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Div/Sec _____
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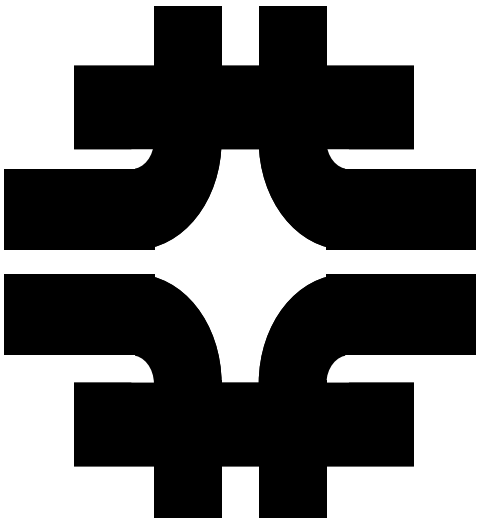

Fermilab

FN 000319

Service Coordinator Orientation

ES&H Section

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Service Coordinator Orientation

FN000319

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Objectives

- Learn about Service subcontractors vis-à-vis construction subcontractors
- Evaluate the quality of a hazard analysis
- Understand the purpose and use of the work notification form

Objectives

- Expectations regarding work planning and briefings
- Subcontractor training and documentation
- Briefings

Objectives

- Loaning of Laboratory tools and equipment
- Incident response and investigation
- Records and Documentation
  - Documentation- what to keep and for how long
- Learn how to do an evaluation of the service sub-contractor

Applicability

- FESHM Chapter 7020 applies to subcontractors performing work other than work defined as construction.
- Is painting and decorating a service or construction work?

Ans: ?? Next slide

Definitions

- Construction
- Hazard Analysis (HA)
- Imminent Danger
- Landlord
- Other Than Construction
- Procurement Administrator
- Senior Safety Officer (SSO)
- Service Coordinator
- Site Specific Planning Meeting

Responsibilities

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

Responsibilities

Environment, Safety and Health Section

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

(Daily at 0730- 0800 A.M.)

GERT- By prior arrangement. Send e-mail to gert@fnal.gov NLT 3PM the day before.

Responsibilities

Requisitioner

- Prepares a scope of work that clearly describes the job and classifies the work under the criteria provided under the "Potential Hazards Guideline".
- Adds the information required in paragraph 11 of Exhibit A and attaches the Exhibit to the requisition. (See booklet)

Responsibilities

Senior Safety Officer

- Reviews purchase requisitions for identification of safety requirements.(See FESHM 5010)
- 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.

Responsibilities

Service Coordinator

- Reviews and accepts the hazard analysis
- Advises the Procurement Administrator, in writing, that the safety plan and/or hazard analysis is accepted for use.
- Ensures that the subcontractor work activities are in compliance with the subcontract requirements, including the ES&H requirements.

Responsibilities

Service Coordinator

- 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.

Responsibilities

- Notify the subcontractor in a timely manner of uncorrected deficient or non-compliant work or safety violation. If IDLH or serious violation use the Subcontractor ES&H Stop Work Order (Form #5) found in FESHM 7010. Send a copy to the Procurement Administrator.
- Reviews change orders for applicable HA modifications, as may be required.
- Completes the Sub-Contractor Performance Evaluation Form found at the end of the chapter and submits to the Procurement Administrator.

Responsibilities

- 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.

Responsibilities

Procurement

- Screens the requisition for completeness.
- Obtains the corporate safety plan from service providers whose contract exceeds $100,000 in value.
- Forwards the safety plans to D/S SSO and hazard analysis to the service coordinator for review and acceptance.

Responsibilities

Procurement

- Drafts and sends a letter of recognition based on the recommendations submitted by the service coordinator in the "Sub-Contractor Evaluation Form- Service" found at the end of FESHM 7020.
- Coordinates the subcontractor performance evaluation process.
- Notifies the subcontractor of issues and concerns.

Service Requisition Preparation

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

Processing of Service Requisition

- D/S review and approval
  - Nature and complexity of the work
  - Other conditions to enhance Safety (SSO)
  - Verification of safety clauses stipulated by the requisitioner

S/C Training and Documentation

- Subcontractor training is subject to audit and verification by you- the service coordinator
  - ODH and Radiation (FNAL does)
  - Confined Space Entry and Respiratory Protection (Service Contractor responsibility) and verified by the Service Coordinator.

Subcontractor Safety Plan and Hazard Analysis

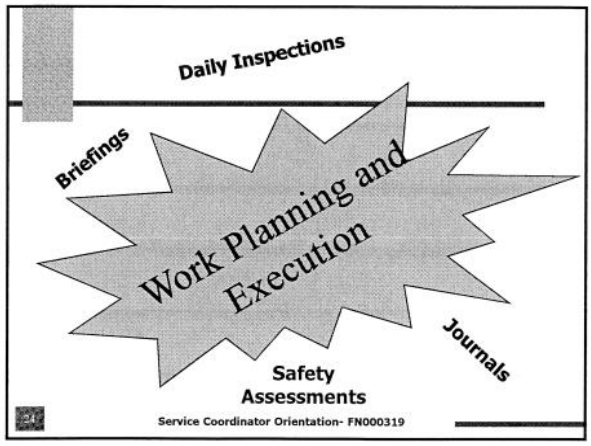
- ES&H Plan required if contract exceeds $100,000 total contract cost
- Hazard Analysis required regardless of contract cost if it meets the guidelines found in Table I of the Chapter
- SSO reviews & accepts ES&H Plan
- You review the HA and accept for use

Subcontractor Orientation

- Provided every working day at 0730 AM in English only
- No need to enroll- just show up.

Subcontractor Orientation

- GERT- Send e-mail to gert@fnal.gov NLT 3 PM the day before. Completed right after orientation
- If no arrangements are made your D/S can still provide the training. SSO's have training material in English and Spanish.



Work Planning and Execution

- Complete and distribute the Work Permit and Notification Form
- Provide a briefing at the work site that discusses hazards, emergency response and emergency equipment
- Do the work

Work Planning and Execution

- If the work changes so does the HA- revise
- Change orders- revise HA if new hazards are introduced.

Work Planning and Execution

- Document safety violations observed during the work phase
- Notify Procurement of uncorrected, deficient or non-compliant work or safety violations

Work Planning and Execution

- Inspect and monitor the work as necessary
- Do not loan tools to the service provider
  - You must first complete Form #20 before a tool is loaned and only if there is a compelling reason.

Work Planning and Execution

- Become familiar with the Confined Space Entry procedures in FESHM 5063.
- For the purposes of the chapter, a service coordinator is considered a task manager.
- As task manager there are responsibilities placed on you.

Other Permits

- Work Permit and Notification Form(FESHM 2020)
- Confined Space Entry Permit (FESHM 5063)
- Electrical Hazard Analysis/Work Permit (FESHM 5042)
- Excavation Permit (FESHM 7030)

Emergency Services

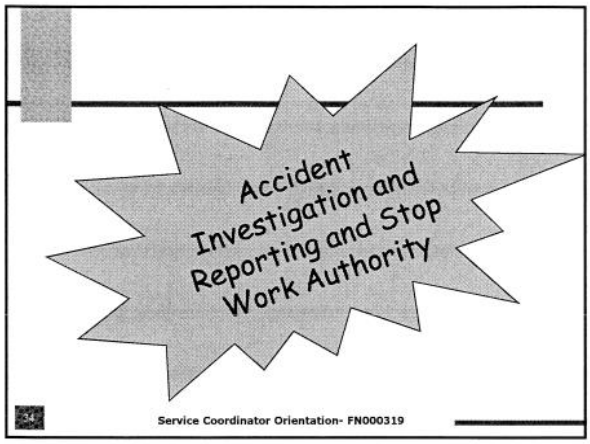
- Hazard Analysis must be completed
- No exception from compliance with safety requirements
- Can be completed in the field with the service sub contractor and the service coordinator
- Subcontractor agree to comply with ES&H regulations for the contract duration

Sub-Contractor Evaluation

- Submitted to Procurement after every contract
- Simple form
- Evaluates ES&H, Performance and Quality
- Tool to weed out bad actors and reward good performers
- Make job easier for the service coordinator

Other Tables and Forms

- Table I- Potential Hazards guidelines
- Loaning of Tools
- ES&H Stop Work Form
- Hazard Analysis Form



Acccident Investigation and Reporting

- All accidents and Incidents are to be reported to the Service Coordinator (SC).
- SC notifies D/S Head and SSO
- Subcontractor investigates and report to SC. Within 2 days.
- Service Provider use their own forms for the report.
- SC provide copy to procurement, D/S and SSO for entry into CAIRS.

35 Service Coordinator Orientation- FN000319

Stop Work Activity Authority

- Any employee can stop a phase of work if IDLH.
- Documented with form 5 in FESHM 7010.
- Work restart authority rests with the D/S Head.

36 Service Coordinator Orientation- FN000319

Class Booklet

- Layout
- Contents
- Resource

Summary

- Discussed applicability of the FESHM Chapter 7020
- Definitions
- Responsibilities of line management
- Service Requisition Preparation and flow
- Training, Documentation, and the hazard analysis.

Summary

- S/C Orientation and GERT
- Work Planning and Execution
- Permits
- Accident Investigation and Reporting
- Stop Work Authority

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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 classif*ies* the work under the criteria provided in Table 1 – Potential Hazard*s* 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 7010 for this purpose (ESH Admin Form #17).

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.

Subcontractor Evaluation Form- Service

Subcontractor Name: _____

S/C Number: _____

D/S _____ **Date** _____

Areas of Evaluation	Elements to Consider	Grade
A) Environment, Safety and Health	• Accident and injury record on this job • Adherence to company safety program • Adherence to the hazard analysis document • Mandatory training completed • Training records management • Compliance with safety standards, rules and regulations during field work activities • Observations of work activities • Use of PPE when needed	☐ Acceptable ☐ Unacceptable
B) Performance and Quality	• Adequate supervisory oversight and-in-process inspections • Completes contracted work on time, and within the required acceptable quality standard. Strives for continuous improvement. Accepts change willingly. • Determines level of customer satisfaction and reacts accordingly • Quality work process records management • Provides documentation as required for all work scope changes.	☐ Exceptional Performance ☐ Adequate performance ☐ Marginally acceptable performance. ☐ Not recommended for future work consideration

Would you like to have a letter of recognition be sent to this subcontractor? YES ☐ NO☐

Remarks: _____

_____

_____

_____

_____

Name **Title** **Signature**

Distribution: Contract Administrator, Requisitioner, File

ESH Admin Form #15 05/2000

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.*

Fermilab

Sub-Contractor Acceptance and Use of Fermilab Tools/Equipment

1.Describe Item loaned: _____

Model Number _____

Serial Number _____

2. TOOL INSPECTION

☐ Acceptable ☐ Unacceptable

If unacceptable, describe the issue (tool cannot be loaned until repaired): _____

The contractor accepts that there is risk involved in any job and that the use of these tools could result in an injury but that the tools have been inspected and found safe for the use intended. Further, that the contractor is trained or certifies hereby that he has had the knowledge and skills to safely use the equipment listed above.

Therefore _____accepts the tools for the purpose intended and will hold Fermilab harmless if an injury occurs due to the use of the listed tool/s.

Subcontractor Superintendent Signature	Supt. printed name	Date

3. RETURN OF TOOL/EQUIPMENT

Was the tool/equipment returned in good working order? ☐ Yes ☐ No

Task Manager/Construction Coordinator Printed Name/Signature	Date

4. ACCIDENT/INCIDENT

I certify that while using the tool identified above, I was not injured in any way.

Subcontractor Employee-Signature	Printed name	Date
Fermilab Representative- Signature	Printed Name	Date

Distribution: Procurement Administrator (Original)
T&M Manager (T&M contracts only)

ES&H Form #20 Rev 09/2005

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 _____. 11.2Specific training and exemptions identified here.	

CONFINED SPACES

INTRODUCTION

Working in confined spaces presents unique hazards because environmental conditions can change rapidly and it may be difficult to quickly exit the space. Some of the most common problems associated with confined spaces include hazardous atmospheres (e.g. reduced oxygen, flammable, toxic), slippery surfaces, electric shock, poor illumination, and flooding. This chapter describes the procedures to be used for entry into these spaces. If an oxygen deficiency hazard (ODH) exists as identified by Fermilab Environment, Safety and Health Manual (FESHM) Chapter 5064 and is within a confined space, the confined space entry team is also expected to follow any training and monitoring requirements found within FESHM Chapter 5064.

APPLICABLE STANDARDS OR REFERENCES

American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLV) for Chemical Substances and Physical Agents, and Biological Exposure Indices

Occupational Safety and Health Administration (OSHA) 29 Code of Federal Regulations 1910.146 – Permit-required confined spaces

OSHA 29 CFR 1910 Subpart Z – Toxic and Hazardous Substances – Permissible Exposure Limits (PEL)

DEFINITIONS

Acceptable Entry Conditions - Conditions that must exist in a confined space to allow entry and to ensure that employees involved can safely enter into and work within the space.

Authorized Attendant - A trained employee, subcontractor, or scientific user who is stationed and remains outside of the confined space for the purpose of monitoring the

entrants and who performs all attendant's duties. An attendant shall be stationed outside any confined space requiring a permit for each job assignment.

Authorized Entrant - A trained employee, subcontractor, or scientific user who will enter a confined space.

Confined Space - A space that:

1. Is large enough and so configured that an employee can bodily enter and perform assigned work; and
2. Has limited or restricted means for entry or exit; and
3. Is not designed for continuous employee occupancy

"Restricted entry or exit," means physical impediment of the body, e.g., use of the hand or a contortion of the body to enter into, or exit from, the space. Underground beamline enclosures are not usually considered confined spaces. Enclosures that can be accessed by a ladder with no other access/egress points **are** considered confined spaces. The Landlord ES&H Department shall evaluate large-scale excavations on a case-by-case basis.

Confined Space Entry Permit - The written or printed document established by Fermilab, the contents of which are based on the hazard identification and evaluation for that confined space and is the instrument by which Fermilab authorizes its authorized entrants to enter confined spaces.

Confined Space Reclassification Form – A form that allows a division/section to reclassify a permit-required confined space as a non-permit confined space provided that certain conditions are met.

Construction Coordinator – A division/section designated individual specifically assigned to oversee the work of a fixed-price construction subcontract for conformance to the subcontract documents.

Emergency - Any occurrence or change of conditions (including any failure of hazard control or monitoring equipment) internal or external to the confined space that could endanger entrants.

Engulfment - The surrounding and effective capture of a person by a liquid or finely divided (flowable) solid substance that can cause death.

Entry - The act by which a person passes through the opening into a confined space. The entrant is considered to have entered as soon as any part of the entrant's body breaks the plane of an opening into the space.

Entry Supervisor – A trained employee, subcontractor or scientific user responsible for determining if acceptable entry conditions are present where entry into a confined space is planned, for authorizing entry and overseeing entry operations, and for terminating entry.

Functional Landlord - Division/Section which routinely enters the confined space.

Hazardous Atmosphere - An atmosphere that may expose employees to the risk of death, incapacitation, impairment of ability to self-rescue (that is, escape unaided from a confined space) injury, or acute illness from one or more of the following causes: (1) Flammable gas, vapor, or mist in excess of 10 percent of its lower explosive limit; (2) Airborne combustible dust at a concentration that meets or exceeds the lower explosive limit; (3) Atmospheric oxygen concentration below 19.5% or above 23.5%; (4) Atmospheric concentration of any substance which may exceed either the OSHA PEL or the ACGIH TLV for that substance; (5) Any other atmospheric condition that is immediately dangerous to life or health.

NOTE: For air contaminants for which ACGIH or OSHA has not determined a dose or permissible exposure limit, other sources of information, such as Material Safety Data, published information, and internal documents can provide guidance in establishing acceptable atmospheric conditions.

IDLH (Immediately Dangerous to Life or Health) - Any condition which poses an immediate or delayed threat to life or that would cause irreversible adverse effects or that would interfere with an individual's ability to escape unaided from the confined space.

Landlord – Division/Section responsible for the space.

LEL (Lower Explosive Limit) - The lowest concentration of gas or vapor (% by volume in air) that will burn or explode if an ignition source is present at ambient temperatures.

Non-Permit Confined Space - A confined space that does not contain or, with respect to atmospheric hazards, have the potential to contain any hazard capable of causing death or serious physical harm.

CAUTION: Introducing a hazard (e.g., welding, painting, chemical use, etc.) into a non-permit confined space may cause the space to become a permit-required confined space.

Oxygen Deficient Atmosphere - An atmosphere containing less than 19.5% oxygen by volume.

Oxygen Enriched Atmosphere - An atmosphere containing more than 23.5% oxygen by volume.

PEL (Permissible Exposure Limit) - An exposure limit established by OSHA.

Permit-Required Confined Space:

If the confined space has one or more of the following characteristics, the entry will require a permit to be valid for the duration of the job as long as the conditions specified on the permit do not change:

1. Contains, or has a potential to contain, a hazardous atmosphere;

2. Contains a material that has the potential for engulfing an entrant;

3. Has an internal configuration such that an entrant could be trapped or asphyxiated by inwardly converging walls or by a floor which slopes downward and tapers to a smaller cross-section; or

4. Contains any other recognized serious safety or health hazard.

Service Coordinators - For the sake of this chapter, Service Coordinators are considered Task Managers.

Task Manager – A division/section designated individual specifically assigned to oversee and direct a work activity.

TLV (Threshold Limit Value) - An exposure limit that is published by ACGIH.

Toxicity - All of the adverse biological effects resulting from an exposure to a harmful substance.

Welding/Burning/Brazing Permit - An operation that requires a Welding/Burning/Brazing Permit per FESHM Chapter 2020.

RESPONSIBILITIES

Divisions/Sections

1. Implements this policy.

2. Develops confined space entry notification methods in coordination with other divisions and sections.

3. Documents Landlord ES&H Department's signature approval requirements in an internal written procedure that is communicated to all affected personnel.
4. Maintains an inventory of confined spaces for which they are Landlord. New confined spaces may be generated or existing confined spaces updated with the aid of the Confined Space Entry Form (End of Chapter). Landlords may obtain database information about the characteristics of the space from the Functional Landlord(s). The inventory is maintained on the ES&H Web-site. This database indicates which permit-required confined spaces might be reclassified.

5. Gives Fermilab specific training for Fermilab employees (including rented technicians), and scientific users who will work in confined spaces. All training records shall be entered into TRAIN.

6. Provides the confined space entry team, Task Managers, and Construction Coordinators with expertise regarding entry procedures and hazard control strategies for Fermilab or subcontractor employees. Direct communication with employees or subcontractors may be needed, depending on the scope of the project.

7. Label confined spaces for which they are Landlord per the general requirements of this Chapter.

8. Maintains monitoring equipment required by this chapter for use by Fermilab employees and scientific users and calibrates monitoring equipment immediately prior to use.

9. Reviews annually, or more frequently, their confined space permits, reclassification forms and program for effectiveness. The review shall include division/section projects, and division/section construction coordinator and task managed projects.

ES&H Section

1. Provides a uniform training program for the divisions/sections to use for work in confined spaces.

2. Provides expertise to divisions/sections on all aspects of confined space entry.

3. Provides a supply of signs to denote confined spaces, which reads "Confined Space"

4. Maintains lab-wide confined space database on the ES&H Web-site that contains an inventory of confined spaces.

Task Manager/Construction Coordinator

1. Informs subcontractors that the workplace contains confined spaces and that entry is allowed only through a confined space permit system meeting the requirements of OSHA's Permit-Required Confined Space standard, 1910.146. Additional requirements are located in this chapter.

2. Apprises subcontractors of the hazards associated with the confined space(s).

3. Apprises the subcontractor of any precautions or procedures that have been implemented for the protection of employees in or near the confined space where subcontractor personnel will be working.

4. Ensures that confined space activities are completed in accordance with the subcontractor's confined space entry program.

5. Coordinates entry operations with the subcontractor when both Fermilab and subcontractor personnel will be working in or near the confined space.

6. Notifies Fire Department, and Landlord and Functional Landlord as designated in the division/section implementation documents prior to entry. Information

shall include the location of the entry, the number of entrants and the nature of the work.

7. Debriefs the subcontractor at the conclusion of the entry operations regarding any hazards confronted or created in the confined space during entry operations.

Entry Supervisor

1. Knows the hazards that may be encountered during entry, including information on the mode, signs and/or symptoms, and consequences of the exposure and prepares written procedures as may be required for entry. These procedures should be revised whenever conditions change the hazards associated with the entry.

2. Verifies, by checking that the appropriate information has been entered onto the permit, that all tests specified on the permit have been conducted, and that all entry procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin.

3. Notifies Fire Department, and Landlord and Functional Landlord as designated in the division/section implementation documents prior to entry. Information shall include the location of the entry, the number of entrants and the nature of the work.

4. Determines that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained, including whenever responsibility for a confined space entry operation is transferred to another organization.

5. The entry supervisor may also serve as the attendant or entrant, provided that they have received the necessary training and can adequately fulfill the duties and responsibilities of each position.

6. Verifies training of attendant and entrants.

7. Communicates entry procedures to attendants and entrants.

8. Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations.

9. Passes duties to another entry supervisor if the permit confined space entry continues over multiple shifts.

10. Terminates the entry and cancels the permit when the entry operations covered by the entry permit have been completed or when a condition that is not allowed under the entry permit arises in or near the permit space. In the event conditions arise which are not authorized on the permit, the entry supervisor shall notify the Landlord and Functional Landlord.

Authorized Attendant

1. Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms (including any possible behavioral effects), and consequences of the exposure.

2. Continuously maintains an accurate count of authorized entrants in the confined space.

3. Remains outside the confined space during entry operations until relieved by another attendant, or entry is terminated.

4. Maintains constant communication with authorized entrants (voice, radio, etc.) and makes contact with entrants as necessary to monitor their status.
5. Monitors activities inside and outside of the confined space to determine if it is safe for entrants to remain in the space. This includes air monitoring. Orders the authorized entrants to evacuate the permit space immediately under any of the following conditions:

    a. If the attendant detects conditions that are not authorized by the permit.

    b. If the attendant detects signs and/or symptoms of hazard exposure to the entrant.

    c. If the attendant detects a situation outside the confined space that could endanger the entrants.

    d. If the attendant cannot effectively and safely perform all duties required.

6. In the event of an emergency, notifies the Fermilab Fire Department immediately. If a phone is immediately available, calls the Emergency Operator at Ext. 3131 or 840-3131. Radio communications should be used where phones are not immediately available.

7. Takes the following actions when unauthorized persons approach or enter a confined space:

    a. Warns the unauthorized persons that they must stay away from the confined space.

    b. Advises the unauthorized persons that they must exit immediately if they have entered a confined space.

    c. Informs entrants and entry supervisor if unauthorized persons have entered the confined space.

8. Performs non-entry retrievals if trained on equipment.

9. Performs no duties that might interfere with the attendant's primary responsibility of monitoring the entrants.

<u>Authorized Entrant</u>

1. Knows the hazards that may be encountered during entry, including information on the mode, signs and/or symptoms, and consequences of exposure.

2. Uses safety equipment properly. This may include air monitoring as a result of space configuration or work activity performed.

3. Communicates with attendant as necessary to enable the attendant to monitor entrant status and enable the attendant to evacuate the space as required.

4. Alerts attendant whenever:

    a. The entrant recognizes any warning sign and/or symptom of exposure to a dangerous situation.

    b. The entrant detects a prohibited condition.

5. Exits from the confined space as quickly as possible whenever:

    a. An order to evacuate is given by the attendant or entry supervisor.

    b. The entrant recognizes any warning sign and/or symptom of exposure to a dangerous situation.

    c. The entrant detects a prohibited condition.

    d. An evacuation alarm is activated.

NOTE: Any qualified individual may fill one or more of the above mentioned roles as long as that person is trained and equipped for each role (an attendant may **not** simultaneously serve as an entrant during an entry operation).

Fermilab Fire Department

1. Shall perform entry-required rescues from confined spaces.

2. Shall annually perform confined space rescue drills.

3. Each member of the Fermilab Fire Department shall be trained to perform the assigned rescue duties and shall be provided with, and be trained to use properly, the personal protective equipment and rescue equipment necessary for making rescues from permit spaces. In addition, each member of the Fermilab Fire Department shall be trained in basic first aid and in cardiopulmonary resuscitation (CPR). At least one member at the rescue scene must hold current certification in first aid and in CPR.

Subcontractors

1. If a subcontractor is required to enter a permit required confined space as part of their contract with Fermilab, the subcontractor shall provide the Fermilab Construction Coordinator/Task Manager with the following information to allow for adequate review prior to entry:

    a. A written copy of their confined space entry program.

b. Training records for potential entrants, attendants, and entry supervisors.

c. Evidence that all air monitoring equipment is properly calibrated within the calibration period specified by the subcontractor's program or manufacturer's instructions. This may be in the form of a calibration log, certification indicator on the instrument, or other means. (It is imperative that the equipment used by the subcontractor be capable of monitoring for the contaminants associated with the confined space to be entered.)

2. It will be the subcontractor's responsibility to provide all of their own personal protective equipment (PPE), such as lifelines, harnesses, respirators, tripods, ventilators, etc., as specified by the entry permit.

3. In addition to complying with the permit space requirements listed above, each subcontractor retained to perform permit space entry operations shall:

   a. Obtain any available information regarding permit space hazards and entry operations from Fermilab.

   b. Coordinate entry operations with Fermilab, when both Fermilab personnel and subcontractor personnel will be working in or near permit spaces.

   c. Prior to entry, inform Fermilab Construction Coordinator/Task Manager of the specific permit space procedures the subcontractor will follow.

   d. Inform the Fermilab Construction Coordinator/Task Manager prior to entering the space.

   e. Inform Fermilab Construction Coordinator/Task Manager of any unanticipated hazards confronted during the confined space entry.

   f. Provide the Fermilab Construction Coordinator/Task Manager with a copy of the subcontractor's confined space permit, reclassification form or written certification once the work has been completed.

4. Per OSHA 1910.146 (c) (5), if the subcontractor can demonstrate that continuous forced air ventilation alone is sufficient to maintain safe entry conditions, then the job specific confined space entry procedures can be modified by the Landlord ES&H Department.

GENERAL REQUIREMENTS

1. Each division/section shall evaluate their workplaces to determine if any spaces fit the definition of a confined space. The inventory of confined spaces shall be documented in the Confined Space Database on the ES&H Web-site.

2. The Landlord, in conjunction with the Functional Landlord(s), of the confined space shall conduct a hazard assessment of confined spaces to determine if they are permit-required confined spaces.

3. Permit-Required confined spaces that can be easily or inadvertently entered must be labeled with a sign outside the space that states, DANGER - CONFINED SPACE. Other confined spaces which require keys, tools, or special procedures to enter, do not have to have signs posted outside them, as long as equally effective arrangements are made to prohibit unauthorized entry (training, special procedures, etc.).

4 Each division/section shall evaluate their confined space entry program on an annual basis against the requirements defined in Fermilab's program.

PERMIT-REQUIRED CONFINED SPACE ENTRY PROCEDURES

Listed below are the requirements for permit-required confined space entry procedures when any Fermilab employee or scientific user (1) enters the space or (2) serves as entry supervisor.

1. Assign roles of entry supervisor, attendant, entrant.

2. Assure that there is at least one attendant outside the permit space, into which entry is authorized, for the duration of entry operations. The attendant may not monitor more than one confined space entry unless the Fermilab permit is amended to establish the means and procedures needed to enable the attendant to respond to one or more of the confined spaces.
3. The confined space entry team (i.e., entry supervisor, attendant, entrant) identifies and evaluates the hazards of the confined space before entry and indicates on the permit the potential hazards and protective measures needed. They include, but are not limited to:

Lockout/Tagout All energy sources which are potentially hazardous to confined space entrants shall be secured, relieved, disconnected and/or restrained as per FESHM Chapter 5120 before personnel are permitted to enter the confined space.

Pipelines or similar conveyances carrying any hazardous liquids or gases between the confined space and point(s) of isolation from any hazard shall be drained, cleaned or flushed of such materials as necessary to assure safety. The pipelines may be isolated by blocking, blinding or disconnecting.

NOTE: In confined spaces where complete isolation is not possible, provisions shall be made for as rigorous an isolation as practical. Provisions shall be noted on the entry permit.

Ventilation shall be maintained during the occupancy of a confined space where there is a potential for the atmosphere to move out of an acceptable range. Natural ventilation is acceptable if it is determined by the entry supervisor to achieve adequate results.

Personal protective equipment, i.e., gloves, coveralls, respirators, hard hats, footwear, etc. shall be available and required for use, when needed. Personal protective equipment needed for a confined space entry will be based on the work that will be accomplished and the hazard.

Appropriate retrieval equipment To facilitate entry and non-entry rescues, retrieval systems shall be used whenever an authorized entrant enters a permit space. This equipment typically includes a full body harness attached by a retrieval line to a mechanical retrieval device or to a fixed point outside the permit space. Exceptions exist to this requirement if the use of retrieval equipment would increase the overall risk of entry or would not contribute to the rescue of the entrant. All entrants are required to wear a full body harness, even if it is not attached to a retrieval line.

Hazardous Atmosphere Potential atmospheric hazards shall be identified before entry. These routinely include oxygen deficiency, flammability, carbon monoxide, and hydrogen sulfide. Other toxic chemicals are added as needed. The atmosphere must be tested before and during entry by the attendant to assure it is within acceptable limits. Monitor readings shall be recorded at a minimum of once an hour. Acceptable atmospheric limits for entry are:

(i) Oxygen - 19.5% to 23.5% (separate requirements are applicable to designated oxygen deficiency hazard (ODH) areas in Chapter 5064).

(ii) Flammability - Less than 10% of the Lower Explosive Limit (LEL).

(iii) Toxicity - Carbon monoxide in a confined space is 25 parts per million (ppm) and hydrogen sulfide in a confined space is 5 ppm.

NOTE: Contact the Landlord ES&H Department or ES&H Section for limits on other toxic chemicals.

Barriers Barriers shall be in place to protect entrants from external hazards.

Welding/Burning/Brazing Permit The fire extinguishers required for this permit must be placed outside of the confined space. All permits must be issued by the Fire Department.

4. Entry supervisor assures all attendants and entrants are trained.

5. Entry supervisor informs authorized entrants and attendants of the required safety equipment and their proper use.

6. Entry supervisor verifies, by checking that the appropriate information has been entered onto the permit, that all tests specified on the permit have been conducted, and that all procedures and equipment specified by the permit are in place before approving the permit and allowing entry to begin.

7. The attendant performs air monitoring before entry and continuously during entry for atmospheric and other hazards associated with the confined space. As stated earlier, the attendant shall record monitoring results on the permit at a minimum of once an hour. The entrant(s) may also be required to perform continuous monitoring for the hazards associated with the confined space in the event that the attendant is unable to monitor the immediate vicinity of the workers within the confined space.

8. The entry supervisor shall authorize the permit before entry. A Landlord ES&H Department Senior Safety Officer or designee may be required to approve the permit before entry based upon the Landlord's internal written requirements. If a written approval is not practical, a verbal approval may be given and so noted on the permit.

9. The Landlord and Functional Landlord and Fire Department shall be notified prior to entry.
10. The entry supervisor determines, whenever responsibility for confined space entry operation is transferred to another entry supervisor, that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained.

11. The attendant must keep in constant communication with the entrant(s).

12. The attendant shall order the entrant(s) to evacuate the confined space immediately when there are:

    a. Condition(s) which is/are not allowed in the permitted space.

    b. Behavior effects of hazard exposure.

    c. Any situation outside of the space which could endanger the entrants.

    d. Sudden uncontrolled hazards within the confined space.

13. When the attendant orders an evacuation, the entry supervisor shall be notified and shall cancel the entry authorization. The entry supervisor shall notify the Landlord ES&H Department. Re-entry will not be permitted without the written approval of the Landlord ES&H Department Senior Safety Officer or designee.

14. In the event of an emergency, the attendant will contact the Emergency Operator. If a phone is immediately available, the Operator can by reached by dialing extension 3131 or 840-3131. If a phone is not immediately available, radio communications shall be used. It is imperative that the attendant never enters a confined space to attempt a rescue. In the event of a rescue situation, the attendant's main role shall be to summon help.

ENTRY PERMITS

Listed below are the requirements for filling out confined space entry permits when any Fermilab employee or scientific user (1) enters the space or (2) serves as entry supervisor.

1. The confined space team shall complete a permit. Additional check-off items may be added to the permit as needed.

2. The duration of the permit will be for the length of the job, so long as the conditions remain the same.

3. In the event that unacceptable conditions arise, the attendant will order an evacuation and inform the entry supervisor. The permit will be void, and a reevaluation will be required by the Landlord ES&H Department.

4. All significant identifiable hazards shall be listed on the permit.

5. If there is a shift change or multiple day jobs or change in entrants/attendants, a roster of entrants/attendants shall be attached to the permit if more space is needed.

6. Air monitoring records must be recorded on the permit.

7. All canceled confined space permits shall be retained by the division/section making the entry for a minimum of one (1) year.

CONFINED SPACE RECLASSIFICATION PROCESS

1. A space classified as a Permit-Required Confined Space may be reclassified as a Non-Permit Confined Space by an individual trained in confined space entry after the following provisions have been met:

    a. No actual or potential atmospheric hazard exists (determined following initial atmospheric testing).

    b. All other recognized serious safety or health hazards must be eliminated without entry into the space.

    NOTE: If it is necessary to enter the permit space to eliminate hazards, such entry shall be performed following permit-required confined space entry procedures. If testing and inspection during that entry demonstrates that the hazards within the permit space have been eliminated, the permit space may be reclassified as a non-permit confined space for as long as the hazards remain eliminated.

c. The basis for determining that all hazards have been eliminated must be documented using the Confined Space Reclassification Form from the ES&H Web-site.

NOTE: Reclassification status may be maintained for the duration of the entry as long as the hazards remain eliminated. In the event a change in conditions is identified or suspected by those working inside the space, the space shall immediately be vacated. The confined space will be considered a Permit-Required Confined Space until deemed otherwise through reevaluation.

2. All completed confined space reclassification forms shall be retained by the division/section making the entry for a minimum of one (1) year.

3. The Landlord and Functional Landlord and Fire Department shall be notified prior to entry.

TRAINING FOR CONFINED SPACES

Fermilab employees and scientific users who are designated as entry supervisors, entrants or attendants for confined space entries shall receive training (TRAIN class # FN000003-CR) prior to initial entry into a confined space. Additional training shall also be provided when a hazard for which an employee has not previously been trained or whenever there is reason to believe there are inadequacies in the employee's knowledge. All training records shall be entered into TRAIN.

Training shall include a review of:

1. The Fermilab Confined Space policy and procedures, as well as other applicable environment, safety and health procedures.

2. Hazards associated with confined space entry.

3. Signs and symptoms that may be present during or after an exposure to a hazard.

4. Consequences of exposure to potential hazards.

Fermilab

CONFINED SPACE ENTRY PERMIT

IN CASE OF AN EMERGENCY CALL x-3131 (840-3131)

Location and Description of Confined Space: _____

Purpose of Entry: _____

_____

Division/Section Authorizing Work: _____ Date of Entry: _____

Expiration Date: _____ Time of Entry: _____

Other Permits Required: _____ Expiration Date: _____

_____ Expiration Date: _____

Entry Supervisor	ID #	Entrants	ID #
Attendants	ID #		

Required Special Precautions	Yes	No	Required Personal Protective Equipment	Yes	No
Lines Broken / Capped / Blanked			Radiation Dosimetry – (e.g., TLD Badge, Pocket)		
Purge Area - Flush and Vent			Lighting		
Secure Area - Post and Barricade			Protective Clothing / Coveralls		
Mechanical Ventilation			Face Protection – (e.g., Glasses, Goggles, Face Shield)		
Full-Body Harness	✓		Eye Protection		
Lifeline			Footwear – (e.g., Safety Shoes, Boots)		
Retrieval System			Additional Air Monitor – (e.g., ODH Monitor)		
Spark Proof Tools			Gloves		
Communication with ENTRANT(S) (Pick one)	✓		Hardhats		
Verbal			Hearing Protection		
Radio / Walkie-Talkie			Respirator		
Communication with FIRE DEPT. (Pick one)	✓		Type:		
Cellular Phone			Training Date:		
Laboratory Phone			Fit Test Date:		
Radio			Medical Surveillance Date:		

Notifications

	Name	Notes
Fire Department (x-3413 or 840-3413)		
Landlord ES&H SSO or designee		
Functional Landlord ES&H SSO or designee		

Other Special Precautions (List Below):

POST PERMIT AT THE JOB SITE UNTIL THE JOB IS COMPLETED OR UNTIL THE PERMIT EXPIRES

Air Monitoring Equipment Data

Instrument Used	Instrument #	Calibration		
		Date	Initials	ID#

Atmospheric Testing Data

Date	Time	Location of Reading	%Oxygen (19.5% To 23.5%)	%LEL (Below 10%)	Carbon Monoxide (Below 25 ppm)	Hydrogen Sulfide (Below 5 ppm)	Other Toxic (If Applies)	Notes (i.e. Pre-entry reading, During entry, etc.)	Atmosphere Tested By	
									Initials	ID#

NOTE: Testing results shall be recorded at a minimum of at least once per hour.

Permit Authorization

_____ _____ _____ a.m. / p.m.

Entry Authorization Certification (Entry Supervisor) Date Time

The entry authorization signature certifies that all precautions and equipment specified by this permit are in place and all atmospheric testing is within allowable limits to allow entry.

ES&H Permit Approval (if required by Landlord)

_____ _____ _____ a.m./p.m.

Landlord ES&H SSO or designee Date Time

Cancellation of Permit

_____ _____ _____ a.m. / p.m.

Permit Cancellation Signature (Entry Supervisor) Date Time

The entry supervisor cancels the permit when either unacceptable conditions arise or when the work authorized by the permit has been completed.

IN CASE OF AN EMERGENCY CALL x-3131 (840-3131)

POST PERMIT AT THE JOB SITE UNTIL THE JOB IS COMPLETED OR UNTIL THE PERMIT EXPIRES,
RETAIN COMPLETED PERMITS FOR A MINIMUM OF ONE YEAR

5. Methods of communication/contact.

6. When to initiate self-evacuation.

7. External safeguards that may be needed for safe entry.

8. Audio alarms and what the alarms mean (fixed alarms).

9. How to deal with unauthorized personnel.

10. Monitoring methods, techniques and instructions on the use of approved monitoring devices.

11. Emergency response procedures, i.e., exit when attendant instructs, when alarms are activated, call 3131or 840-3131 for help, etc.

12. Proper method and procedure for completing the entry permit.

13. Justification for, and instructions on, the proper use and wearing of personal protective equipment.

14. Instructions on how a confined space is identified and classified.

15. Proper use of retrieval equipment (if applicable).

Fermilab

WORK PERMIT AND NOTIFICATION FORM

(Follow Instructions on the Other Side)

Project/Activity General Information:

Building Name or Site Location:_____ FIMS #:_____ Project # _____
Job/Description:_____
_____
_____
_____

Division/Section Supervising Work:_____ Landlord Division/Section:_____
Task Manager/Construction Coordinator:_____ Phone #:_____ Pager #:_____
Subcontractor:_____ Phone #:_____ Pager #:_____

Est. Starting Date:_____ **Est. Completion Date:** _____

Systems Affected / Notification Required: (Check all that apply- Follow notification list on back)

Yes	No	
☐	☐	Any Utility System (e.g., Gas, CW, ICW, DWS, LCW, Sanitary Sewer)
☐	☐	Electrical System
☐	☐	HVAC
☐	☐	Fire Protection System
☐	☐	Tele-Communication
☐	☐	Data- Communication System
☐	☐	FIRUS System
☐	☐	Roof Systems
☐	☐	Parking Lot, Hardstand, Road or Turf
☐	☐	Road Closure
☐	☐	Other (Specify):_____

Permits Required: (Check all that apply)

Yes	No	
☐	☐	Welding, Cutting, Brazing (Fermi Fire Dept.)
☐	☐	Fire Protection System Disablement (FESS)
☐	☐	Confined Space Entry (ES&H Manual 5063)
☐	☐	Electrical Hazard Analysis / Work Permit (FESHM 5042)
☐	☐	Potable Water Permit (ES&H Manual 8050)
☐	☐	Radiological Work Permit (Landlord Div./Sec. RSO)
☐	☐	Excavation Permit (FESHM 7030)
☐	☐	Environmental Permits
☐	☐	Sanitary Sewers (ES&H Manual 8025)
☐	☐	Other (Specify) _____

Training Required: (Answer All)

Yes	No	
☐	☐	Oxygen Deficiency Hazard (ODH)
☐	☐	Radiation Worker
☐	☐	GERT
☐	☐	Confined Space
☐	☐	Respiratory Protection
☐	☐	Other (Specify)_____
☐	☐	Other (Specify)_____

Special Precautionary Note: _____
_____
_____

Signatures

Task Manager/Construction Coordinator**:** _____ Date: _____

Building Manager _____ Date _____

Landlord Div/Sec SSO_____ Date _____

Systems Affected / Notification Required

- Experiment/Program (notify appropriate Control Room)
- Any Utility System (notify FESS Operations X3468; copy of notice; ms 303)
- Electrical System (notify FESS Operations X4665; copy of notice ms 303)
- HVAC (notify FESS Operations X4664; copy of notice; ms 303)
- Fire Protection System (notify FESS Operations X2924; copy of notice ms 303)
- Tele-Communication System (notify BSS Tele-Communications X3788; copy of notice ms 228)
- Data- Communication System (notify CD Help Desk X2345; copy of notice ms 368)
- Firus System (notify Accelerator Controls X4074; copy of notice; ms 307)
- Roof Systems (notify FESS Services X3302; copy of notice; ms 232)
- Parking Lot, Hardstand, Road or Turf (notify FESS Services X3303; copy of notice; ms 320)
- Road closure (Call Bill Flaherty at X4507; MS-101)

INSTRUCTIONS

1) The purpose of this form is to improve communications on all projects so that all parties impacted are aware of impending work and can make accommodations on a timely basis. The task manager/Construction Coordinator is responsible for this notification prior to commencement of work.

2) If the project does not impact any of the systems listed on the front side of the form and if no permits are required, then further action and distribution is not needed. The Task Manager/Construction Coordinator will file the original with the project files for future reference.

3) Under the "Select " column place a check mark in the box next to the organizations you are notifying.

NOTICE

No further distribution needed if all the "NO" blocks are checked on the front of the form. Task Manager/Construction Coordinator to seek concurrence from the building manager and then file the form in the project file for future reference.

Please complete the distribution information below and mail, FAX, or hand deliver to the affected groups allowing them sufficient time to prepare for your project.

Select	Deliver to:	MS	FAX	Comments
☒	FESS Operations	303	2151	All Projects
☒	FESS Engineering	214	4980	All Projects
☒	Landlord Division/Section Head	___	___	All Projects
☒	Landlord Division/SSO:	___	___	All Projects
☒	Building Manager:	___	___	All Projects
☒	Security	326	3431	All Projects
☒	ES&H Safety (HS Group)	119	3390	All Projects
☐	Fire Department:	302	8037	As Appropriate
☐	Tele-Communications	228	3405	Telecom Work
☐	Data-Communications	368	8208	Datacom Work
☐	Beams Division Main Control Room	306	4552	As Appropriate
☐	FESS Services			
	Roof Repair	232	4566	As Appropriate
	Roads and Grounds	320	2108	As Appropriate
☐	Other: _____	___	_____	_____
☐	Other:_____	___	_____	_____

Subcontractor ES&H Stop Work Order

To:_____
Procurement Administrator

Date:_____ Time:_____

Location:_____

Subcontractor Activity/Project:_____

Primary Subcontractor:_____

Secondary Subcontractor:_____

Description of Violation(s):_____

_____

_____

_____

Issued By:_____ _____
(Signature) (Division/Section)

Mail Station:_____

Violation(s) corrected on_____

_____
(Signature)

Distribution:
Original: Procurement Department
Copy: Construction Coordinator
Corrected violation: Copy to Issuer and Procurement Department

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Fermilab

Sub-Contractor Acceptance and Use of Fermilab Tools/Equipment

1.Describe Item loaned: _____

Model Number _____

Serial Number _____

2. TOOL INSPECTION

☐ Acceptable ☐ Unacceptable

If unacceptable, describe the issue (tool cannot be loaned until repaired): _____

_____

_____

_____

_____

The contractor accepts that there is risk involved in any job and that the use of these tools could result in an injury but that the tools have been inspected and found safe for the use intended. Further, that the contractor is trained or certifies hereby that he has had the knowledge and skills to safely use the equipment listed above.

Therefore _____accepts the tools for the purpose intended and will hold Fermilab harmless if an injury occurs due to the use of the listed tool/s.

_____	_____	_____
Subcontractor Superintendent Signature	Supt. printed name	Date

3. RETURN OF TOOL/EQUIPMENT

Was the tool/equipment returned in good working order? ☐ Yes ☐ No

_____/_____	_____
Task Manager/Construction Coordinator Printed Name/Signature	Date

4. ACCIDENT/INCIDENT

I certify that while using the tool identified above, I was not injured in any way.

_____	_____	_____
Subcontractor Employee-Signature	Printed name	Date
_____	_____	_____
Fermilab Representative- Signature	Printed Name	Date

Distribution: Procurement Administrator (Original)
T&M Manager (T&M contracts only)

ES&H Form #20

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Print Form

Fermilab

ELECTRICAL HAZARD ANALYSIS / WORK PERMIT (EHAWP)

For Selected Work Activities on the AC Power Distribution System or Electrical Utilization Equipment

JOB NAME & LOCATION: _____

EFFECTIVE DATES OF PERMIT: Start: _____ End: _____

WORK TO BE PERFORMED BY: _____

QUALIFIED PERSON IN CHARGE: _____ PHONE: _____

Does the Work Involve Diagnostic Energized Work? Yes _____ No _____ (Includes LOTO Verification)

Does the Work Involve Manipulative Energized Work? Yes _____ No _____ (Justification Required)

Is an Inspection Required After Work is Completed? Yes _____ No _____ (Reqd for New AC Pwr Installs)

If the Work Activity Involves Manipulative Energized Work, State the Justification Here.

DESCRIPTION OF WORK:

ASSOCIATED HAZARDS:

HAZARD MITIGATION: **Indicate Hazard/Risk Category (-1, 0, 1, 2, 2*, 3 or 4):** _____

SHOCK PROTECTION BOUNDARIES for ENERGIZED WORK

from NFPA 70E Table 130.2(C) for Fixed Circuit Parts and Article 130.3(A). **Indicate if Otherwise.**

For 120/208 VAC: Shock Protection: Limited Approach: **3' 6"**. Restricted & Prohibited Approach: **Avoid Contact**
For 480/277 VAC**: Shock Protection: Limited Approach:** 3' 6"**. Restricted Approach:.** 1 Ft**. Prohibited Approach:** 1"

Class _____ Voltage-Rated Gloves and Leather Protectors **Required for Subject Work Activity**

ARC-FLASH PROTECTION BOUNDARY and REQUIRED PPE for ENERGIZED WORK

PPE Requirements for Shock & Arc Flash Protection are Fully Described in NFPA 70E, Article 130.7. Indicate if Otherwise.
Clothing Must be Non-Melting or Untreated Natural Fiber, Unless Specified as Flame-Resistant (FR).

The Fermilab Default Flash Protection Boundary is 4 Feet **(as Qualified by Article 130.3(A) at 300 kA Cycles)**

If Calculated, Indicate Flash Protection Boundary: _____ **feet and/or inches**

If Calculated, Indicate Incident Energy Level for Arc Flash Protection: _____ **cal/cm2**

☐ **HRC -1** Short-Sleeve Cotton T-Shirt, Long Cotton Pants, Safety Glasses (0 to 1.2 cal/cm 2)

☐ HRC 0 Long-Sleeve Cotton Shirt, Long Cotton Pants, Safety Glasses (0 to 1.2 cal/cm2)

☐ HRC 1 FR Coverall, Safety Glasses, Hard Hat, Leather Protectors or Gloves (>1.2 to 4 cal/cm 2)

☐ HRC 2 Cotton Clothing under FR Coverall, Safety Glasses, Hard Hat, Arc-Rated Face Shield, Hearing Protection, Leather Protectors or Gloves, Leather Work Shoes (>4 to 8 cal/cm 2)

☐ **HRC 2*** Cotton Clothing under FR Coverall, Safety Glasses, Hard Hat, Double-Layer Switching Hood, Hearing Protection, Leather Protectors or Gloves, Leather Work Shoes (>4 to 8 cal/cm 2)

☐ HRC 3 Cotton Clothing under 2 FR Coveralls, Safety Glasses, Hard Hat, Flash Suit Hood, Hearing Protection, Leather Protectors or Gloves, Leather Work Shoes (>8 to 25 cal/cm 2)

☐ HRC 4 Cotton Clothing under Multilayer FR Flash Suit Jacket and Pants Safety Glasses, Hard Hat, Flash Suit Hood, Hearing Protection, Leather Protectors or Gloves, Leather Work Shoes (>25 to 40 cal/cm2)

PREPARED BY: _____ Date: _____

APPROVED BY: _____ Date: _____

ADDITIONAL APPROVALS FOR MANIPULATIVE ENERGIZED WORK

Approval of D/S Electrical Coordinator _____

Approval of Area Division/Section Head _____

(FESS Head Must Sign if FESS Electricians are Performing Manipulative Energized Work Under this Permit for Another D/S)

Approval of Fermilab Directorate _____

Print Form

Fermilab

ELECTRICAL HAZARD ANALYSIS / WORK PERMIT (EHAWP)

For Selected Work Activities on the AC Power Distribution System or Electrical Utilization Equipment

JOB NAME & LOCATION: _____

EFFECTIVE DATES OF PERMIT: Start: _____ End: _____

WORK TO BE PERFORMED BY: _____

QUALIFIED PERSON IN CHARGE: _____ PHONE: _____

Does the Work Involve Diagnostic Energized Work? Yes _____ No _____ (Includes LOTO Verification)

Does the Work Involve Manipulative Energized Work? Yes _____ No _____ (Justification Required)

Is an Inspection Required After Work is Completed? Yes _____ No _____ (Reqd for New AC Pwr Installs)

If the Work Activity Involves Manipulative Energized Work, State the Justification Here.

DESCRIPTION OF WORK:

ASSOCIATED HAZARDS:

HAZARD MITIGATION: **Indicate Hazard/Risk Category (-1, 0, 1, 2, 2*, 3 or 4):** _____

SHOCK PROTECTION BOUNDARIES for ENERGIZED WORK

from NFPA 70E Table 130.2(C) for Fixed Circuit Parts and Article 130.3(A). **Indicate if Otherwise.**

For 120/208 VAC: Shock Protection: Limited Approach: **3' 6"**. Restricted & Prohibited Approach: **Avoid Contact**
For 480/277 VAC**: Shock Protection: Limited Approach:** 3' 6"**. Restricted Approach:.** 1 Ft**. Prohibited Approach:** 1"

Class _____ Voltage-Rated Gloves and Leather Protectors **Required for Subject Work Activity**

ARC-FLASH PROTECTION BOUNDARY and REQUIRED PPE for ENERGIZED WORK

PPE Requirements for Shock & Arc Flash Protection are Fully Described in NFPA 70E, Article 130.7. Indicate if Otherwise.
Clothing Must be Non-Melting or Untreated Natural Fiber, Unless Specified as Flame-Resistant (FR).

The Fermilab Default Flash Protection Boundary is 4 Feet **(as Qualified by Article 130.3(A) at 300 kA Cycles)**

If Calculated, Indicate Flash Protection Boundary: _____ **feet and/or inches**

If Calculated, Indicate Incident Energy Level for Arc Flash Protection: _____ **cal/cm2**

☐ **HRC -1** Short-Sleeve Cotton T-Shirt, Long Cotton Pants, Safety Glasses (0 to 1.2 cal/cm 2)

☐ HRC 0 Long-Sleeve Cotton Shirt, Long Cotton Pants, Safety Glasses (0 to 1.2 cal/cm2)

☐ HRC 1 FR Coverall, Safety Glasses, Hard Hat, Leather Protectors or Gloves (>1.2 to 4 cal/cm 2)

☐ HRC 2 Cotton Clothing under FR Coverall, Safety Glasses, Hard Hat, Arc-Rated Face Shield, Hearing Protection, Leather Protectors or Gloves, Leather Work Shoes (>4 to 8 cal/cm 2)

☐ **HRC 2*** Cotton Clothing under FR Coverall, Safety Glasses, Hard Hat, Double-Layer Switching Hood, Hearing Protection, Leather Protectors or Gloves, Leather Work Shoes (>4 to 8 cal/cm 2)

☐ HRC 3 Cotton Clothing under 2 FR Coveralls, Safety Glasses, Hard Hat, Flash Suit Hood, Hearing Protection, Leather Protectors or Gloves, Leather Work Shoes (>8 to 25 cal/cm 2)

☐ HRC 4 Cotton Clothing under Multilayer FR Flash Suit Jacket and Pants Safety Glasses, Hard Hat, Flash Suit Hood, Hearing Protection, Leather Protectors or Gloves, Leather Work Shoes (>25 to 40 cal/cm2)

PREPARED BY: _____ Date: _____

APPROVED BY: _____ Date: _____

ADDITIONAL APPROVALS FOR MANIPULATIVE ENERGIZED WORK

Approval of D/S Electrical Coordinator _____

Approval of Area Division/Section Head _____

(FESS Head Must Sign if FESS Electricians are Performing Manipulative Energized Work Under this Permit for Another D/S)

Approval of Fermilab Directorate _____

Job Briefing Signature Sheet

Person(s) Conducting Briefing: _____ Date: _____

Personnel Present at the Job Briefing will Sign Below, thereby Indicating their Understanding of the Scope of Work and Associated Hazard Mitigation Requirements.

Print Name	Fermi ID #	Div/Sec or Company	Signature

Job Briefing Signature Sheet

Person(s) Conducting Briefing: _____ Date: _____

Personnel Present at the Job Briefing will Sign Below, thereby Indicating their Understanding of the Scope of Work and Associated Hazard Mitigation Requirements.

Print Name	Fermi ID #	Div/Sec or Company	Signature

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Fermilab

Excavation Permit

Complete the following:

Date of Request

Est. Starting Date **Est. Completion Date**

Project Title

Project Number

Building Name or Site Location

Requesting Employee Name

Phone# **Cellular or Pager #**

Div/Sec or Subcontractor

Phone# **Cellular or Pager #**

Requestor is to attach site drawing(s) of the area to be excavated. Outline the excavation and provide approximate dimensions (width and length).

Project Task#

Issued

FERMI-JULIE Coordinator

Print

Sign

Employee/Task Mgr/Const. Coord.

Sign

Acknowledgement

Subcontractor (Competent Person)

Print

Sign

☐ **A checkmark in this box indicates excavation is in the vicinity of an accelerator enclosure.**

☐ **A checkmark in this box indicates that there are restrictions associated with this permit.**

Note: Notify the construction coordinator if an underground utility is damaged. In case of emergency, call (630) 840-3131.

BOLD items indicate required information before the permit can be processed.

EXTENDED TO **Signature**
Date

EXTENDED TO **Signature**
Date

EXTENDED TO **Signature**
Date

not more than 7 calendar days after last utility locate is completed

EXPIRES

UNDERGROUND UTILITY LOCATION CONTACTS

Project Name _____

Project # _____ Need Date _____

(1) UTILITY	(2) Utility Locator Or Contact	(3) Ext.	(4) DATE/TIME Contacted	(5) Utility Marked (X or NR)	(6) Color Used	(7) SIGNATURE Verbal-V/Written-W Approval Work Order-WO Approval	(8) Restriction	(9) DATE
Telecomm	Nanette Larson Anita Menz-Cwiklik (Alt) Alison Fitzgerald (Alt)	4550 6409 3221			Orange			
CATV	Karen Kephart	6625			Orange			
CD Datacomm Cabling	CD/DCD/DCI Service Call	4373			Orange			
FIRUS	Al Legan Joe Flores (Alt)	4074 2894			N/A			
High Voltage	Joseph Pathiyil Richard Bergquist Prem Mattappally (Alt)	3004 8805 8114			Red			
Up to 480V	Glen Smith Andrew Auersch (Alt) Rick Beardsley (Alt)	6595 3364 3364			~~Red~~ Orange			
Gas, Sewer & Water Lines	Steve Shirley Bill Sharp (Alt) Paul Ronning (Alt)	3363 3363 3363			Gas-Yellow DWS- Blue ~~ICW- Blue~~ Orange CPW- Blue SEW- Green			
AD/CAMAC & Timing Links	Greg Vogel Rupert Crouch (Alt)	4942 2645			~~Red~~ N/A			
AD- Radiation Safety	Gary Lauten Mike Gerardi (Alt) John Anderson (Alt)	8360 4570 4973			N/A			
LCW (Fixed Target)	John Buckley Maurice Ball (Alt)	4731 4448			Gas-Yellow ~~Silver~~			
ES&H-EP SWMU's Only	Geoff Eargle Teri Dykhuis (Alt)	4847 3607			N/A			
LCW Accelerators	Maurice Ball Robert Slazyk (Alt)	4448 2422			Silver			

Additional Remarks

Print Form

Submit by Email