Argonne NATIONAL LABORATORY

PD-105 (March 12, 2007)

INSTRUCTIONS FOR CONSTRUCTION CONTRACTOR ENVIRONMENT, SAFETY AND HEALTH REQUIREMENTS

These instructions provide an overview of the Laboratory's Environment, Safety and Health (ES&H) expectations for contractors. The Laboratory's expectations include a set of requirements which assures that contractors have a complete and integrated ES&H program and that their program be aggressively implemented. The Laboratory requirements are detailed in Appendix A of the Argonne Terms and Conditions which is provided to the successful contractor. Appendix A includes the clause, "Environment, Safety and Health", which defines contractor ES&H requirements including the Laboratory's contractor disciplinary program.

Within ten days of award of the contract, the contractor must submit the following:

A. Contractor ES&H Program and Implementation Plan

A comprehensive safety plan addresses all of the hazards expected to be encountered in the performance of the proposed contract. The plan must address how the contractor will implement the plan, including the designation of competent and responsible personnel. Attachment No. 1 - ESH Program and Implementation Plan Guide, EQO-526, is a guide the Laboratory uses to evaluate proposed plans and may be useful in developing your proposed plan.

B. Environmental Plan

If required by the project specifications, the successful Contractor shall submit an Environmental Plan which addresses the potential environmental impacts of this work.

a. If the work involves excavation, an erosion control plan will be required. This plan shall include the location and description of the area being excavated, the sewers, waterways, and roads to be protected, the erosion control measures to be installed, and a map of the area.

b. A description of the erosion control installation, maintenance and inspection procedures and schedules, and a plan for the removal of the erosion control measures should also be included.

C. Job Safety Analysis (JSA)

The JSA is a detailed analysis of the steps taken to complete each phase of the job, a detailed analysis of the hazards of each of those tasks and the mitigation actions that will be taken to eliminate or minimize the exposure to those hazards. Further information on preparation of a JSA is available from the National Safety Council and other professional safety organizations. Attachment 2 - Construction Job Safety Analysis, ANL-209C, is a form that can be used to document the JSA and the Contractor Safety Orientation.

D. Contractor ES&H Representative

This is the contractor's designated competent member of his organization responsible for the implementation of the contractor's ES&H Program on the Laboratory site. This member must have the authority to fulfill this responsibility and must be on site during the entire job.

The Laboratory will review and must approve the above submittals prior to the start of work. Typically, after approval of these submittals, a pre-construction meeting is held by the procurement department to collectively review these documents and address open issues.

Before any contractor employee is allowed to start work at the Laboratory, the contractor employee must attend the Contractor Safety Orientation and the Job Safety Orientation.

E. Contractor Safety Orientation

A 1.5 hour training class provided by the Laboratory four days per week at 7:30 a.m. There is no cost to the contractor for this training.

F. Job Safety Orientation

The contractor ES&H representative shall instruct each contractor employee on the details of the Job Safety Analysis for this work. Each contractor employee must read and sign the Job Safety Analysis and this document must be available at the job site at all times. Also, prior to starting work in some Laboratory buildings, the Contractor employees must attend a Building Orientation.

Other items that must be posted or available at the job site include MSDS sheets, DOE poster, emergency phone numbers, workers compensation notice, all permits and all approved hazard specific plans.

Prior to the use of tools, the Laboratory will conduct a tool and equipment inspection.

G. Tool Inspection

Upon arrival, the Laboratory will inspect contractor tools for compliance with OSHA, Argonne, and other applicable requirements and industry standards. Unsatisfactory tools must be tagged out of service and removed from the Argonne site at the end of the work shift.

As dictated by the scope of work and the mitigating actions necessary to address specific hazards, additional hazard specific plans or permits may be required. Examples of these include, but are not limited to:

H. Open Flame Permit
I. Energized Electrical Work Permit
J. Respiratory Protection Plan
K. Confined Space Entry Plan
L. Asbestos Abatement Plan
M. Work Entry Permit
N. Dig Permit
O. Coring Checklist
P. Fall Protection Plan

Q. Hoisting and Rigging Plan

The contractor shall work with the Laboratory in planning for, developing as needed, and obtaining approval of these plans and permits.

R. Laboratory Site Rules and Safety Requirements

The Laboratory enforces a series of site rules and requirements. Not unlike other large sites, the Laboratory specifies unacceptable contractor employee acts or conduct, and provides a listing of site safety requirements addressing areas of frequent violation and/or serious hazard potential.

S. In Case of Emergency

All contractor and subcontractor accidents and unauthorized releases to the environment occurring at the Laboratory site must be reported immediately by dialing 911 from a Laboratory telephone or pay phone, or 630-252-1911 from a cellular phone. The accident or unauthorized release must be reported immediately to the Construction Field Representative, Technical Representative or Project Manager. In addition, the contractor shall complete an ANL-240, Incident Investigation and Analysis Report and ensure that the injured employee and all witnesses to the incident complete an ANL-239, Incident Description and submit these to the Construction Field Representative, Technical Representative or Project Manager within 24 hours.

The Laboratory has a well established contractor safety program. Our goal is for work at the Laboratory to be free of incidents that threaten the environment, the safety and health of contractor and Laboratory employees and the public, or the safety of personal, contractor or Laboratory property.

Attachment 1

ES&H PROGRAM AND IMPLEMENTATION PLAN REVIEW GUIDE

Date of Contractor's Plan: _____ Date Reviewed: _____

Contractor: _____ Contract Number: _____

Job Number: _____ Job Title: _____

Reviewer: _____

		REF	Aprvd	Not Aprvd	Not Req'd
I	CONTRACTOR'S ES&H POLICY STATEMENT				
	• Must be signed by a responsible company officer.		_____	_____	_____
II	CONTRACTOR'S ES&H ORGANIZATION	10CFR851			
	• Safety Representative				
	– Responsibilities		_____	_____	_____
	– Qualifications		_____	_____	_____
III	GENERAL SAFETY AND HEALTH PROVISIONS	10CFR851			
	• Safety training and education and awareness (Ref. Training Requirements in OSHA Standards and Training Guidelines, OSHA 2254)	1926.21	_____	_____	_____
	• Orientation				
	– 1 ½ Construction Safety and Building Orientation		_____	_____	_____
	– Hazard Communication Program		_____	_____	_____
	– Job Safety analysis		_____	_____	_____
	• Recording and Reporting of Injuries				
	– OSHA 300 Log (300A)	1904 & 1926.22	_____	_____	_____
	– DOE Form		_____	_____	_____
	– ANL-239, ANL-240 Accident Forms		_____	_____	_____
	– Verbal to Argonne CFR		_____	_____	_____
	• Housekeeping	1926.25	_____	_____	_____
	• Acceptable certification for pressure vessels, boilers, cranes and other equipment.	1926.29	_____	_____	_____
	• Employee involvement, free of retaliation		_____	_____	_____
	• Inspection plan		_____	_____	_____
	• Meetings		_____	_____	_____
	• Confined spaces	1910.146	_____	_____	_____
	• Training Certifications		_____	_____	_____
	• Permits		_____	_____	_____
	• Temporary building and facilities		_____	_____	_____
	• Submittals to the Laboratory		_____	_____	_____
IV	OCCUPATIONAL HEALTH AND ENVIRONMENTAL CONTROLS				
	• Medical services and first-aid [Ref. SC-1 (D)]	1926.23 & 1926.50	_____	_____	_____

		REF	Aprvd	Not Aprvd	Not Req'd
	• Sanitation	1926.27 & 1926.51			
	• Occupational noise exposure	1926.52			
	• Ionization radiation (X-rays, nuclear density, etc.)	1926.53			
	• Nonionization radiation (Laser)	1926.54			
	– Training				
	– Operator qualifications				
	• Gases, vapors, fumes, dusts and mist	1926.55			
	• Illumination	1926.26 & 1926.56			
	• Ventilation	1926.57			
	• Asbestos	1926.1101			
	• Hazard communication program	1926.59			
	– Training				
	– MSDS				
	– Personal protective equipment				
	– Labeling				
	• Carcinogens				
V	PERSONAL PROTECTIVE AND LIFE SAVING EQUIPMENT				
	• Head protection	1926.100			
	• Hearing protection	1926.101			
	• Eye and face protection	1926.102			
	• Foot protection				
	• Hand protection				
	• Protection of other body parts				
	• Respiratory protection	1926.103			
	• Safety belts, lifelines and lanyards	1926.104			
	• Safety nets	1926.105			
	• Minimum dress requirements				
VI	FIRE PROTECTION AND PREVENTION				
	• Protection	1926.24 & 1926.150			
	• Prevention	1926.24 &1926.151			
	• Flammable and combustible liquids	1926.152			
	• Liquified petroleum gas (LPG)	1926.153			
	• Temporary heating devices	1926.154			
	• Fire extinguishers	1926.150			
VII	SIGNS, SIGNALS, FLAGGING AND BARRICADES				
	• Accident prevention signs and tags	1926.200			
	• Signals	1926.201			
	– Lab sirens/horns				
	• Flagging	MUTCD			
	• Barricades	1926.202			

		REF	Aprvd	Not Aprvd	Not Req'd
	• Existing Laboratory postings				
VIII	MATERIALS HANDLING, STORAGE, USE AND DISPOSAL				
	• General requirements for storage	1926.250			
	• Rigging equipment for material handling	1926.251			
	• Disposal of waste material	1926.252			
	• Fork Lifts and attachments				
IX	TOOLS - HAND AND POWER				
	• General requirements	1926.300			
	• Hand tools	1926.301			
	• Power operated tools - guards	1926.302			
	• Abrasive wheels and tools	1926.303			
	• Woodworking tools	1926.304			
	• Jacks, lever and ratchet, screw and hydraulic	1906.305			
X	WELDING AND CUTTING				
	• Gas welding and cutting	1926.350			
	• Arc welding and cutting	1926.351			
	• Fire prevention and fire watch	1926.352			
	• Ventilation and protection in welding, cutting and heating	1926.353			
	• Lead abatement, chemical stripping, HEPA exhaust				
	• Welding, cutting and heating in way of preservative coating	1926.354			
	• Permits				
XI	ELECTRICAL				
	• Wiring design and protection	1926.404			
	– GFCI Required				
	• Wiring methods, components and equipment for general use	1926.405			
	• Specific purpose equipment and installation	1926.406			
	• Hazardous (classified) locations	1926.407			
	• Special systems	1926.408			
	• NFPA 70E	1910 Subpart S			
	• Lockout and tagging of circuits and energized sources	1910.147 & 1926.417			
	• Verifying of circuits and energized sources				
	• Maintenance of equipment	1926.431			
	• Environmental deterioration of equipment	1926.432			
	• Battery location and battery charging	1926.441			
	• Permits				
	• Energized electrical work - CPR trained safety watch				
XII	LADDERS AND SCAFFOLDS				
	• Ladders (Metal ladders are prohibited)	1926 Subpart L & X			
	• Scaffolds - Competent person requirements	1926 Subpart L			
	• Pickboards				

		REF	Aprvd	Not Aprvd	Not Req'd
XIII	FLOORS AND WALL OPENINGS AND STAIRWAYS				
	• Guardrails, handrails and covers	1926 Subpart M			
	• Stairways	1926 Subpart M & 1926.1052			
XIV	CRANES, DERRICKS, HOIST, ELEVATORS AND CONVEYORS				
	• Cranes-Lift Plans	1926.550			
	• Material hoists, personnel hoists and elevators	1926.552			
	• Base-mounted drum hoists	1926.553			
	• Overhead hoists	1926.554			
	• Conveyors	1926.555			
	• Aerial lifts	1926.556			
	• Backup alarms	ANSI			
	• Certifications for annual inspections	ANSI			
	• Operation certification and physical requirements	ANSI			
XV	MOTOR VEHICLES, MECHANIZED EQUIPMENT AND MARINE OPERATIONS				
	• Equipment	1926.600			
	• Motor vehicles	1926.601			
	• Material handling equipment	1926.602			
	• Pile driving equipment	1926.603			
	• Site clearing	1926.604			
	• Marine operations and equipment	1926.605			
	• Operation certification and physical requirements				
	• Backup alarms	ANSI			
XVI	EXCAVATIONS, TRENCHING AND SHORING				
	• General protection requirements	1926.650			
	– Competent person/Qualifications	1926 Subpart P			
	• Specific excavation requirements	1926.651			
	• Specific requirements for protective systems	1926.652			
	• Permits				
	• Confined space provisions	1926 Subpart P &1926.21			
	• Fencing				
XVII	CONCRETE AND MASONRY				
	• General requirements	1926.701			
	• Requirements for equipment and tools	1926.702			
	• Requirements for cast-in-place concrete	1926.703			
	• Requirements for precast concrete	1926.704			
	• Requirements for lift-slab operations	1926.705			
	• Requirements for masonry construction	1926.706			
	• Requirements for saw cutting				
XVIII	STEEL ERECTION				
	• Site layout and erection plans	1926.752			

		REF	Aprvd	Not Aprvd	Not Req'd
	• Structural steel assembly	1926.754			
	• Bolting, riveting, fitting-up and plumbing-up	1926.755 & 756			
	• Fall protection plans	1926.760			
	• Training	1926.761			
	• Crane use - lift plans				
XIX	UNDERGROUND CONSTRUCTIONS, CAISSON, COFFERDAMS, AIR COMPRESSORS				
	• Underground construction	1926.800			
	• Caissons	1926.801			
	• Cofferdams	1926.802			
	• Compressed air	1926.803			
	• Confined space provisions	1926.21			
XX	DEMOLITION				
	• Preparatory operations	1926.850			
	• Stairs, passageways, and ladders	1926.851			
	• Chutes	1926.852			
	• Removal of material through floor openings	1926.853			
	• Removal of walls, masonry sections and chimneys	1926.854			
	• Manual removal of floors	1926.855			
	• Removal of walls, floors, and material with equipment	1926.856			
	• Storage	1926.857			
	• Removal of steel construction	1926.858			
	• Mechanical demolition	1926.859			
	• Asbestos removal				
	• Lead base painted surfaces				
	• Lockout/Tagout procedures				
	• Fencing/signage				
XXI	BLASTING AND USE OF EXPLOSIVES				
	• Not allowed				
XXII	POWER TRANSMISSIONS AND DISTRIBUTION				
	• General requirements	1926.950			
	• Tools and protective equipment	1926.951			
	• Mechanical equipment	1926.953			
	• Material handling	1926.953			
	• Grounding for protective equipment	1926.954			
	• Overhead lines	1926.955			
	• Underground lines	1926.956			
	• Construction in energized stations	1926.957			
	• External load helicopters	1926.958			
	• Lineman's body belts, safety straps and lanyards	1926.959			
XXIII	ROLLOVER PROTECTIVE STRUCTURES; OVERHEAD				

		REF	Aprvd	Not Aprvd	Not Req'd
	PROTECTION				
	• Rollover protective structures (ROPS)	1926.1000			
	• Minimum performance criteria for rollover protective structures for designated scrapers, loaders, dozers, grades and crawler tractors	1926.1001			
	• Protective frame (ROPS) test procedures and performance requirements for wheel-type agricultures and industrial tractors used in construction	1926.1002			
XXIV	ENERGIZED SYSTEMS (PIPING, HVAC, ELECTRICAL, ETC.)				
	• Lockout and Tagout procedures	1910.147			
XXV	ENVIRONMENTAL PROGRAM				
XXVI	DRUG FREE WORK PLACE				
XXVII	DISCIPLINARY PROGRAM				
XXVIII	JOB SAFETY ANALYSIS REQUIREMENTS AND PROVISIONS				
	• Safety Representative: Name and qualifications				
	• Location of "Occupational Safety and Health Protection Poster" (Form DOE F-5480.1) and complaint forms.				
	• Emergency telephone numbers				
	• Hazards addressed in Special Conditions of the Specifications				
	_____				
	_____				
	_____				
	_____				

The contractor's ES&H Program and Implementation Plan dated _____ has been:

☐ Approved ☐ Approved as Noted ☐ Not Approved; Resubmitted

_____ FMS-CS Representative

_____ Project Manager

_____ EQO-IH Representative

_____ Division Qualified Person

_____ EQO- SME Representative

ANL-209C (2-07)

Construction Job Safety Analysis

Attachment 2

This form must be completed by the construction contractor and submitted to the Project Manager for approval prior to work commencement. In addition, this form must be maintained at the construction site where work is being performed.

Job Title _____

Contract Number _____ Building/Area _____

Contractor

Contractor _____

Project Manager _____

Phone No _____

Foreman _____

Phone No _____ Page _____

ESH Rep. _____

Phone No. _____ Page _____

Argonne

Project Manager _____

Phone _____

Construction Safety _____

Phone No. _____ Page _____

CM _____

Phone No. _____ Page _____

Other _____

Designated Competent Person

Excavation _____
(29 CFR 1926.650)

Confined Space _____
(29 CFR 1926.21)

Scaffolding _____
(29 CFR 1926.451)

Fall Protection
(29 CFR 1926.503 (a) (2)

NFPA 70E

If FMS is not engaged and the division does not have the qualified employee on staff, the SME and ES&H coordinator signatures are required.

If FMS is engaged, the FMS-CSS and ES&H coordinator signatures are required

Argonne Approvals

☐ **Approved**

☐ **Approved as Noted**

☐ **Not Approved -- Resubmit**

_____
Divisional Qualified Employee Date

_____
ES&H Coordinator Date

_____
EQO-SME (as needed) Date

_____
FMS-CSS (as needed) Date

Project Manager Review _____ _____
Name **Date**

- The contractor ES&H representative must hold an orientation with all employees prior to work identifying the hazards related to their scope of work and have each person sign the signature sheet attached.
- Identify location of **Emergency Telephones** and designated **Tornado Shelters** in relationship to the work site and provide phone numbers: **Laboratory Phone - 911, Cellular - 630-252-1911**.
- Emphasize compliance with **OSHA 29 CFR 1926**.
- Utilizing the format on attached pages, identify hazards and safety precautions/procedures to mitigate hazards.

Phase of Work	Safety Hazard	Precautions/Safety Procedures
Argonne Requirements	Argonne ES&H Compliance and Emergency Situations.	All contractor personnel assigned to work on the Argonne site will attend the 1.5 hour Argonne Contractor Safety Orientation (CSO). The contractor must maintain proof of this training on his/her person by carrying the CSO Argonne card provided by the instructor. The contractor must provide proof of this training to the CFR or SI when requested. Contractor will have a 10-hr OSHA trained employee on site at all times when work is performed. This employee is the contractors ES&H Representative. Proof of this training must be provided and the employees name(s) will be written on the JSA cover page. In addition, all contractor personnel must attend building/area orientation in relation to their scope of work to ensure they are aware of shelters during severe weather or emergency evacuation meeting points as well as any other special conditions in relation to the specific building/area.
Contractor Personnel Check-In	Worker Accountability	The contractor must report in daily, by 8 am, the number of employees he has on site by calling 252-7200.
General Conditions	PPE, Unauthorized Personnel In Work Area & Work Safe Practices	ANSI approved safety glasses, hard hat and ankle high sturdy leather work boots must be worn at all times in the work zones. All work zones will be sectioned off or barricaded according to the scope of work with ANSI/OSHA compliant signage posted. GFCIs will be utilized on all drop cords.
Electrical Hot Work	Arc Flash	Provide a safety work procedure for review/approval. Appropriate PPE and documentation to comply with training under NFPE 70E (2004).
Tool Inspection	Broken or Unauthorized Tools	All tools and equipment must be inspected by Argonne personnel prior to use. Any tool or piece of equipment deemed unsatisfactory will be tagged and removed. Any tool or piece of equipment that leaves the Argonne site must be reinspected upon its return. GFCIs will be utilized on all drop cords and handheld tools.

Phase of Work	Safety Hazard	Precautions/Safety Procedures
Hazardous Energy Sources	Stored energy, Employee Exposure, Electrical Shock	Follow approved Argonne procedure for LO/TO of this system. Argonne will initiate and lock out first; contractor will apply locks over Argonne. Contractor must provide their own locks/tags for each contractor employee for each LO/TO point. Argonne must review and approve proof of contractor LO/TO training before contractor may apply /participate in LO/TO.
Handling of Chemical/Products	Employee exposure to skin, mucus membranes and vapors	Submit for review by Argonne all MSDSs for materials that will be brought on site. Review and adhere to MSDS(s) before handling chemicals/ products. MSDS will be at job site attached to JSA. If additional PPE is prescribed within MSDS, contractor must acquire and utilize addition PPE.
Safety	Injury/Incident/Infraction	Imminent danger violations will result in an immediate 6-month suspension. Other lesser violations will receive "tickets" and/or other penalties per the contract.
All phases	Injuries or illness	In case of any injury or illness, no matter how minor, contact the Argonne National Laboratory Fire Department by calling (inside line) 911 (by cell phone) 252-1911. The Tech Rep/CFR must also be immediately informed.
Working at heights at/above 6 feet	Fall Hazards	(fill in if needed)
Working in Confined Spaces	Imminent danger to employees	(fill in if needed)
Working with Respirators	Exposure, imminent danger	(fill in if needed)
Critical Lift	Lift Failure, employee injury	(fill in if needed)
Lead Paint		(fill in if needed)
Asbestos		(fill in if needed)
Scaffold		(fill in if needed)
Personal Lift		(fill in if needed)

Material Safety Data Sheets (MSDS)

Hazardous materials used on this site are:

1. _____ 3. _____ 5. _____

2. _____ 4. _____ 6. _____

Location of MSDS:

1. _____ 3. _____ 5. _____

2. _____ 4. _____ 6. _____

Review of Emergency Routes and Assembly Point:

Basic Information

* _____

* _____

* _____

*Use separate sheets as necessary.

Basic Safety Rule Reminders:

1. Safety hat, safety glasses with side shields, and hard sole leather work boots that provide ankle protection are required as a minimum.

2. Inspect all tools and equipment for OSHA compliance before use.

3. Fall protection required when working heights above 6 feet when handrail or other fall protection is not provided.

4. Flag work areas and post warning signs.

5. Ground fault circuit interrupters (GFCI's) are required on all 110 and 120 volt receptacles.

6. Stairways, passageways, and access ways must be kept free of materials and equipment.

7. Orderly housekeeping shall be maintained.

8. Immediately report all injuries/illnesses and near misses to the Construction Field Representative, Technical Representative or Project Manager and complete all necessary forms.

9. Metal ladders are prohibited.

10. **NO DUMPING OF ANY KIND IS PERMITTED ON SITE WITHOUT USE OF A QUALIFIED AND COMPETENT SPOTTER.**

11. Any laser use (class 31, 3b, or 4) requires Argonne ES&H review.

Signature Sheet

Contractor: _____ Building/Area: _____

Contract Number: _____ Job Title: _____

Superintendent: _____ Company (not Argonne) ES&H Rep: _____

The ESH representative is responsible to see that all truck drivers receive first hand instruction to alert them to all hazards, particularly aerial hazards.

All trucks must lower their beds before driving away after dumping their loads.

This instruction to the drivers may be communicated by any of the contractors personnel, but the ESH Rep is the responsible person to see that this information is properly conveyed to the drivers.

A SPOTTER IS REQUIRED FOR ALL DUMPING OPERATIONS IN ORDER TO AVOID DAMAGE TO ARGONNE PROPERTY.

IN ADDITION TO THIS JSA, ALL CONTRACTOR EMPLOYEES AND ALL SUB-TIERS ARE REQUIRED TO FOLLOW THE CONTRACTOR'S APPROVED CORPORATE SAFETY PLAN. A COPY OF THE APPROVED PLAN IS AVAILABLE WITH THIS APPROVED JSA.

ES&H information relative to this job has been reviewed with me by my company ES&H representative.

Name (please print)	Badge No.	Signature	Date