The original form will be maintained in the procurement subcontract file for six (6) years.

Delivery Personnel

Delivery personnel are required to use personal protective equipment applicable to their own activities. Fermilab will provide an ES&H information sheet to subcontractor superintendents for distribution to delivery personnel. This information sheet outlines site-specific warning signals, contacts and telephone numbers if ES&H support is needed.

Emergency Services

On occasion, it is necessary for subcontractors to provide emergency services on site. Time may not allow the subcontractor to submit a safety program. The subcontractor may be permitted to provide the service after completing a hazard analysis and submitting it to the service coordinator. This may be accomplished in the field with the subcontractor and the service coordinator or by another responsible Fermilab employee who is familiar with the scope of work. The subcontractor must agree to comply with Fermilab ES&H regulations for the duration of the contract. Under no circumstances shall an emergency serve as exemption for compliance with safety requirements.

Inspection of Service Work Activity

The service coordinator is responsible for conducting inspections of the work activity and monitoring the subcontractors' performance to verify compliance with OSHA regulations, the subcontractor's safety plan, and adherence to the hazard analysis. The frequency of these visits should be sufficient to regularly identify and correct safety concerns.

The division/ section SSO may also perform oversight inspections of service sites.

Stop Work Activity Authority

Fermilab employees have the authority to stop contracted activities if an imminent danger condition is noted or perceived. If the hazard cannot be abated quickly in the field, or agreement reached to stop the activity until the hazard is abated, then the associated activity will be stopped and documented using the Subcontractor ES&H Stop Work Order Form (ESH Admin Form #5). Refusal by the subcontractor to stop the work activity when requested may result in disciplinary action. It must be noted that the stop work activity authority is to stop a specific activity within a project and not an entire project.

Authority to restart an activity after a formal Stop Work Order has been issued resides with the division/ section head. The Subcontractor ES&H Stop Work Order (ESH Admin Form #5) will be used to restart work.

Just as Fermilab employees have a duty to safely resolve dangerous conditions so does subcontractor employees. They should address this duty in their subcontractor safety plan.

Accident Investigation and Reporting

All accidents and near misses will be reported to the service coordinator who will in turn notify the division/ section SSO. Subcontractors are expected to conduct a thorough investigation and submit a report within two working days of the accident or near miss. The subcontractor will use their own internal accident/ incident report forms. The subcontractor will identify root causes and corrective action in the report. The service coordinator shall have the report submitted to the procurement administrator for filing and a copy to the division/ section SSO for entry into CAIRS.

Table 1- Potential Hazards Guidelines*

These are guidelines for determining when a written-hazard analysis is necessary.

They are intended to be used as guidance and not to limit sound professional judgment.

Category	*High-Level Hazard*
Radiological Work	• *Potential for radiological contamination *(FRCM Article 322)* • *Work in "High Radiation Area"*(FRCM Article 322)* • *Potential for spills*
Electrical work	• *Work activities near or on exposed electrical conductors, circuits, or equipment that are or may be energized and where there is a significant and unmitigated exposure to electrical shock or a significant potential for arcing, flash burns, electrical burns, or arc blast* (FESHM 5042)*
Confined Space Work	• *Permit required confined space entry*(FESHM 5063) where and when hazards cannot be adequately addressed in the permit*
Crane & Hoist Usage	• *Load requires exceptional care in handling because of size, shape, weight, close-tolerance installation, high susceptibility to damage, or other unusual factors*
Excavation and digging	• *Digging or excavating in area where the potential exists for encountering buried utilities* (FESHM 7030)* • *Employees entering excavation/trench that is $\geq$ 4 feet in depth*
Hazardous substances & regulated pollutants	• *Potential for release of hazmat on-site in quantities > 50% of "Reportable Quantities" (40 CFR 302 and 40 CFR 355)* • *Potential for release of 42 gallons or more of petroleum, fuel oil, oil refuse, and oil mixed with wastes (FESHM 3050)*
Chemical Usage	*Use of materials that are flammable, combustible, corrosive, reactive, toxic, caustic, poisonous or any material that because of the quantity and/or manner it is being used is hazardous to the health of the worker*
Respiratory and Hearing Protection	*Work requiring hearing or respiratory protection due to exceedance of Permissible Exposure Limits (FESHM 5061 and 5103)*
Hazardous Substance Abatement Activities	*Work involving abatement of asbestos, lead, PCBs, or mercury*
Cryogenic Systems	• *Potential for exposure to reduced atmospheric oxygen* • *Working on cryogenic systems*
Magnetic Fields	• *Potential for exposure in excess of action limits established in FESHM 5062.5*
Lasers	• *Use of Class IIIB or IV lasers (FESHM 5062.1)*
Working at heights	*Fall potential is > 6 feet, and additional fall protection is required*

Category	*High-Level Hazard*
Other	• *Working with systems or equipment which are pressurized > 15 psig* • *Working with vacuum vessels (FESHM 5033)* • *Work requiring welding, brazing, or open flames** • *Potential for inadvertent startup of equipment* • *Potential for unexpected release of energy (hydraulic, pneumatic, thermal, potential, etc.) where lockout/tag out is required.* • *Multiple organizations participating* • *Potential for job-induced alertness reduction (e.g., long hours, short deadlines)*

**If the work activity involves the use of a permit or standard operating procedure that completely addresses all the hazards of the job, an additional written hazard analysis is not necessary. Examples of this could include lockout/tagout procedures, Radiation Work Permit, confined space permit, excavation permit, and electrical hot work permit.*

Exhibit A- For Service SubContracts

(Insert the information required in paragraphs 11.1 and 11.2 and attach a copy to all service requisitions)

1.0 SUBCONTRACTOR ES&H PROGRAM

The Subcontractor has primary line responsibility for providing a safe working environment for its employees. He/she shall provide overview on the program's effectiveness and take appropriate corrective actions. The Subcontractor has responsibility to ensure any sub-subcontractors also comply with the Subcontractor's Environment, Safety & Health program and the requirements of this exhibit. **The Subcontractor must comply with all applicable portions of 29 CFR 1910 and 29 CFR 1926.**

The Subcontractor shall have an ES&H program that is commensurate with the complexity and nature of the work activities. On all subcontracts greater than $100,000 the subcontractor shall submit to the Laboratory for review and acceptance a copy of its ES&H program description. The program description ("ES&H Plan") shall be submitted within 10 calendar days of award of subcontract. The Subcontractor's ES&H program should encompass all applicable aspects of 29 CFR 1910, "OSHA Safety and Health Standards for General Industry". In addition, the plan should describe the following elements:

1.1 Management Commitment and Leadership
- (a) Subcontractor's policy regarding ES&H goals and how these goals are communicated to the employees;
- (b) Management commitment of resources to adequately implement the program;
- (c) Participation of management in safety meetings, inspections, and documentation;
- (d) How ES&H rules are incorporated into site operations; and Enforcement and disciplinary procedures.

1.2 Assignment of Responsibility
- (a) Management responsibility for ES&H;
- (b) Responsibilities, knowledge and authority of supervisor and competent persons; and
- (c) Employee responsibility.

1.3 Training
- (a) General requirements;
- (b) Supervisor and Competent Person training;
- (c) New employee training;
- (d) Hazard specific training;
- (e) Safety Meetings; and
- (f) Documentation of training.

1.4 Basic Safety and Health Provisions
- (a) Emergency actions;
- (b) Recordkeeping and reporting of injuries;
- (c) Housekeeping;
- (d) Hazard Communication Plan;
- (e) Personal Protective Equipment; and
- (f) Fire protection and prevention.

1.5 Hazard Assessment Process
- (a) How hazards are identified and analyzed;
- (b) Preventive controls; and
- (c) Inspections.

1.6 Waste Handling and Disposal
- (a) Characterization of waste;
- (b) Packaging and Labeling requirement; and
- (c) Assurance that appropriate transportations and handling facilities will be used.

1.7 Other Programs dictated by Scope of Work (e.g. LOTO, Confined Space, Hearing Conservation

2.0 HAZARD ANALYSIS (HA)

A Hazard Analysis (HA) may be required for activities that are considered "high risk". An HA details the specific hazards associated with the work activities and mitigating actions (including PPE inaccordance with OSHA and NFPA) that the subcontractor will take to reduce or eliminate the risk of injury. Material Safety data Sheets (MSDS) and any specific procedures (confined space, LOTO) are to be submitted as part of this HA. The HA shall be submitted for Fermilab review and acceptance prior to commencement of work. Each employee will acknowledge reading and understanding the HA by placing his/her signature on the signature page. The HA is a dynamic document which will require modification as the project moves from start to finish. As the HA is updated, the employees must be advised of the new information.

3.0 STOP WORK ACTIVITY

Any Fermilab employee may stop a work activity if there is imminent danger of serious injury, fatality, or major environmental release. Work will not be permitted to continue until the hazardous situation has been eliminated.

4.0 FERMILAB SERVICE COORDINATOR (FSC)

The Fermilab Service Coordinator shall be the first line of contact with the Subcontractor's field personnel. He/she is responsible for auditing to assure that the Subcontractor is following established and accepted ES&H practices while on site.

5.0 COMPETENT PERSONS

The Subcontractor shall ensure that there is a Competent Person available on site at all times when work is in progress. The Competent Person shall have the knowledge of OSHA standards and other safety related work practices and procedures.

6.0 REPORTING REQUIREMENTS

(a) All accidents or emergencies occurring at the Laboratory site must be report immediately by dialing extension 3131 from a Laboratory phone or 630-840-3131. The accident must be reported immediately to the FSC.
(b) The Subcontractor shall investigate all accidents. When required by the FSC, a report must be submitted within 2 days of the accident.
(c) A summary of the total man-hours worked on the project shall be submitted to the FSC on a monthly basis.

7.0 SUBCONTRACTOR SAFETY AND HEALTH RECORDS

Subcontractors shall maintain and provide to Fermilab upon request, any and all applicable occupational safety and environmental records. Such records include, but are not limited to, the records required to be maintained by federal/state regulations, OSHA injury/illness logs, training records, inspection records, safety meetings, and accident investigation.

8.0 SUBCONTRACTOR TRAINING

(a) All Subcontractors performing work at Fermilab shall provide to their employees all necessary ES&H training as may be required by Federal/State regulations and as appropriate for their activities at Fermilab. Fermilab will provide appropriate training for site hazards that are unusual for the trade of the subcontractor's employees, such as training to conduct work in radiation areas or in oxygen deficient areas.
(b) All Subcontractors working at Fermilab who will not be escorted by a full-time Fermilab Employee must attend Subcontractor Orientation (1/2 hour). All subcontractor employees will receive a card documenting attendance. This training must be repeated every two years.
(c) The Subcontractor is responsible for assuring that their employees who do not speak English understand all ES&H requirements. The subcontractor must be able to communicate emergency instructions to those employees.

9.0 WORK SITE CONDITIONS

9.1 Fermilab Construction Permits

Fermilab conducts work through the use of on-site permits. All required permits will be identified by the FSC who will arrange for all necessary Laboratory permits. No work activity shall be performed without the required permits. No alarms, safety devices, etc. will be disabled without prior approval of the FSC. The Subcontractor shall make a specific request to the FSC at least 48 hours before disablement. Activities requiring permits include but are not limited to: work notification, electrical work, hot work, excavation, burning/welding, modification to drinking water systems, bringing radioactive sources on site, working with/on radioactive material, working in radiological areas, and moving government or Fermilab property off site. The Subcontractor will comply with all restrictions or provisions listed on permits.

9.2 Electric Power

The Subcontractor shall provide and pay for telephone service for his requirements. Fermilab will furnish electric power at 480Y/277V and/or 208Y/120. The Subcontractor will pay cost of connection to this power source. Installation of the Subcontractor's electrical distribution will be subject to the approval of Fermilab.

9.3 Transportation of Equipment and Materials

The Subcontractor shall transport all equipment and materials to the job site at his own expense. HE shall be responsible for minimizing any interference with local traffic or Fermilab operations.

9.4 Access and Traffic Ways

(a) Access to the work shall be via Main Roads only. Traffic on all paved roads shall be restricted to rubber-tired vehicles only.
(b) The Subcontractor shall repair at his expense any damage due to his operations to existing structures such as culverts, fencing and barricades. The Subcontractor to the satisfaction of Fermilab shall remove debris or litter on any roads caused by the Subcontractor's operations immediately. Applicable safety standards shall apply to the use of all existing roads.

9.5 Temporary Heat

The Subcontractor shall provide and pay for installation of temporary heating facilities, fuel, protective coverings and enclosures as necessary to protect the work. Coal or kerosene type salamanders, pots and open fires will not be permitted.

9.6 Temporary Lighting and Ventilation

The Subcontractor shall install and maintain temporary lighting and ventilation throughout the project to an extent that permits craftsmen to work without compromise of safe working conditions.

9.7 Water and Sanitation

Industrial water (non-potable) is available at hydrants adjacent to the site. See the Fermilab Service Coordinator for arrangements for their use. Domestic water (potable) is not available for drinking purposes. Subcontractor will be required to furnish drinking water and portable sanitation facilities for his employees.

9.8 Hazardous Materials

Any substance which by reason of being explosive, flammable, poisonous, corrosive, oxidizing, irritating or otherwise harmful, or is likely to cause death or injury shall be considered a hazardous material. The use of hazardous material shall be identified in the Subcontractor's HA and approved by the Fermilab FSC before use.

9.9 Excavation

No excavations shall proceed without an excavation permit. The Subcontractor shall request an excavation permit through the FSC at least 48 hours prior to commencement. The Subcontractor shall identify to Fermilab their Competent Person as defined in 29 CFR 1926.650(b). The Excavation Permit will be attached to the HA. Fermilab shall locate existing known hidden utilities. This locating service does not relieve the Subcontractor of his responsibility to use proper excavating techniques to find hidden utilities.

9.10 Confined Work Spaces

(a) The FSC will identify all existing confined workspaces including hazards and entry operations to the subcontractor.
(b) If a subcontractor is required to enter a permit-required confined space as part of their contract with Fermilab, the Subcontractor shall provide the FSC with following at least 1 week prior to entry:
    i. A written copy of their confined space entry program and permit.
    ii. Training records for entrants, attendants, and supervisors.
    iii. Evidence that all air monitoring equipment is properly calibrated.
(c) The subcontractor must provide all of their own personal protective equipment (PPE), such as lifelines, harnesses, respirators, tripods, ventilators, etc.
(d) The FSC shall be informed prior to entering the space including any specific permit space procedures the subcontractor will follow.

9.10 Continued

(e) Once the work is completed, a copy of the subcontractor's confined space permit shall be provided to the FSC annotated, if unplanned hazards were encountered.

9.11 Work on Existing Utilities

(a) No work shall be performed on existing in-service piping systems without prior approval and coordination of the system outage by the FSC. Requests for such outages shall be made at least 48 hours in advance. Pressure shall be relieved on all piping systems before opening up and starting work. Lockout/Tagout shall be used by the subcontractor for al valves, blank-offs and relief lines.
(b) Work on existing utilities and any testing shall be included in the HA.
(c) No work shall be permitted unless specified by the job and specific procedures have been submitted and accepted by Fermilab.

9.12 Personal Protective Equipment (PPE)

The subcontractor must provide to his/her employees all required PPE and monitor to worksite to assure employees are wearing the required PPE. PPE must be in accordance with OSHA and NFPA.

9.13 Burning/Welding/Brazing

(a) A permit is required before a subcontractor may burn/weld. The FSC will contact the Fermilab Fire Department (FFD) and secure a Burn permit. The FFD will meet with the FSC (and possibly the subcontractor), examine the proposed operation, prescribe precautions, assure appropriate instruction has been completed, and then issue a written Burn Permit.
(b) Fire watches must be maintained during burning, welding, or other fire or spark generating work and for a minimum of thirty minutes after work is complete.
(c) The Subcontractor shall furnish the proper number and type of fire extinguishers as specified in the Burn Permit. The extinguishers shall be located in clear sight and no further than 50 feet from the work area.
(d) All welding will be in accordance with American Welding Society Standard: Safety in Welding, Cutting, and Allied Processes (ANSI/ASC Z49.1-94).
(e) UL or FM listed check valves shall be installed on oxygen-fuel torch cutting equipment.
(f) No alarms, safety devices, etc. will be disabled without prior approval of the FSC. The Subcontractor shall make a specific request to the FSC at least 48 hours before disablement.

9.14 Fire Protection

Open burning, fire barrels, coal or kerosene type salamanders, or open flame heating devices that have exposed fuel below the flame are prohibited. Spark arrestors shall be provided on all stacks or burning devices having forced drafts. Temporary heating devices, used in any enclosed building, room, or structures shall be listed by UL, FM or other approved testing laboratory and vented to the outside. Flammable liquid fixed heaters shall be listed by UL, FM, or other approved testing laboratory and equipped with a primary safety control to stop flow of fuel in the event of a flame failure. Barometric or gravity oil feeds are not acceptable primary safety controls.

Smoking is prohibited in locations where flammable and/or combustible materials are stored. "No smoking" signs are posted in these areas. Smoking is prohibited in all Fermilab buildings except in designated areas.

Temporary closures, dust partitions or solid barriers constructed of combustible materials shall conform to the requirements of FESHM Manual Chapter 6040.1.

9.15 Lockout/Tagout

If a energy source is required to be have a Lockout/Tagout (LOTO) device applied to it, the subcontractor will submit to the FSC their LOTO procedures as part of the HA. Subcontractor personnel must be trained in LOTO prior to participating in LOTO of hazardous energy sources and working on locked out systems or equipment.

9.16 Ground Fault Circuit Interrupter (GFCI)

GFCI protection shall be provided for electric hand-held tools, portable generators, temporary electrical extension cords, and other wiring, etc. The assured grounding program is not an acceptable alternative.

9.17 Explosives

The use of explosives is not permitted without prior written approval of the Fermilab Director or his designee.

9.18 Vehicles and Equipment

All motor vehicles used on the Fermilab site (excluding cranes, earth moving equipment, and material handling equipment) shall be subject to all the provisions of the Illinois Vehicle Code and Illinois "Rules of the Road" while operating at Fermilab. Operators must have an appropriate, valid driver's license when operating vehicles on site. Seat belts are required to be provided and worn by the operator and all passengers in the vehicle.

(a) Above ground fuel storage tanks are not permitted on the Fermilab site. Fuel tanks mounted on pick-up trucks or other Subcontractor vehicles for the purpose of refueling shall conform to all the requirements of the Office of the Illinois State Fire Marshall. These fueling vehicles shall be removed from the Fermilab site at night.

9.19 Housekeeping, Health and Sanitation

The Subcontractor shall plan, organize, layout and maintain the work site in an environmentally healthful manner. All areas of the work site shall be kept free of debris. rubbish, and other materials that could cause tripping or falling conditions. Access and egress to excavations, structures, and other areas shall be maintained for efficient use by personnel and equipment.

9.20 Environment Protection

All work at Fermilab shall comply with all applicable environmental executive orders, laws, regulations, and permits. All Subcontractors shall conduct their activities in an environmentally sound manner that limits the risks to the environment and protects the public health.

(a) A Soil Erosion and Sedimentation Control Plan shall be prepared for any project involving excavation. Erosion controls shall be in place, where applicable, in accordance with this plan and the Subcontractor's ES&H Plan, prior to the start of earthwork. Silt fences, windscreens, hay bales, etc., shall be used as specified on drawings as erosion control measures.
(b) Excavation at or adjacent to streams, tributaries and other drainage outfalls shall be done only after prior notification to the FSC. The FSC will inform the Subcontractor if any wetlands are present in work area and what protective measures are necessary.
(c) Unexpected environmental impacts shall be immediately reported to the FSC and quickly mitigated by the subcontractor.
(d) Flammable and/or combustible liquids, fuels, and oils shall not be stockpiled beyond one day's usage. Storage of these materials, plus maintenance and fueling areas used by the Subcontractor, shall be properly graded and maintained and shall be located a minimum of 100 feet away from a wetland or water body boundary so that no adverse effect on the environment is done.

(e) The Subcontractor shall make routine inspections to assure that all motorized equipment is free of leaks of petroleum and other toxic or hazardous materials. The Subcontractor shall keep sufficient cleanup supplies on hand (e.g. oil dry, absorbent booms, etc.) to contain/absorb any spill or leak of fuels, oils, etc. that could potentially leak from his equipment. If a spill or leak should occur, the Subcontractor should immediately take appropriate steps to contain spills, move equipment out of sensitive areas (near wetland or water body) and immediately notify the FSC.

(f) At close of every work day, the Subcontractor's field superintendent shall inspect the complete work site to insure that all erosion controls, drainage patterns, excavations and staging areas are in environmentally sound condition for the weather conditions anticipated overnight or over the weekend. This inspection shall include the work of the Subcontractor as well as all sub-subcontractors. Any required correction work shall be done immediately.

9.21 Radiation Protection

(a) Fermilab has policies and procedures governing radiological work. The FSC will communicate specific requirements and work practices to the Subcontractor.

(b) Fermilab will assess the need for radiological training. If it is necessary it will be provided free of charge by Fermilab/

(c) Radiation dosimetry will be supplied to subcontractor personnel, as necessary. The Subcontractor is responsible for returning this equipment upon request or upon completion of the work.

(d) Fermilab will furnish protective clothing. Disposal of such clothing will be the responsibility of Fermilab.

9.22 Oxygen Deficiency Hazard (ODH)

(a) Fermilab has policies and procedures governing work in ODH areas. The FSC will communicate specific requirements and work practices to the Subcontractor.

(b) All subcontractor personnel who must enter designated ODH areas must have a level of fitness acceptable to Fermilab prior to entering those areas.

(c) Fermilab will assess the need for ODH l training. If it is necessary it will be provided free of charge by Fermilab.

(d) Oxygen monitoring equipment will be supplied to subcontractor personnel, as necessary. The Subcontractor is responsible for returning this equipment upon request or upon completion of the work.

(e) Fermilab will furnish emergency evacuation equipment. Care, use, and return of such equipment will be the responsibility of the subcontractor.

9.23 On-going Inspections

After start of work and throughout the entire work period, the Subcontractor shall monitor and inspect its work area and operations. Field supervisors and craft foremen shall inspect tools and equipment for proper safeguards and function and shall monitor the wearing of proper PPE by all personnel.

9.24 Jobsite ES&H Meetings

(a) The Subcontractor at the job site shall conduct monthly ES&H meetings. The purpose of these meetings shall be to continuously emphasize and highlight the Subcontractor's ES&H program.

(b) The Subcontractor shall conduct weekly toolbox meetings of approximately 5-minute duration. These meeting shall emphasize current operations.

9.25 Work Completion and Clean-up

The Subcontractor shall complete all work and all clean-up operations shall be in compliance with their ES&H program or as agreed by the Fermilab representative. Documentation for all aspects of the ES&H program shall be complete and in place before Subcontract closeout. All excess materials, equipment, waste materials and rubbish shall be properly disposed from the work site.

10.0 EMERGENCY RESPONSE

10.1 Emergency Response and Drills

(a) In the event of an actual fire or severe weather, all Subcontractor personnel shall evacuate to a prearranged safe location as designated by the FSC.

(b) Subcontractor personnel shall participate in all emergency drills.

(c) All emergency egress routes shall be kept clear at all times.

10.2 Material Spillage

In the event of a hazardous material spill, the first person to become aware of the spill shall immediately dial 3131.

11.0 TASK SPECIFICS 11.1 Task Coordination The Subcontractor shall coordinate work schedules, site access, and resolution of technical issues with _____ at phone _____. 11.2 Specific training and exemptions identified here.	