Princeton Plasma Physics Laboratory's

Integrated Safety Management

Revision 1

June 1999

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Princeton Plasma Physics Laboratory's

Integrated Safety Management

June 1999 Revision 1

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Princeton Plasma Physics Laboratory's

Integrated Safety Management

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Contents

Director's Statement of Commitment to Integrated Safety Management

The DOE Princeton Plasma Physics Laboratory is a Collaborative National Center for plasma and fusion science. Our primary mission is to develop the scientific understanding and the key innovations which will lead to an attractive fusion energy source. Associated missions include conducting world class research along the broad frontier of plasma science and providing the highest quality of scientific education. Our vision is to create the innovations which will make fusion energy a practical reality.

Over the years we have achieved an excellent track record in environment, safety, and health performance. This is because it is an integral part of our culture – it is embodied in everything that we do. This Integrated Safety Management document provides a clear framework for incorporating safety into the management and performance of all Laboratory work activities. It strongly reinforces our policy that the responsibility for environment, safety, and health resides with line management and each individual.

We are committed to the principles, functions, and controls described in this plan and we will continually apply the principles of integrated safety management as we fulfill our responsibilities and commitments to each other, the University, DOE, and the public.

Robert J. Goldston, Director

I. Introduction

This document describes the structure and implementation of Integrated Safety Management at Princeton Plasma Physics Laboratory (PPPL). Integrated Safety Management at PPPL is accomplished consistent with DOE policy, requirements, and guidance in a manner that applies controls and precautions tailored appropriately to the hazards of the projects and work being performed.

II. PPPL's Integrated Safety Policy and Philosophy

Integrated Safety Management (ISM) at PPPL is comprised of:

- The governing policy that safety be integrated into work management and work practices at all levels.

- The distinct policies, programs, procedures, and cultural beliefs that we have developed as the structure that our workers utilize in fulfilling our Laboratory's environment, safety, and health responsibilities.

Although the term "integrated safety management" has only become prevalent in recent years, integrating safety into the management of work and into work practices has been the Laboratory's philosophy and practice for years. ISM is a socially responsible philosophy that is inherent to our Laboratory's primary programmatic mission – develop the scientific understanding and the key innovations that will lead to an attractive fusion energy source.

The Department of Energy embraces the ISM philosophy and has issued DOE Policy 450.4, Safety Management System Policy. The Policy consists of six hierarchical components that provide guidance and requirements to the Department and its contractors for achieving the "Objective" of systematically integrating safety into management and work practices at all levels.

PPPL fully endorses the components of the DOE Policy as a sound methodology for effectively attaining integrated safety management. The PPPL ES&H Program was built on the very concepts discussed in the Policy and is comprised of well established safety policies, procedures and practices that have helped our workers successfully implement ISM for years.

The first three components of the DOE ISM Policy (Objective, Guiding Principles, and Core Functions) are to be consistently applied at all DOE facilities. Component 2 identifies seven "Guiding Principles" that are to be followed while applying the other components of ISM. Component 3 provides five safety management "Core Functions" as the steps that must be taken to attain the ISM "Objective" of integrated safety. These three components are explained further in Figure 1 below.

Figure 1

Intent and Essential Elements of ISM

1 **Objective - Integrate safety into management and work practices**. [To ensure missions are accomplished while protecting the public, workers, and the environment.]

2 **Guiding Principles** [The principles to be followed in the establishment and performance of the core functions (III) to accomplish Objective (I).]

- **Line Management Responsibility for Safety**
- **Clear Roles and Responsibilities**
- **Competence Commensurate with Responsibilities**
- **Balanced Priorities**
- **Identification of Safety Standards and Requirements**
- **Hazard Controls Tailored to Work Being Performed**
- **Operations Authorization**

3 **Core Functions** [The five functions that must be applied, on a graded approach, to any ES&H related work activity.]

- **Define the Scope of Work**
- **Analyze the Hazards**
- **Develop and Implement Hazard Controls**
- **Perform Work within Controls**
- **Provide Feedback and Continuous Improvement**

The other three components of ISM (Mechanisms, Responsibilities, and Implementation) are established by the DOE contractors for the work they perform and vary based on the nature and hazards of the specific activity. This system description describes the mechanisms, responsibility assignments, and implementation of ISM at PPPL that implements the DOE Policy elements in a manner appropriately tailored to the hazards of projects and work being performed. Figure 2 below provides an overview.

Figure 2

PPPL's Implementation of ISM

4 Mechanisms [Define how the Core Functions are applied at PPPL based on the specific activities being performed, the associated hazards and work, and the DOE expectations.]

- **DOE Expectations for How the Core functions are to be performed** are conveyed to PPPL through DOE Directives and contract clauses.
- **PPPL policies, procedures and documents** [such as ES&H plans, SARs, industrial hygiene plans, hazard analyses] outline how PPPL implements the ISM Core Functions and Principles, and fulfills commitments made to DOE, and DOE Expectations.

5 Responsibilities are incorporated into the PPPL "Mechanisms"

- **PPPL Responsibilities** are defined in our contract, regulations, and PPPL procedures.
- **PPPL Approval Authorities** for employing the ISM Principles and Core Functions have been established by Lab Policies and Procedures, applying a risk-based graded approach.
- **DOE responsibilities** are defined in DOE Directives.

6 Implementation of ISM at PPPL

- **Implementing the Mechanisms** is accomplished by applying the PPPL Procedures, Plans, and Policies to individual work activities and projects on a risk-based graded approach.

III. PPPL's Implementation of Integrated Safety Management

Implementation of ISM at PPPL begins at the Institutional or Lab-wide level by:

1) Identifying the governing requirements, customer expectations, and responsibilities that must be fulfilled in the management and operation of Laboratory activities. This step results in the "umbrella" of standards encompassing Laboratory activities that includes applicable DOE Directives, laws, regulations, contractual requirements, and industry standards.

2) Developing Laboratory policies, plans, and procedures, based on the "umbrella" of governing requirements and expectations, to guide work activities and ensure responsibilities and commitments are met.

These two steps, performed on a continuous cycle, form the foundation of ISM at the institutional level, but to truly accomplish the integration of safety into management and work at all levels, PPPL implements ISM on two additional levels -- the facility or project level, and specific to each work activity being performed.

Whether at the institutional, project, or activity level, the main focus of ISM is that all work be performed safely. This is accomplished by applying the "Core Functions" of ISM to all work in a five step process:

1. Define the Scope of Work
2. Analyze the Hazards
3. Develop and Implement Hazard Controls
4. Perform Work within Controls
5. Provide Feedback and Continuous Improvement

The "mechanisms" that PPPL has developed to implement these core functions are defined in Lab-wide, Department, Project, and work group policies, plans, and procedures. Laboratory staff and other individuals who work at PPPL are expected to be familiar with the established systems and documents. A detailed listing of these Lab-wide "mechanisms" can be found in Attachment 1. The listing shows applicable policies, plans, procedures, and manuals along with the corresponding ISM "guiding principles". Specific procedures developed by individual projects (e.g., procedure OP-AD-09 which details the requirements for obtaining a

permit to perform work on the D-Site experimental facilities) also become part of the overall integrated safety management system for that project. They are not included in Attachment 1, but simply noted generically as project specific procedures. Attachment 2 shows how the major PPPL policies, plans, procedures, and manuals are applied to each work activity to implement the five-step ISM functions.

PPPL Integrated Safety Management Processes, Programs, and Systems

DOE provides their expectations and requirements for PPPL in the form of Directives, contract clauses, performance objectives, and in the Environment, Safety, and Health Policy Statement issued directly by the Secretary of Energy (Attachment 3). This includes Directives that charge the Laboratory with identifying hazards and performing safety analyses (for example DOE 451.1A *National Environmental Policy Act Compliance*, DOE 5480.23 *Nuclear Safety Analysis Reports*, DOE 5480.21 *Unreviewed Safety Questions*, and DOE 420.1 *Facility Safety*). The PPPL policies, procedures, and documents (ISM mechanisms) listed in Attachments 1 and 2 show how PPPL meets those DOE expectations and requirements by implementing the Principles and Core Functions of ISM (see Figure 2). Discussion of the most essential of the PPPL ISM "mechanisms" follows.

PPPL's commitment to strong ES&H programs, the importance of protecting the environment and the safety of workers and the public, and the belief in line management responsibility for achieving these objectives are illustrated prominently in Laboratory policies and procedures and well understood by all employees. Laboratory policies P-002 *Environmental Protection* and P-003 *Environment, Safety, and Health Policy*, signed by the Laboratory Director, clearly state the Laboratory's commitment to the principles of integrated safety management and describe the goals of PPPL's ES&H programs.

Laboratory plans that set institutional level goals, objectives, and controls include Environmental Monitoring, Environmental Protection Implementation, Groundwater Protection Management, Waste Minimization, Radiological ALARA, Radiological Control and General Plant Project (GPP) Prioritization. Institutional committees comprised of senior and line management are well established and include the ES&H Executive Board, the Safety Review Committee, the Environmental Review Committee, the ALARA Review Committee, and the Technical Resources Committee. These committees have intimate awareness and involvement with ES&H issues that have potentially broad Laboratory impacts.

The NEPA process is also well established at PPPL (reference procedure ESH-014), having won DOE-wide recognition for its effectiveness and method of application. The NEPA process is a cornerstone of the integrated safety program that ensures line management, line workers, and independent safety professionals have thoroughly reviewed proposed activities, analyzed the associated hazards, and developed appropriate controls. Over recent years, the PPPL NEPA process has become much more comprehensive. The safety analysis and review system has been folded into the NEPA process so that reviews now include all safety and health issues in addition to environmental impacts. NEPA reviews incorporate activities at all levels including major projects and limited scope work activities. The need for careful planning and review of activities is ingrained in the work force and management. NEPA review activities are invoked during the initial stages of projects, prior to project modifications, and during routine work planning. When workers arrive on site they are provided with General Employee Training where they are taught the NEPA process and introduced to the tenets of line management responsibility and individual worker responsibility for ES&H. These essential elements are emphasized continually at management talks, design review meetings, and job specific training sessions.

ES&H integration begins with the proposal of a project, facility modification, or specific work scope tasks. Proposed activities are identified, reviewed, prioritized, and scheduled using work authorizations, field work proposals, work orders, GPP proposals, and design change proposals. Safety reviews and oversight are integrated into these schedules and activity budgets. These methods of work proposal and authorization trigger the NEPA review process and related ES&H activities. General Plant Projects undergo review by the Technical Resources Committee and are prioritized in accordance with Capital Asset Management Process (CAMP) risk criteria. Detailed reviews of the ES&H aspects of the work are performed that include identification, analyses, and categorization of the hazards according to DOE Order guidance and Laboratory and project procedures.

These reviews and analyses result in documented Environmental Assessments, permit applications, NEPA forms and approvals, safety analysis reports (SARs), safety assessment documents (SADs), technical safety requirements (TSRs), unreviewed safety question determinations (USQDs), and safety certifications. Depending on the hazard levels, operating procedures are developed, design reviews are conducted, and conduct of operations plans are developed to specify administrative controls, safety controls, safety programs, and other conditions on the work. Work packages, job procedures, maintenance and work plans, and "safety envelopes" can also be developed. Appropriate input from multiple disciplines of line

management and line workers is an essential part of the review and development of these documents and controls. Nuclear facilities have authorization bases that are established with DOE and maintained via the USQD review process. Worker qualification is ensured and appropriate training is provided using existing Laboratory training courses or by developing specialized courses. Depending on hazard categorizations, operational readiness reviews or readiness assessments are conducted prior to commencement of work activities.

During the conduct of work activities, Laboratory control systems are utilized such as configuration management; ES&H oversight, using professionals in the areas of health physics, industrial hygiene, occupational medicine, industrial safety, fire safety, environmental monitoring; and quality audits and inspections. These systems, based on industry and DOE standards and Directives, provide assurance that safe work practices are followed and are in accordance with laws and regulations.

Work activities are assessed and performance is measured using contractual performance measures, self-assessments, independent assessments, Unified Safety Reviews (USRs), experiment run assessments, and audits. The Laboratory works closely with DOE Princeton Group (DOE-PG) to establish performance expectations and measures. That cooperation carries over to the daily and periodic activities that PPPL and DOE-PG perform to assess and assure that those expectations are met or exceeded by Laboratory performance. That DOE/PPPL partnership and commitment to performance excellence is exemplified by extraordinary cooperation in the conduct of USRs, Business Oversight Reviews, facility walkthrough inspections, surveillance of work activities, and participation in design and program reviews and planning.

Laboratory ES&H performance is reported in several ways. Recordable injuries, lost work cases, and lost work days are tracked and made available to Laboratory management and DOE in accordance with DOE Orders and OSHA requirements. Contract performance metrics, assessment results, progress reports, and other performance indicators are published frequently. When appropriate, root cause analyses and incident investigations are performed and the results are followed-up and shared via Laboratory, DOE, and industry lessons learned programs – the objectives being to improve PPPL programs and activities, preventing recurrence of negative events, and helping other Laboratories and facilities do the same. Individual's work activities and awareness to ES&H principles are also assessed by use of personnel performance appraisals, small group meetings, frequent supervisor-worker discussions, management walkarounds as well as co-worker dialogue. These means are also

used effectively to solicit line worker feedback and suggestions, as well as reinforce the principle of personal responsibility for safety. Every employee is made aware of their right and responsibility to stop any unsafe activities. This is a written Policy that is well understood and taken very seriously.

Assigning responsibility for specific Laboratory areas and facilities to individuals and their supervisors and providing them with increased ES&H training has heightened all worker's awareness of safety and improved ES&H performance. Evolving from the institutional level Facility Manager (FM) program and precursor programs, PPPL has seen line supervisors, managers, and workers take more responsibility and ownership for the safety of their facilities and work activities in recent years. At this point, the concept of line responsibility is integrated with the organization structure for the Laboratory and entails varying levels of responsibility and authority.

At the worker level, these accountabilities focus on issues which include, for example:

- the proper use of personal protective equipment;
- the proper use of safe tools and equipment;
- the proper use of applicable operating and safety procedures;
- the proper application of housekeeping practices; and
- the identification of any noncompliances to the cognizant supervisor.

At the cognizant supervisor level, accountabilities are broadened and focus on issues which include, for example:

- the availability of necessary protective equipment;
- maintaining an awareness of work being performed in geographic areas for which he or she is responsible;
- ensuring that any hazards associated with work performed by his/her employees are evaluated in accordance with PPPL policies and procedures;
- performing periodic walkthroughs of the work place and work activities to ensure safe work practices are being followed;
- ensuring that employees under his/her supervision are provided with necessary training and are performing their duties in a competent manner;
- following up with the ES&H Division on safety incidents and accidents; and
- the remediation of safety related noncompliances, either through direct action (when appropriate) or through identification to another cognizant authority (e.g., the Maintenance or ES&H organizations).

At the line manager level, accountabilities are general in nature and focus on issues which include, for example:

- the provision of necessary resources (both human and financial) for the safe performance of work;
- performing periodic walkthroughs of the work place and work activities with cognizant supervisors;
- following up on the correction of safety related noncompliances; and
- identifying significant issues or incidents to the cognizant Facility Manager.

At times, issues arise which are beyond the control and authority of individual line managers. Examples could include the need to modify a facility structure in order to provide appropriate lighting, ventilation, safety features, etc. In these cases, the Laboratory organization includes two Departments ("Engineering and Technical Infrastructure" and "ES&H and Infrastructure Support") which have the responsibility and authority for addressing these global issues. While considering ES&H aspects of these issues, the Departments determine the appropriate priorities for resolving the issues by re-evaluating the Work Order queue or applying the GPP prioritization process, as appropriate. Furthermore, these two Departments fulfill the Facility Manager responsibilities outlined in the DOE Occurrence Reporting process. The Head of the Engineering and Technical Infrastructure Department provides facility management support for technical/ experimental facilities, which include D-Site; and specific experimental facilities at C-Site (the Laboratory Wing; the COB, CS, RF and MG Building complex; and the CAS/RESA Buildings). The Head of the ES&H and Infrastructure Support Department provides facility management support for the remaining buildings, grounds and property at C-Site. Responsibilities for these two Department Heads include, for example :

- ensuring that requisite administrative and safety programs and policies are established;
- maintaining an awareness of activities (e.g., renovations, modifications, construction, etc.) which affect multiple buildings/facilities;
- performing periodic walkthroughs of the work place and work activities with responsible line managers; and
- ensuring that cognizant DOE Facility Representatives are kept apprised of safety-related issues.

PPPL has realized the value of applying the core functions and principles of ISM. By systematically and continuously implementing the five-step process defined by the ISM core

functions [Define the Scope of Work, Analyze the Hazards, Develop and Implement Hazard Controls, Perform Work within Controls, and Provide Feedback and Continuous Improvement] PPPL has consistently maintained an outstanding ES&H record and effective ISM program.

Responsibilities

Personnel responsibilities are clearly defined in documents for specific activities. Laboratory and subcontractor responsibilities are defined in contracts, regulations, and procedures. Project and work approval authorities are specified for employing safety principles and functions dependent on hazard levels. The Department of Energy maintains responsibility for the safe operation of all DOE facilities. Through the established DOE chain of command, line management ES&H and Program responsibilities are passed down and shared [from the Secretary of Energy to Program Officials (DOE-ER, DOE-OFES, DOE-EM) onto field offices (DOE-CH) to the site offices (Contracting Official, DOE-PG.) The Laboratory's overriding ES&H management and programmatic responsibilities have been entrusted to PPPL by the DOE. These responsibilities are firmly rooted with the Laboratory Director and Deputy Director. The Laboratory's ES&H responsibilities flow down to all Laboratory managers and workers through the Head of the ES&H and Infrastructure Support Department, the Head of the ES&H Division, the ES&H Executive Board, and through all Department and Project Heads. Management responsibility for Department and Project activities and programs is depicted by the PPPL Organization chart (Attachment 4.)

The Laboratory is responsible for compliance with the ES&H requirements applicable to the contract regardless of the performer of the work. This responsibility includes the safety of all on-site subcontractor organizations. Subcontractors must meet PPPL specified safety expectations. Basic required safety management elements are listed in subcontract Terms and Conditions. Subcontracts provide the Laboratory with the right to stop work that does not comply with ES&H regulations and requirements. Subcontracts involving complex or hazardous on-site work include appropriate requirements/clauses substantially the same as Department of Energy Acquisition Regulations clause 48 CFR 970.5204-2 "Integration of environment, safety, and health into work planning execution." Also, depending on the complexity and hazards associated with the work, PPPL may require that the subcontractor submit a Safety Management program and implementation plan for PPPL's review and approval. Laboratory employees who are responsible for writing Statements-Of-Work, or who otherwise bring subcontractors to the Laboratory, work with the Procurement Division

and ES&H Division to ensure that appropriate ES&H requirements are included in subcontracts and met.

IV. Attachments

1. PPPL ISM Related Procedures, Policies, Plans, Programs Listing
2. PPPL ISM Functions Matrix
3. DOE Secretary of Energy Policy Statement on Environment, Safety and Health
4. PPPL Organization Chart

PPPL ISM Related Procedures, Policies, Plans, Programs Listing
(ISM Principles vs. Established PPPL Systems)

Guiding Principle 1
Line Management Responsibility for Safety

PPPL Implementing Document

POLICIES

P-001 Graded Approach
P-002 Environmental Protection
P-003 Environment, Safety and Health Policy
P-004 Quality Assurance/Reliability
P-006 Conduct of Operations
P-007 Operational Problem Identification and Resolution
P-008 Staff Training and Development
P-010 Design Reviews
P-012 Stop Work Authority
P-013 Use of Procedures
P-014 Radioactive and Hazardous Waste Minimization
P-019 Occupational Medicine Policy
P-026 Assessment and Oversight
P-027 ALARA
P-028 Subcontractor Training Requirements
P-029 PPPL Examination Program
P-032 Hierarchy of Documents
P-033 Unauthorized Persons in the Workplace
P-036 Asbestos Management
P-038 Control of Hazardous Energy Sources
P-039 Hazardous Analysis and Controls
P-040 Vital Records Protection Program
P-041 Suspect Parts
P-044 ES&H and Infrastructure Support Department External Audits and Appraisals
P-045 Working on Rotating Equipment
P-048 Safety Analysis and Review System Program
P-049 Authorization for Work on Electrical Systems
P-050 Quality Documents and Records
P-052 Special Processes
P-062 Reduction of Ozone Depleting Substance Emissions
P-071 Inspection and Acceptance Testing
P-072 Quality and Procurements
P-075 Configuration Management
P-076 Internal Communications
P-077 Roles and Responsibilities for General Plant Projects
P-078 External Correspondence Concurrence Signatures
P-079 Identification and Control of Materials
P-080 Variances to ES&H Regulations
P-082 Affirmative Procurement
P-083 Lessons Learned and Their Promulgation

PPPL ISM Related Procedures, Policies, Plans, Programs Listing
(ISM Principles vs. Established PPPL Systems)

Guiding Principle 1 Continued...
Line Management Responsibility for Safety

PPPL Implementing Documents

ORGANIZATION/MISSION STATEMENTS

PPPL Organization Chart
Technical Resources Committee Responsibilities
O-003 ES&H and Infrastructure Support Department Charter
O-008 - Engineering and Technical Infrastructure Department Organization and Mission
O-014 - Human Resources Charter
O-021 ES&H Executive Board Charter
O-022 Safety Review Committee Charter
O-023 Environmental Review Committee Charter
O-024 ALARA Review Committee Charter
O-027 Line Management Safety Organization

PROCEDURES

GEN-001	Policy, Procedure and Mission Statement, Development, Review and Approval
GEN-006	Occurrence Reporting and Processing of Operations Information
GEN-007	PPPL Review and Implementation of Laws, Regulations, Requirements, and DOE Directives
GEN-008	PPPL Coordination of Visits and Assignments to PPPL and Site Access Requirements
GEN-009	GPP Prioritization
GEN-011	ES&H Deficiency Reporting System
20.008	Project Management Plan
ESH-001	Use of Safety, Accident Prevention, and Equipment Protection Tags
ESH-002	Facility Safety Signs
ESH-013	Non-Emergency Environmental Release - Notification and Reporting
ESH-014	NEPA Review System
ESH-016	Control of Hazardous/Energy Sources-Safing/Lockout/ Tagout
EWM-001	Hazardous Waste Management
EWM-004	Satellite Accumulation Areas
QA-002	PPPL Audit/Surveillance Program
QA-003	Procurement Quality Assurance
QA-004	PPPL Site Inspection Program
QA-005	Control of Nonconformances
QA-012	Corrective Action Request
QA-017	PPPL Tracking and Trending System
QA-019	Root Cause Analysis
22.013	Reliability, Availability & Maintainability (RAM) Modeling & Apportionment
ENG-002	Control of Measuring Test Equipment and Calibration
ENG-005	General Plant Projects
ENG-006	Preparation, Review and Approval of Specifications & Statements of Work
ENG-008	Failure Modes and Effects Analysis
ENG-011	Interlock Key Control
ENG-012	Identification & Control of Items

PPPL ISM Related Procedures, Policies, Plans, Programs Listing
(ISM Principles vs. Established PPPL Systems)

Guiding Principle 1 Continued...
Line Management Responsibility for Safety

PPPL Implementing Documents

PROCEDURES CONTINUED…

ENG-014	Hydrostatic and Pneumatic Testing
ENG-016	PPPL Preventive Maintenance Program
ENG-019	PPPL Engineering Standards
ENG-021	Hoisting and Rigging Program
ENG-024	Digging Permits
ENG-026	Fire Detection and Suppression Systems
ENG-027	Fire Barrier Penetration Seal Installation and Repair
ENG-028	Penetration Cutting/Drilling
23.009	Calculation Development & Checking
23.016	Conceptual, Preliminary & Final Design Reviews
PER-006	PPPL Guided Tour Program
TR-001	Laboratory Training Program
TR-003	Control and Distribution of DOE Order 5480.20 Training Implementation Matrix
MC-004	Acquisition and Disposal of Excess Government Property
MC-005	Shipment of Equipment/Material to Off-Site Location
37.004	Hazard Analysis by Emergency Response Zone

OTHER DOCUMENTS

Environment, Safety and Health Manual
Environmental Monitoring Plan
Groundwater Protection Management Plan
Waste Minimization Plan
Radiological ALARA Plan
PPPL Radiological Control Manual
Institutional Quality Assurance Plan
PPPL Engineering Standards
PPPL Emergency Preparedness Plan
ES&H Procedures
Project/Department Procedures
Safety Assessment Documents (SADs)
Final Safety Analysis Reports (FSARs)

PPPL ISM Related Procedures, Policies, Plans, Programs Listing
(ISM Principles vs. Established PPPL Systems)

Guiding Principle 2
Clear Roles and Responsibilities

PPPL Implementing Documents

POLICIES

P-001 Graded Approach
P-002 Environmental Protection
P-003 Environment, Safety and Health Policy
P-004 Quality Assurance/Reliability
P-006 Conduct of Operations
P-008 Staff Training and Development
P-009 Electrical Isolation During Emergencies
P-012 Stop Work Authority
P-014 Radioactive and Hazardous Waste Minimization
P-019 Occupational Medicine Policy
P-026 Assessment and Oversight
P-027 ALARA
P-028 Subcontractor Training Requirements
P-029 PPPL Examination Program
P-033 Unauthorized Persons in the Workplace
P-036 Asbestos Management
P-038 Control of Hazardous Energy Sources
P-040 Vital Records Protection Program
P-041 Suspect Parts
P-044 ES&H and Infrastructure Support Department External Audits and Appraisals
P-045 Working on Rotating Equipment
P-046 Cable Tagging and Removal
P-047 Employee Area Housekeeping
P-049 Authorization for Work on Electrical Systems
P-051 Review and Approval of Policies, Procedures, Plans, and Manuals
P-062 Reduction of Ozone Depleting Substance Emissions
P-071 Inspection and Acceptance Testing
P-076 Internal Communications
P-077 Roles and Responsibilities for General Plant Projects
P-078 External Correspondence Concurrence Signatures
P-080 Variances to ES&H Regulations
P-082 Affirmative Procurement
P-083 Lessons Learned and Their Promulgation

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O-024 ALARA Review Committee Charter
O-027 Line Management Safety Organization

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Guiding Principle 2 Continued...
Clear Roles and Responsibilities

PPPL Implementing Documents

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GEN-006	Occurrence Reporting and Processing of Operations Information
GEN-007	PPPL Review and Implementation of Laws, Regulations, Requirements, and DOE Directives
GEN-008	PPPL Coordination of Visits and Assignments to PPPL and Site Access Requirements
GEN-009	GPP Prioritization
GEN-011	ES&H Deficiency Reporting System
20.008	Project Management Plan
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ESH-002	Facility Safety Signs
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ENG-014	Hydrostatic and Pneumatic Testing
ENG-016	PPPL Preventive Maintenance Program
ENG-019	PPPL Engineering Standards
ENG-021	Hoisting and Rigging Program
ENG-022	Scheduled Power Outage Notification

PPPL ISM Related Procedures, Policies, Plans, Programs Listing
(ISM Principles vs. Established PPPL Systems)

Guiding Principle 2 Continued...
Clear Roles and Responsibilities

PPPL Implementing Documents

PROCEDURES CONTINUED…

ENG-024	Digging Permits
ENG-026	Fire Detection and Suppression Systems
ENG-027	Fire Barrier Penetration Seal Installation and Repair
ENG-028	Penetration Cutting/Drilling
23.009	Calculation Development & Checking
23.016	Conceptual, Preliminary & Final Design Reviews
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Guiding Principle 3
Competence Commensurate with Responsibilities

PPPL Implementing Documents

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P-008 Staff Training and Development
P-019 Occupational Medicine Policy
P-026 Assessment and Oversight
P-028 Subcontractor Training Requirements
P-029 PPPL Examination Program
P-033 Unauthorized Persons in the Workplace
P-036 Asbestos Management
P-049 Authorization for Work on Electrical Systems
P-051 Review and Approval of Policies, Procedures, Plans, and Manuals
P-052 Special Processes
P-062 Reduction of Ozone Depleting Substance Emissions
P-071 Inspection and Acceptance Testing
P-077 Roles and Responsibilities for General Plant Projects
P-083 Lessons Learned and Their Promulgation

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O-021 ES&H Executive Board Charter
O-022 Safety Review Committee Charter
O-023 Environmental Review Committee Charter
O-024 ALARA Review Committee Charter
O-027 Line Management Safety Organization

PROCEDURES

GEN-006 Occurrence Reporting and Processing of Operations Information
GEN-008 PPPL Coordination of Visits and Assignments to PPPL and Site Access Requirements
GEN-011 ES&H Deficiency Reporting System
ESH-014 NEPA Review System
ESH-016 Control of Hazardous/Energy Sources-Safing/Lockout/Tagout
EWM-001 Hazardous Waste Management
EWM-004 Satellite Accumulation Areas
QA-019 Root Cause Analysis
ENG-019 PPPL Engineering Standards
PER-006 PPPL Guided Tour Program
TR-001 Laboratory Training Program
TR-003 Control and Distribution of DOE Order 5480.20 Training Implementation Matrix

PPPL ISM Related Procedures, Policies, Plans, Programs Listing
(ISM Principles vs. Established PPPL Systems)

Guiding Principle 3 Continued...
Competence Commensurate with Responsibilities

PPPL Implementing Documents

OTHER DOCUMENTS

Environment, Safety and Health Manual
Environmental Monitoring Plan
Groundwater Protection Management Plan
Waste Minimization Plan
Radiological ALARA Plan
PPPL Radiological Control Manual
Institutional Quality Assurance Plan
PPPL Engineering Standards
PPPL Emergency Preparedness Plan
ES&H Procedures
Project/Department Procedures
Safety Assessment Documents (SADs)
Final Safety Analysis Reports (FSARs)

PPPL ISM Related Procedures, Policies, Plans, Programs Listing
(ISM Principles vs. Established PPPL Systems)

Guiding Principle 4
Balanced Priorities

PPPL Implementing Documents

POLICY

P-001 Graded Approach
P-002 Environmental Protection
P-003 Environment, Safety and Health Policy
P-004 Quality Assurance/Reliability
P-006 Conduct of Operations
P-007 Operational Problem Identification and Resolution
P-008 Staff Training and Development
P-009 Electrical Isolation During Emergencies
P-010 Design Reviews
P-012 Stop Work Authority
P-013 Use of Procedures
P-014 Radioactive and Hazardous Waste Minimization
P-019 Occupational Medicine Policy
P-026 Assessment and Oversight
P-027 ALARA
P-028 Subcontractor Training Requirements
P-036 Asbestos Management
P-038 Control of Hazardous Energy Sources
P-039 Hazardous Analysis and Controls
P-040 Vital Records Protection Program
P-041 Suspect Parts
P-044 ES&H and Infrastructure Support Department External Audits and Appraisals
P-045 Working on Rotating Equipment
P-046 Cable Tagging and Removal
P-048 Safety Analysis and Review System Program
P-062 Reduction of Ozone Depleting Substance Emissions
P-071 Inspection and Acceptance Testing
P-072 Quality and Procurements
P-075 Configuration Management
P-077 Roles and Responsibilities for General Plant Projects
P-078 External Correspondence Concurrence Signatures
P-080 Variances to ES&H Regulations
P-082 Affirmative Procurement
P-083 Lessons Learned and Their Promulgation

ORGANIZATION/MISSION STATEMENTS

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PPPL ISM Related Procedures, Policies, Plans, Programs Listing
(ISM Principles vs. Established PPPL Systems)

Guiding Principle 4 Continued...
Balanced Priorities

PPPL Implementing Documents

PROCEDURES

GEN-006	Occurrence Reporting and Processing of Operations Information
GEN-007	PPPL Review and Implementation of Laws, Regulations, Requirements, and DOE Directives
GEN-009	GPP Prioritization
GEN-011	ES&H Deficiency Reporting System
20.008	Project Management Plan
ESH-014	NEPA Review System
EWM-001	Hazardous Waste Management
QA-002	PPPL Audit/Surveillance Program
QA-004	PPPL Site Inspection Program
QA-017	PPPL Tracking and Trending System
22.013	Reliability, Availability & Maintainability (RAM) Modeling & Apportionment
ENG-008	Failure Modes and Effects Analysis
ENG-019	PPPL Engineering Standards

OTHER DOCUMENTS

Environment, Safety and Health Manual
Environmental Monitoring Plan
Groundwater Protection Management Plan
Waste Minimization Plan
Radiological ALARA Plan
PPPL Radiological Control Manual
Institutional Quality Assurance Plan
PPPL Engineering Standards
PPPL Emergency Preparedness Plan
ES&H Procedures
Project/Department Procedures
Safety Assessment Documents (SADs)
Final Safety Analysis Reports (FSARs)
5 yr. ES&H Management Plan
10 yr. ERWM Plan

PPPL ISM Related Procedures, Policies, Plans, Programs Listing
(ISM Principles vs. Established PPPL Systems)

Guiding Principle 5
Identification of Safety Standards and Requirements

PPPL Implementing Documents

POLICY

P-001 Graded Approach
P-002 Environmental Protection
P-003 Environment, Safety and Health Policy
P-004 Quality Assurance/Reliability
P-006 Conduct of Operations
P-008 Staff Training and Development
P-009 Electrical Isolation During Emergencies
P-010 Design Reviews
P-012 Stop Work Authority
P-013 Use of Procedures
P-014 Radioactive and Hazardous Waste Minimization
P-019 Occupational Medicine Policy
P-026 Assessment and Oversight
P-027 ALARA
P-028 Subcontractor Training Requirements
P-029 PPPL Examination Program
P-033 Unauthorized Persons in the Workplace
P-036 Asbestos Management
P-038 Control of Hazardous Energy Sources
P-039 Hazardous Analysis and Controls
P-041 Suspect Parts
P-045 Working on Rotating Equipment
P-046 Cable Tagging and Removal
P-047 Employee Area Housekeeping
P-048 Safety Analysis and Review System Program
P-049 Authorization for Work on Electrical Systems
P-052 Special Processes
P-053 Eating, Drinking and Smoking in Radiologically Controlled Areas
P-062 Reduction of Ozone Depleting Substance Emissions
P-071 Inspection and Acceptance Testing
P-072 Quality and Procurements
P-075 Configuration Management
P-077 Roles and Responsibilities for General Plant Projects
P-080 Variances to ES&H Regulations
P-083 Lessons Learned and Their Promulgation

PPPL ISM Related Procedures, Policies, Plans, Programs Listing
(ISM Principles vs. Established PPPL Systems)

Guiding Principle 5 Continued...
Identification of Safety Standards and Requirements

PPPL Implementing Documents

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O-027 Line Management Safety Organization

PROCEDURES

GEN-006	Occurrence Reporting and Processing of Operations Information
GEN-007	PPPL Review and Implementation of Laws, Regulations, Requirements, and DOE Directives
GEN-011	ES&H Deficiency Reporting System
20.008	Project Management Plan
ESH-001	Use of Safety, Accident Prevention, and Equipment Protection Tags
ESH-002	Facility Safety Signs
ESH-013	Non-Emergency Environmental Release - Notification and Reporting
ESH-014	NEPA Review System
ESH-016	Control of Hazardous/Energy Sources-Safing/Lockout/Tagout
ESH-019	ES&H Incentive Awards Program
EWM-001	Hazardous Waste Management
EWM-004	Satellite Accumulation Areas
QA-002	PPPL Audit/Surveillance Program
QA-003	Procurement Quality Assurance
QA-004	PPPL Site Inspection Program
QA-005	Control of Nonconformances
QA-012	Corrective Action Request
QA-017	PPPL Tracking and Trending System
QA-019	Root Cause Analysis
22.013	Reliability, Availability & Maintainability (RAM) Modeling & Apportionment
ENG-002	Control of Measuring Test Equipment and Calibration
ENG-005	General Plant Projects
ENG-006	Preparation, Review and Approval of Specifications & Statements of Work
ENG-008	Failure Modes and Effects Analysis
ENG-009	Interruptible Service Electric Load Reduction Procedure

PPPL ISM Related Procedures, Policies, Plans, Programs Listing
(ISM Principles vs. Established PPPL Systems)

Guiding Principle 5 Continued...
Identification of Safety Standards and Requirements

PPPL Implementing Documents

PROCEDURES CONTINUED…

ENG-011	Interlock Key Control
ENG-012	Identification & Control of Items
ENG-014	Hydrostatic and Pneumatic Testing
ENG-016	PPPL Preventive Maintenance Program
ENG-019	PPPL Engineering Standards
ENG-021	Hoisting and Rigging Program
ENG-024	Digging Permits
ENG-026	Fire Detection and Suppression Systems
ENG-027	Fire Barrier Penetration Seal Installation and Repair
ENG-028	Penetration Cutting/Drilling
23.009	Calculation Development & Checking
23.016	Conceptual, Preliminary & Final Design Reviews
MC-004	Acquisition and Disposal of Excess Government Property
MC-005	Shipment of Equipment/Material to Off-Site Location
37.004	Hazard Analysis by Emergency Response Zone

OTHER DOCUMENTS

Environment, Safety and Health Manual
Environmental Monitoring Plan
Groundwater Protection Management Plan
Waste Minimization Plan
Radiological ALARA Plan
PPPL Radiological Control Manual
Institutional Quality Assurance Plan
PPPL Engineering Standards
PPPL Emergency Preparedness Plan
ES&H Procedures
Project/Department Procedures
Safety Assessment Documents (SADs)
Final Safety Analysis Reports (FSARs)

PPPL ISM Related Procedures, Policies, Plans, Programs Listing
(ISM Principles vs. Established PPPL Systems)

Guiding Principle 6
Hazards Control Tailored to Work Being Performed

PPPL Implementing Documents

POLICY

P-001 Graded Approach
P-002 Environmental Protection
P-003 Environment, Safety and Health Policy
P-004 Quality Assurance/Reliability
P-006 Conduct of Operations
P-008 Staff Training and Development
P-009 Electrical Isolation During Emergencies
P-010 Design Reviews
P-012 Stop Work Authority
P-013 Use of Procedures
P-014 Radioactive and Hazardous Waste Minimization
P-026 Assessment and Oversight
P-027 ALARA
P-028 Subcontractor Training Requirements
P-029 PPPL Examination Program
P-036 Asbestos Management
P-038 Control of Hazardous Energy Sources
P-039 Hazardous Analysis and Controls
P-045 Working on Rotating Equipment
P-046 Cable Tagging and Removal
P-047 Employee Area Housekeeping
P-048 Safety Analysis and Review System Program
P-049 Authorization for Work on Electrical Systems
P-052 Special Processes
P-053 Eating, Drinking and Smoking in Radiologically Controlled Areas
P-062 Reduction of Ozone Depleting Substance Emissions
P-071 Inspection and Acceptance Testing
P-072 Quality and Procurements
P-075 Configuration Management
P-077 Roles and Responsibilities for General Plant Projects
P-080 Variances to ES&H Regulations
P-082 Affirmative Procurement
P-083 Lessons Learned and Their Promulgation

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PPPL ISM Related Procedures, Policies, Plans, Programs Listing
(ISM Principles vs. Established PPPL Systems)

Guiding Principle 6 Continued...
Hazards Control Tailored to Work Being Performed

PPPL Implementing Documents

PROCEDURES

GEN-011	ES&H Deficiency Reporting System
ESH-001	Use of Safety, Accident Prevention, and Equipment Protection Tags
ESH-002	Facility Safety Signs
ESH-013	Non-Emergency Environmental Release - Notification and Reporting
ESH-014	NEPA Review System
ESH-016	Control of Hazardous/Energy Sources-Safing/Lockout/Tagout
ESH-019	ES&H Incentive Awards Program
EWM-001	Hazardous Waste Management
EWM-004	Satellite Accumulation Areas
QA-002	PPPL Audit/Surveillance Program
QA-004	PPPL Site Inspection Program
QA-005	Control of Nonconformances
QA-012	Corrective Action Request
QA-017	PPPL Tracking and Trending System
QA-019	Root Cause Analysis
22.013	Reliability, Availability & Maintainability (RAM) Modeling & Apportionment
ENG-002	Control of Measuring Test Equipment and Calibration
ENG-005	General Plant Projects
ENG-006	Preparation, Review and Approval of Specifications & Statements of Work
ENG-008	Failure Modes and Effects Analysis
ENG-011	Interlock Key Control
ENG-012	Identification & Control of Items
ENG-014	Hydrostatic and Pneumatic Testing
ENG-016	PPPL Preventive Maintenance Program
ENG-019	PPPL Engineering Standards
ENG-021	Hoisting and Rigging Program
ENG-022	Scheduled Power Outage Notification
ENG-024	Digging Permits
ENG-026	Fire Detection and Suppression Systems
ENG-027	Fire Barrier Penetration Seal Installation and Repair
ENG-028	Penetration Cutting/Drilling
23.009	Calculation Development & Checking
23.016	Conceptual, Preliminary & Final Design Reviews
MC-004	Acquisition and Disposal of Excess Government Property
MC-005	Shipment of Equipment/Material to Off-Site Location
37.004	Hazard Analysis by Emergency Response Zone

PPPL ISM Related Procedures, Policies, Plans, Programs Listing
(ISM Principles vs. Established PPPL Systems)

Guiding Principle 6 Continued...
Hazards Control Tailored to Work Being Performed

PPPL Implementing Documents

OTHER DOCUMENTS

Environment, Safety and Health Manual
Environmental Monitoring Plan
Groundwater Protection Management Plan
Waste Minimization Plan
Radiological ALARA Plan
PPPL Radiological Control Manual
Institutional Quality Assurance Plan
PPPL Engineering Standards
PPPL Emergency Preparedness Plan
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PPPL ISM Related Procedures, Policies, Plans, Programs Listing
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Guiding Principle 7
Operations Authorization

PPPL Implementing Documents

POLICY

P-001 Graded Approach
P-002 Environmental Protection
P-003 Environment, Safety and Health Policy
P-004 Quality Assurance/Reliability
P-006 Conduct of Operations
P-008 Staff Training and Development
P-009 Electrical Isolation During Emergencies
P-012 Stop Work Authority
P-013 Use of Procedures
P-014 Radioactive and Hazardous Waste Minimization
P-026 Assessment and Oversight
P-027 ALARA
P-028 Subcontractor Training Requirements
P-029 PPPL Examination Program
P-036 Asbestos Management
P-038 Control of Hazardous Energy Sources
P-039 Hazardous Analysis and Controls
P-041 Suspect Parts
P-045 Working on Rotating Equipment
P-046 Cable Tagging and Removal
P-047 Employee Area Housekeeping
P-048 Safety Analysis and Review System Program
P-049 Authorization for Work on Electrical Systems
P-052 Special Processes
P-053 Eating, Drinking and Smoking in Radiologically Controlled Areas
P-062 Reduction of Ozone Depleting Substance Emissions
P-071 Inspection and Acceptance Testing
P-072 Quality and Procurements
P-075 Configuration Management
P-077 Roles and Responsibilities for General Plant Projects
P-080 Variances to ES&H Regulations
P-083 Lessons Learned and Their Promulgation

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O-021 ES&H Executive Board Charter
O-022 Safety Review Committee Charter
O-023 Environmental Review Committee Charter
O-024 ALARA Review Committee Charter
O-027 Line Management Safety Organization

PPPL ISM Related Procedures, Policies, Plans, Programs Listing
(ISM Principles vs. Established PPPL Systems)

Guiding Principle 7 Continued...
Operations Authorization

PPPL Implementing Documents

PROCEDURES

GEN-001	Policy, Procedure and Mission Statement, Development, Review and Approval
GEN-007	PPPL Review and Implementation of Laws, Regulations, Requirements, and DOE Directives
GEN-009	GPP Prioritization
GEN-011	ES&H Deficiency Reporting System
ESH-014	NEPA Review System
QA-002	PPPL Audit/Surveillance Program
QA-004	PPPL Site Inspection Program
QA-005	Control of Nonconformances
QA-012	Corrective Action Request
QA-017	PPPL Tracking and Trending System
QA-019	Root Cause Analysis
ENG-002	Control of Measuring Test Equipment and Calibration
ENG-008	Failure Modes and Effects Analysis
ENG-009	Interruptible Service Electric Load Reduction Procedure
ENG-014	Hydrostatic and Pneumatic Testing
ENG-016	PPPL Preventive Maintenance Program
ENG-022	Scheduled Power Outage Notification
ENG-026	Fire Detection and Suppression Systems
ENG-027	Fire Barrier Penetration Seal Installation and Repair
ENG-028	Penetration Cutting/Drilling
37.004	Hazard Analysis by Emergency Response Zone

OTHER DOCUMENTS

Environment, Safety and Health Manual
Environmental Monitoring Plan
Groundwater Protection Management Plan
Waste Minimization Plan
Radiological ALARA Plan
PPPL Radiological Control Manual
Institutional Quality Assurance Plan
PPPL Engineering Standards
PPPL Emergency Preparedness Plan
ES&H Procedures
Project/Department Procedures
Safety Assessment Documents (SADs)
Final Safety Analysis Reports (FSARs)

PPPL ISM Functions Matrix

(The primary PPPL implementing "Mechanisms" for the five ISM Functions)

ISM Function #1	PPPL Implementing Mechanisms
Define the scope of work • translate scope into work • set expectations • prioritize	ESH-014 NEPA Review System GEN-009 General Plant Project Prioritization ENG-006 Preparation, Review and Approval of Specifications & Statements of Work 23.016 Conceptual, Preliminary & Final Design Reviews Field Work Proposal process Project and Department Job Cost Estimating processes Work Authorization Forms Facility Work Order system Project Design Change Authorization systems Project and Facility Configuration Management systems Permit processes Operational Readiness Preparations

PPPL ISM Functions Matrix
(The primary PPPL implementing "Mechanisms" for the five ISM Functions)

ISM Function #2	PPPL Implementing Mechanisms
Analyze the hazards • ID and analyze hazards • categorize hazards	Policies P-001 Graded Approach P-002 Environmental Protection P-003 Environment, Safety, and Health Policy P-010 Design Reviews P-014 Radioactive and Hazardous Waste Minimization P-036 Asbestos Management P-038 Control of Hazardous Energy Sources P-039 Hazardous Analysis and Controls P-041 Suspect Parts P-048 Safety Analysis and Review System Program P-062 Reduction of Ozone Depleting Substance Emissions P-080 Variances to ES&H Regulations P-082 Affirmative Procurement Organization/Mission Statements Technical Resources Committee Responsibilities O-003 ES&H and Infrastructure Support Department Charter O-021 ES&H Executive Board O-022 Safety Review Committee Charter O-023 Environmental Review Committee Charter O-024 ALARA Review Committee Charter O-027 Line Management Safety Organization Lab-wide Procedures ESH-014 NEPA Review System HSD 5003 Operations Hazard Criteria HSD 5004 Safety Certification System 22.013 Reliability, Availability & Maintainability (RAM) Modeling and Apportionment 23.016 Conceptual, Preliminary, and Final Design Reviews 37.004 Hazard Analysis by Emergency Response Zone ENG-008 Failure Modes and Effects Analysis D-Site Procedures OP-AD-63 Unreviewed Safety Question Determinations Other Documents Environment, Safety, and Health Plan Groundwater Protection Management Plan Waste Minimization Plan Radiological ALARA Plan PPPL Emergency Preparedness Plan Safety Assessment Documents (SADs) Final Safety Analysis Reports (FSARs)

PPPL ISM Functions Matrix
(The primary PPPL implementing "Mechanisms" for the five ISM Functions)

ISM Function #3	PPPL Implementing Mechanisms
Develop and implement hazards controls. • ID standards and requirements • ID and implement controls to prevent hazards and control hazards	Policies P-008 Staff Training and Development P-010 Design Reviews P-012 Stop Work Authority P-014 Radioactive and Hazardous Waste Minimization P-028 Subcontractor Training Requirements P-036 Asbestos Management P-038 Control of Hazardous Energy Sources P-039 Hazardous Analysis and Controls P-045 Work on Rotating Equipment P-046 Cable Tagging and Removal P-049 Authorization for Work on Electrical Systems Organization/Mission Statements Technical Resources Committee Responsibilities O-003 ES&H and Infrastructure Support Department Charter O-021 ES&H Executive Board O-022 Safety Review Committee Charter O-023 Environmental Review Committee Charter O-024 ALARA Review Committee Charter O-027 Line Management Safety Organization Lab-wide Procedures HSD 5003 Operations Hazard Criteria HSD 5004 Safety Certification System ENG-011 Interlock Key Control ENG-021 Hoisting and Rigging Program ENG-024 Digging Permits 23.016 Conceptual, Preliminary, and Final Design Reviews ESH-001 Use of Safety, Accident Prevention, and Equipment Protection Tags ESH-014 NEPA Review System ESH-016 Control of Hazardous/Energy Sources-Safing/Lockout/Tagout EWM-001 Hazardous Waste Management EWM-002 Satellite Accumulation Areas QA-013 PPPL Failure Reporting Fire Permit system Penetration Permit system D-site Procedures OP-AD-63 Unreviewed Safety Question Determinations Other Documents Environment, Safety, and Health Plan Groundwater Protection Management Plan Waste Minimization Plan Radiological ALARA Plan PPPL Emergency Preparedness Plan Safety Assessment Documents (SADs) Final Safety Analysis Reports (FSARs)

PPPL ISM Functions Matrix
(The primary PPPL implementing "Mechanisms" for the five ISM Functions)

ISM Function #4	PPPL Implementing Mechanisms
Perform work within controls. • Confirm Operational Readiness (authorize) • Perform the work Safely	Policies P-012 Stop Work Authority Organization/Mission Statements O-003 ES&H and Infrastructure Support Department Charter Lab-wide Procedures ENG-011 Interlock Key Control ENG-014 Hydrostatic and Pneumatic Testing ENG-021 Hoisting and Rigging Program ENG-024 Digging Permits ESH-001 Use of Safety, Accident Prevention, and Equipment Protection Tags ESH-013 Non-Emergency Environmental Release - Notification and Reporting ESH-016 Control of Hazardous/Energy Sources-Safing/Lockout/Tagout Penetration Permit system D-site Procedures OP-AD-63 Unreviewed Safety Question Determinations OP-R-23 Technical Safety Requirements OP-R-32 TFTR Authorization Basis OP-AD-77 Operations Parameter Requirements Other Documents Environment, Safety, and Health Plan Groundwater Protection Management Plan Waste Minimization Plan Radiological ALARA Plan PPPL Emergency Preparedness Plan Safety Assessment Documents (SADs) Final Safety Analysis Reports (FSARs)

PPPL ISM Functions Matrix
(The primary PPPL implementing "Mechanisms" for the five ISM Functions)

ISM Function #5	PPPL Implementing Mechanisms
Provide feedback and continuous improvement. Ensure Performance • Seek and collect feedback • ID opportunities for performance improvement • Implement improvements • Reinforce good practices • Hold employees accountable for performance	Policy P-026 Assessment and Oversight P-083 Lessons Learned and Their Promulgation Organization/Mission Statements O-003 ES&H and Infrastructure Support Department Charter Lab-wide Procedures GEN-001 Policy, Procedure, and Mission Statement Development, Review, and Approval GEN-006 Occurrence Reporting and Processing of Operations Information GEN-011 ES&H Deficiency Reporting System QA-002 PPPL Audit/Surveillance Program QA-017 PPPL Tracking and Trending System QA-019 Root Cause Analysis OTHER DOCUMENTS Contract Performance Measures Performance Metrics PPPL/DOE Unified Safety Review Program

DOE Secretary of Energy Policy Statement on Environment, Safety and Health

April 14, 1998

MEMORANDUM TO ALL DEPARTMENT AND CONTRACT EMPLOYEES

SUBJECT: SECRETARIAL POLICY STATEMENT
ENVIRONMENT, SAFETY AND HEALTH

It has been and will remain our policy that the safety of our workers, respect for the environment, and the public health are paramount in all that we do. To meet our strategic goals in national security, energy security, environmental quality, and science leadership, we must integrate safety into our work. That policy has already been incorporated into our Strategic Plan. Now is the time to achieve measurable and sustained results.

Overall Policy

We expect outstanding environment, safety, and health performance as a matter of course in the Department of Energy. At stake are nothing less than the lives and livelihood of our workers and neighbors and a healthy environment to leave to our children. We must expect and demand from ourselves as both federal employees and contractors only the best in terms of environment, safety, and health performance.

It is our firm belief that this will be achieved by implementing the principles of Integrated Safety Management. All managers and workers must accept as their responsibility a concerted and sustained effort to achieve Integrated Safety Management at the Department of Energy.

The fundamental premise of Integrated Safety Management is that all accidents are preventable through close attention to work design and hazard control, and with substantial worker involvement in teams that plan work and select appropriate safety standards. Experience has shown that an investment in prevention brings not only a healthier workplace and a cleaner environment, but notable cost-savings as problems are addressed before they become costly accidents or injuries.

Management must also be committed to a work environment that allows free and open expression of safety concerns, and where workers fear no reprisals or retaliation. Workers are our most important resource for preventing and reporting hazards and potentially unsafe practices.

In addition, we are establishing a goal of 'zero tolerance' for serious accidents that result in life-threatening injuries or major environmental contamination. Should such an event occur, the appropriate Principal Secretarial Officer will meet promptly and personally with us to thoroughly review causes of the event, corrective action plans and the effectiveness of Integrated Safety Management at the site. Appropriate Department of Energy Field and contractor managers will also be asked to attend and participate.

DOE Secretary of Energy Policy Statement on Environment, Safety and Health

Policy Implementation

This initiative will not end next year or the year after, but will be captured in the way work is done at the Department of Energy. To help assure that the Department continues to move forward to implement integrated safety management, we are taking the following actions:

Safety Management Leadership Forum. We will convene a Safety Management Leadership Forum with senior Department of Energy managers where we will examine and address the major environment, safety and health vulnerabilities at Department sites and discuss the status of Integrated Safety Management implementation. The Forum will be a working meeting and will require active participation from all Field Managers, Principal Secretarial Officers, and appropriate contractor executives.

The emphasis of the Forum will be on safety management within DOE. Issues will include:

Actions to address major environment, safety and health vulnerabilities identified in previous assessments, including Vulnerability Assessments, Oversight Safety Management Evaluations, and accident investigations;

Budget allocations and how they are aligned with environment, safety and health concerns;

What systems are in place to ensure that contractor and subcontractor employees are qualified for the work they perform, have the tools necessary to conduct work safely, and are accountable for environment, safety and health performance; and

What systems are in place to ensure that employees and managers can without hesitation report and address safety hazards, and that issues are promptly and objectively addressed.

The Forum will be designed to ensure that outcomes are effectively communicated to appropriate levels of each organization. We will also seek the participation of a wide range of safety professionals from both within and outside of the Department. Each day will include a plenary session chaired by the Secretary, the Deputy Secretary, or the Under Secretary. Additional Forums will be scheduled as needed to ensure continued success of Integrated Safety Management across the Department of Energy.

DOE Secretary of Energy Policy Statement on Environment, Safety and Health

Accountability in Management Contracts. To markedly improve safety at Department of Energy, we need to enhance our contract reform efforts with both for-profit and not-for-profit contractors. Contract reform has already made a difference in terms of enhancing competition and lowering costs. To achieve the same progress in safety, we have asked the Director of the Office of Procurement and the Acting Assistant Secretary for Environment, Safety and Health, in consultation with the appropriate Program Secretarial Officer, to:

Ensure that our contracts make clear to our contractors that we expect excellent safety performance as a matter of course, both for their employees as well as subcontract employees, consistent with the principles of Integrated Safety Management;

Require an effective Integrated Safety Management program as a fundamental requirement of contract performance; and

Ensure that the Department of Energy has the ability to put the contractor's entire performance-based fee at risk where it is warranted by poor safety performance, as defined by specified criteria defined by the Department with the contractor.

We know that you all share this commitment to safety in the Department and look forward to our continued progress.

Federico Peña	Elizabeth A. Moler	Ernest J. Moniz
Secretary	Deputy Secretary	Under Secretary

PPPL Organization Chart