

## Local Work Planning and Control Implementing Procedures

Laboratory-Wide Argonne Procedure LMS-PROC-200, Rev. 3

Effective Date: 02/25/2013

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### 1 Purpose

Establish the process for developing and approving local work planning and control (WPC) implementing procedures that integrate environment, safety, and health (ESH) into work planning and execution.

### 2 Scope

This procedure applies to the following Argonne activities and entities.

LMS core processes:	Governance
Organizations:	all
Buildings:	all
Specific locations:	all
Other applicability factors:	Off-site locations where an Argonne employee conducts work
Exclusions:	none

### 3 Work Process

#### 3.1 Introduction

This procedure is used by a manager of an Argonne organization (may be one or more division directors or an associate laboratory director [ALD]) to establish local work planning and control implementing procedures suited to the organization's work and that meet the criteria established in the [Exhibit](#). The implementing procedures may be applicable at the department or group level.

An implementation plan for this procedure is available at <http://inside.anl.gov/pages/work-planning-and-control>.

#### 3.2 Step-by-Step Procedure

The steps below are mandatory unless noted otherwise.

##### 3.2.1 Establish Local Work Planning and Control Implementing Procedures

Step	Job Role	Action
1	Organization manager	Assign an employee to produce local implementing procedures to describe implementation of work planning and control by a local organization (author).

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2	Author	<p>2.1 Write a local implementing procedure as directed, meeting the criteria established in this procedure and its Exhibit, including an implementation plan that addresses schedule, training, and other pertinent information necessary to comply with the local procedures.</p> <p>2.2 Forward your local implementing procedure to the manager who assigned you to write it, using <a href="#">LMS-PROC-7</a>, <i>Local Policies and Procedures Published through the Argonne Document Center</i>, or your local organization's established process for revising and approving local procedures.</p>
3	Organization manager	<p>Review the procedure and take one of the following actions:</p> <ul style="list-style-type: none"> <li>• Disapprove the local implementing procedure and return it to the author for revision. Process returns to Step 2.</li> <li>• Convene an external review committee, in consultation with the division director, ALD, and WPC program manager.</li> </ul>
4	External review committee	<p>Review the local implementing procedure and take one of the following actions:</p> <ul style="list-style-type: none"> <li>• Disapprove the procedure and return it to the organization manager for return to the author. Process returns to Step 3, first bullet.</li> <li>• Approve the local procedure, obtain concurrence from the appropriate line managers, and forward it to the WPC program manager.</li> </ul>
5	WPC program manager	<p>Evaluate the local implementing procedure to determine if the criteria established in the Exhibit have been met and take one of the following actions:</p> <ul style="list-style-type: none"> <li>• If you do not concur, provide comments and return the procedure to the organization manager for revision. Process returns to Step 1.</li> <li>• Concur with the local procedure and forward it to the organization manager.</li> </ul>
6	Organization manager	<p>Issue and implement the approved local procedures in accordance with your organization's document control procedure.</p>

### 3.2.2 Revisions to Local Work Planning and Control Implementing Procedures

Step	Job Role	Action
1	Organization manager	When changes to a local work planning and control implementing procedure or related referenced procedure are required, assign an employee to draft the revisions (author).

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2	Author	<p>2.1 Revise local implementing procedure as directed, meeting the criteria established in this procedure and its Exhibit.</p> <p>2.2 Forward revisions of local implementing procedure to the manager who assigned you to write it, using <a href="#">LMS-PROC-7</a>, <i>Local Policies and Procedures Published through the Argonne Document Center</i>, or your local organization's established process for revising and approving local procedures.</p>
3	Organization manager	<p>Review the procedure revision and take one of the following actions:</p> <ul style="list-style-type: none"> <li>Disapprove the local implementing procedure and return it to the author for revision. Process returns to Step 2.</li> <li>Approve the local implementing procedure and forward a reference copy to the WPC program manager.</li> </ul>
4	WPC program manager	<p>Review the approved procedure revision and take one of the following actions:</p> <ul style="list-style-type: none"> <li>If the procedure revision is minor and the Exhibit criteria are met, process ends.</li> <li>If the procedure revision requires an external review to determine if the Exhibit criteria are met, inform the organization manager that an external review must be convened. Process returns to Section 3.2.1, Step 3.</li> </ul>

## 4 Records Created by Work Process

The records listed below must be retained as indicated.

Description of Record (include form number if applicable)	Custodian	Indexing Method, Storage Medium	Federal Retention Requirement*
Approved local implementing procedures	Local organization office	Index by local identification number and date documents were approved; store on paper or electronically	Destroy 75 years after approval (DOE ADM 18.37)

\*If records are maintained in a business information system that is not currently programmed to purge digital records based on age, the records may be retained in that system past the indicated destruction date.

## 5 Related Documents

This procedure implements requirements established by the following basis documents.

- none

This procedure implements requirements established by the following Argonne policies.

- Environmental Policy*, [LMS-POL-2](#).
- Safety and Health*, [LMS-POL-1](#).

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- *Work Planning and Control*, [LMS-POL-16](#).

This procedure implements requirements established by the following Argonne procedures.

- none

The following documents provide background information relevant to the subject of this procedure.

- U.S. DOE, Integrated Safety Management System Guide (Volume 1) for use with Safety Management System Policies (DOE P 450.4, DOE P 450.5, and DOE P 450.6).
- *Argonne National Laboratory [Worker Safety and Health Program](#)*.
- *Argonne National Laboratory [Integrated Safety Management System Description](#)*.

## 6 Definitions

The following definitions can be found in the [Argonne Policies and Procedures Dictionary](#) and are applicable to this procedure.

[work](#)

[work task](#)

[work plan approval](#)

[work authorization](#)

[work control document](#)

[worker](#)

## 7 About this Procedure

Issuing LMS core process:	Governance
LMS subprocess:	not applicable
Issuing organization:	Office of the Laboratory Director
Final approver:	Paul K. Kearns
Point of contact:	Elizabeth F. Grom
Review cycle (months):	36
Date last revised:	February 25, 2013
Date last reviewed:	February 25, 2013

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### 8 Summary of Changes in This Version

Revision 3 differs from Revision 2 in the following ways: Section 2 and Exhibit revised to clarify applicability of the procedure for work performed by Argonne personnel at off-site locations. Section 3.2.2 added to address revisions to local work planning and control implementing procedures.

### Exhibit: Criteria for Local Work Planning and Control Procedure

#### E.1 General

Incorporating integrated safety management (ISM) core functions and guiding principles, organizations must establish local work planning and control procedure(s) to cover the full scope of their work, including work conducted by employees on the Argonne site and at off-site locations.

**Note 1:** An employee who performs administrative and computer-type office work in an office area that does not require permits or special training is authorized upon completion of: 1) new employee orientation, 2) applicable training per [LMS-PROC-16](#), *Mandatory Training*, and 3) the annual safety and health inspection of the employee's workspace per [LMS-PROC-159](#), *Facility Safety and Health Inspections*. Annual supervisor review of office hazard identification and control with office workers is a good practice. A sample job safety analysis for this purpose is provided at <http://inside.anl.gov/pages/work-planning-and-control>.

**Note 2:** Work performed by an Argonne subcontractor on the Argonne site is handled through laboratory-level requirements established by [LMS-PROC-123](#), *Contractor Safety*.

The local procedure must describe the elements below and those in each of the remaining sections of this exhibit:

- Clear and unambiguous lines of authority and responsibility to establish and maintain environment, safety, and health (ESH) considerations at all organizational levels.
- Describe how managers will determine that personnel can perform the work task(s) safely.
- Describe how work planning and control will be accomplished using a graded approach, commensurate with the hazards, complexities, and coordination of work to be performed. Overall risk, whether financial, schedule, mission or other variable, is assumed to have already been determined to be acceptable when integrating safety into work planning and control.

**Note:** Mitigated risk resulting from the selection of a control is factored into the hazard identification and control selection process in [Exhibit Section E.3](#). SME reviews related to hazard identification and control selection is integrated into the implementing tools.

- [Table E-1](#), below, may be used to provide guidance for determination of the type of work control formality required for a task. The formality of work control, including documentation and execution, is dependent on both the complexity of the work and the related safety consequences (rigor). Describe how rigor is determined and how the level of rigor is used to establish work controls.
  - **Skill-of-the-worker** – workers have the appropriate level of proficiency (training, education, experience, and competency) to identify hazards and develop an appropriate control strategy to mitigate risks associated with the hazards per [LMS-PROC-65](#).
  - **Procedure** – workers execute work according to the control selection governed by a procedure, whether a standard operating procedure, work instruction, or a one-time work plan (often called a job plan). Mitigating controls are described in the procedure and have been integrated into the work.

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- **Task-specific** – task-specific hazard identification and control selection is performed when a procedure is not available, and for which skill-of-the-worker is not sufficient.

For example, local implementing procedure may stipulate that skill-of-the-worker is to be used for work that has a low level of rigor rating, provided that workers are familiar with the known hazards and the necessary controls. In addition, the local implementing procedure may stipulate that work having a medium or high level of rigor rating be performed using a more formal procedure or task-specific work instruction. [Table E-2](#) presents examples of tasks of differing rigor levels.

### E.2 Define the Scope of Work

Local procedures must describe how the organization defines the planned work, including work conducted by employees at off-site locations. A clearly defined scope of work is needed to analyze the hazards, identify the controls, and safely execute the work. The definition of work must:

1. Identify work tasks to a level of detail consistent with the risk, complexity, and hazard of work.
2. Clearly define boundaries of work scope.

### E.3 Hazards Analysis and Identification of Controls

Local procedures must describe how the organization screens, analyzes, and determines an acceptable control strategy for hazards, using one or more of the following Argonne approved methodologies:

1. The WPC hazard identification and control [web-application](#);
2. The APS experiment hazard identification and control web application ([ESAF](#)) system.
3. A locally defined method by which the supervisor of the Argonne employee(s) planning to work off site verifies that the off-site hazards have been identified and analyzed and appropriate controls developed. This method must provide for consideration of occupational medicine issues (assistance is available from the Health and Employee Wellness Division, at ext. 2-2800).

Local procedures must also describe how permits, procedures, and the results of the hazards analysis and identification of controls are reviewed to determine that the controls are not in conflict.

### E.4 Develop Work Control Document

Local procedures must describe the contents to be included in work control documents for on-site and off-site work conducted by employees. At a minimum, these must include:

1. Definition of the scope of work and limits for the work that will be authorized (see [Exhibit Section E.2](#)).
2. Identification of the hazards and all controls (see [Exhibit Section E.3](#)).
3. Additional requirements that must be satisfied for work authorization.

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### E.5 Work within Controls

Local implementing procedures must describe extent of documentation and how employees will perform on-site and off-site work within controls for skill-of-the-worker, procedure work, and task-specific work, including:

1. How workers acknowledge their understanding of the work and its associated hazards and controls, their responsibility to begin work only after it is authorized, and their responsibility to stop or suspend work per [LMS-POL-1](#).
2. How the work is approved, including designation of at least one WPC approval authority.
3. How the work is authorized, including the level of authority based on the rigor of work.
4. How the work is assessed to detect changed conditions or scope creep that require modification to the work control document (for example, plan called for pressure testing a supply line, but the work was expanded to pressure test the return line. At this point, work would be paused to reassess the plan.)
5. How the changes to the work control document are addressed, including both editorial changes and changes that require a revised hazards analysis and associated reapproval and reauthorization following such a change.

### E.6 Feedback and Improvement

Local implementing procedures must describe how lessons learned are incorporated into the specific elements of work planning and control, for both on-site and off-site work, including:

1. Definition of the scope of work.
2. Analysis of hazards and identification of controls, including those that should be communicated back to the WPC program for incorporation into the WPC hazard identification and control [web-application](#).
3. Communications between workers prior to work start (for example, pre-job tailgate meetings).
4. Communications during the execution of work.
5. Communications following completion of work (for example, post-job discussion of what was learned during the work).

**Note:** [LMS-PROC-133](#), *Lessons Learned*, describes the process by which division lessons learned points of contact capture lessons learned and disseminate to the Laboratory information related to innovative approaches, good work practices, employee feedback, and adverse work practices or experiences.

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**Table E-1: Guidance for Local Organizations on Determination of WPC Rigor**

Consequence					
Complexity		Minimal	Moderate	Serious	Major
	<b>Difficult</b>	M	M	H	H
	<b>Moderate</b>	L	M	M	H
	<b>Simple</b>	L	L	M	H
H = high rigor; M = medium rigor; L = low rigor					
Complexity Determination					
<b>Difficult</b>	Requires: high mental awareness while performing task, extensive coordination with individuals and/or organizations, or emergency standby personnel required. Work area conditions expected to vary considerably at times. Potential for unanalyzed hazards requiring evaluation as work progresses (for example, uncharacterized changing exposure levels or unbounded fluctuations in magnitude of the hazard).				
<b>Moderate</b>	Requires: support personnel to assist in performing work, careful coordination with individuals, or scheduling of resources outside of performing organization. Work may be first performance for the performing organization. Magnitude of hazards not fully realized until after work commences. Minor changes in work area conditions. Situations where two known hazards could interact to produce an additional hazard.				
<b>Simple</b>	Requires: normal level of mental awareness, minimal coordination outside of the performing organization. Work area conditions stable. Hazards are readily recognizable and the magnitude (for example, voltage, exposure level, chemical reaction, amount of energy) of each hazard is known in advance.				
Consequence Determination					
<b>Major</b>	Death, uncontrolled exposure to the public, off-site environmental release, or a site-wide emergency may result.				
<b>Serious</b>	Severe injuries, hospitalization, on-site environmental release, or damage to system or process affecting reliability resulting in significant work stoppage. Consequence is limited to a single area (area may consist of multiple facilities or buildings).				
<b>Moderate</b>	Serious ESH impacts or damage to system or process. Injuries without need for hospitalization. Consequence is limited to a single facility or building.				
<b>Minimal</b>	Minor ESH impacts, impairment of the reliability for a system or process, or minor first aid cases. Consequence is limited to a room or small area outside of a facility.				

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**Table E-2: Rigor Level Examples**

<b>Low Rigor</b>
<ul style="list-style-type: none"> <li>• Routine office-type tasks</li> <li>• Routine activities in controlled areas and radioactive material areas</li> <li>• Equipment (bench top set-up) utilizing non-powered hand tools</li> <li>• Indoor operation of Class 1, Class 2, or Class 3R lasers</li> <li>• Trouble-shooting circuits less than 50 Volts (V)</li> <li>• Hazardous energy controlled by plug and cord electrical connection disconnected, no capacitors</li> <li>• Using an approved/ permitted air emission source</li> <li>• Using ladder &lt; 4 feet above surface</li> <li>• No impact on structures, systems, or components addressed in safety analysis-type document</li> <li>• Use of compressed air for operations such as painting, cleaning, maintaining tire pressure, etc.</li> <li>• Gas cylinder handling and change-outs or routine cryogen dewar fill/use applications</li> <li>• Use of standard utilities such as compressed dry air, cooling water, “house” supplied gases (nitrogen), etc., connected to laboratory equipment</li> <li>• Use of laboratory equipment within the normal operational design intent as documented in the system data package and/or the manufacturer’s manual</li> <li>• Entering a non-permit confined space, when the task will not affect classification of the space</li> <li>• Equipment calibration, deenergized, utilizing hand tools</li> </ul>
<b>Medium Rigor</b>
<ul style="list-style-type: none"> <li>• Use of hazardous chemicals, including particularly hazardous substances</li> <li>• Radiological activities that require a radiological work permit (RWP)</li> <li>• Open flame or spark-producing work requiring permit</li> <li>• Zero energy verification measurements (high likelihood of deenergized state)</li> <li>• Single source lockout/tagout (LOTO) capable of being easily isolated; no disassembly required</li> <li>• Low voltage calibration &lt; 50 V</li> <li>• Using ladder &gt; 4 feet above surface</li> <li>• Man-lift, bucket truck, or similar motorized lifts, with fall protection gear</li> <li>• Handling load configurations that adversely affect forklift/lift truck stability and maneuverability</li> <li>• Installation/ fabrication of new, or modification of an existing, pressure/vacuum system</li> <li>• Installation of new equipment not previously used that will be connected to standard utilities</li> <li>• Working in heavy traffic area</li> <li>• Heat/cold stress managed only by stay time and clothing</li> <li>• Hazardous waste cleanup operations</li> <li>• Hazardous waste operations at treatment, storage, and disposal facilities</li> <li>• Use of chemicals that are above a consumer commodity quantity</li> <li>• Controlling special processes that affect the quality of items and/or services</li> <li>• Work with unbound engineered nano particles</li> <li>• Unanalyzed high noise level expected to exceed threshold limit value</li> <li>• Quality requirements that impose stringent controls and documentation of completed activities</li> </ul>
<b>High Rigor</b>
<ul style="list-style-type: none"> <li>• Operating, aligning, or servicing openly accessible or exposed Class 3B or Class 4 laser beams</li> <li>• Outdoor operation of any class of visible laser (400 – 700nm) or any Class 3B or Class 4 laser</li> <li>• Working at heights requiring a fall protection plan</li> <li>• Work with toxic gases such as metal hydrides or corrosives</li> </ul>

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- Handling of pyrophoric materials, including those suspended in liquids, with particle size small enough to support spontaneous combustion
- Permit required confined space entry
- Energized electrical work > 50 V
- Use of primary explosive material and/or use of low energy electro-explosive devices
- Work on equipment or processes involving multiple types of hazardous energy sources requiring LOTO
- Work within < 10 ft of an overhead power line > 50 kV, including equipment movement underneath, excluding work by high voltage linemen
- Work in a Very High Radiation Area
- Excavation of wall, floor, or ceiling penetration where a site investigation has not or cannot identify all potential hidden hazards
- Excavation that includes digging with power equipment to a depth of eight inches or more that might contact underground utilities or when an employee must enter an excavation five feet or more in depth
- Entry into environments with potential imminent danger to life or health, including work that may activate chemical deluge systems

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