



Introduction

1. What is the Voluntary Protection Program?

The Voluntary Protection Program (VPP) is a process that defines an integrated and structured approach to help achieve our goal of working more safely. The VPP, initiated by the Occupational Safety and Health Administration (OSHA) 15 years ago as a way of encouraging companies to exceed minimum OSHA safety requirements, has been adopted by the U.S. Department of Energy (DOE). It is designed to provide companies with a mechanism for demonstrating excellence in worker safety and health. The DOE-VPP is a recognition process for worksites with successful comprehensive safety and health programs. Employees are encouraged to participate in the program and work with management to achieve a safe and healthful workplace. The highest level of recognition within the DOE-VPP program is STAR status.

The Laboratory is in the process of applying for VPP STAR status. To attain STAR status within the DOE-VPP, workers and management must:

- commit for the long term; attaining STAR status in the DOE-VPP is not easy and will not happen overnight
- build on what we currently do well
- focus on areas for improvement.

Involvement in the DOE-VPP will benefit Pacific Northwest National Laboratory (PNNL) by:

- improving the accident prevention program
- reducing risk of injury/illness
- promoting teamwork skills
- creating a sense of pride in ownership of the safety program
- further developing lines of communication between management and employees
- enhancing employee morale.

The DOE-VPP consists of five tenets, described below:

Management Leadership

Managers at every level are involved in the safety and health program and show their commitment to worker safety by helping to identify the worksite hazards and reduce the danger of injury and illness to employees.

Employee Involvement

Meaningful employee participation is essential to success. Existing organizations and activities play an important role. Employees are given the opportunity to provide input into the safety and health policies and procedures that are designed to protect them.

Worksite Analysis

Work activities need to be carefully reviewed to identify potential hazards. Such reviews range from informal daily work area self-inspections to well-defined comprehensive "baseline" surveys.

Hazard Prevention and Control

We protect the safety of our employees by either totally eliminating hazards or ensuring that hazards are controlled. In order of precedence, this includes consideration of process or material substitution, engineering control, administrative control, or personal protective equipment.

Safety and Health Training

Safety and health training is provided to every employee. The type of training depends on the nature of the employee's job and the hazards encountered in the employee's workplace.

This application documents how PNNL's worker safety and health program elements support DOE-VPP tenets.

2. Application Information

Our VPP application is an innovative approach, using web-based delivery and navigation, to demonstrate how PNNL meets DOE-VPP criteria. PNNL makes extensive use of electronic intranet information delivery and operational support tools. Therefore, it is natural that our VPP application takes advantage of the unique properties of the interconnectedness and "drill-down" capabilities of the intranet to both summarize our approach as well as provide full support for the philosophy and content of our management systems.

This application is a hypertext linked document. The text may stand alone, but where a "hyperlink" is identified with underlined, colored text, you may "click" the link to see supporting information. Hyperlinks connect the reviewer to worker safety and health-related information used by PNNL staff and managers in the day-to-day operation of PNNL. A basic understanding of how Web-based hyperlinked documents are used was assumed in the development of this application. The [Help](#) section provides more information about how to use this application and navigate within this website. If you have any questions during the review of this application, additional help is available by contacting:

[Vern Madson](#), VPP Co-chair
(509) 376-0792

[Todd Hart](#), VPP Co-chair
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PNNL's application was signed by the Laboratory Director and transmitted to DOE for review on October 2, 2000.



Foreground: Lura J. Powell, Director PNNL; Background (left to right): Roby D. Enge, Director ES&H, Vern J. Madson and Todd Hart, VPP Steering Committee Co-Chairmen



[View the Signed Document](#)

Table of Contents

General Information

Assurance of Commitment

Management Statement
Union Statement

Management Leadership

1. Commitment
2. Organization
3. Responsibility
4. Accountability
5. Resources
6. Planning
7. Contract Workers
8. Program Evaluation
9. Site Orientation
10. Employee Notification

Employee Involvement

1. Degree and Manner of Involvement
2. Safety Committees

Worksite Analysis

1. Pre-Use/Pre-Startup Analysis
2. Comprehensive Surveys
3. Self-Inspections
4. Routine Hazard Analysis
5. Employee Reporting of Hazards
6. Accident Investigations
7. Trend Analysis

Hazard Prevention & Control

1. Professional Expertise
2. Safety and Health Rules
3. Personal Protective Equipment
4. Preventive Maintenance
5. Emergency Preparedness
6. Radiation Protection Program
7. Medical Programs
8. List of Occupational Safety and Health Programs

Safety and Health Training

- [1. Employees](#)
- [2. Supervisors](#)
- [3. Managers](#)

[Help](#)

- [Contacts](#)
- [Using this Web Site](#)

Print this entire website by downloading an Adobe Acrobat version.



Please Note: This is a large file (approx. 90 pages, 1,700 KB)

[Change Control Log](#) (Word file)

General Information

Pacific Northwest National Laboratory

Operated by Battelle for the
U.S. Department of Energy

P.O. Box 999
Richland, Washington 99352

President/Director:

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Laboratory Director
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Roby D. Enge

Environment, Safety and Health Director,
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Richland, Washington 99352
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VPP Points of Contact:

[VPP Steering Committee](#)

Vern J. Madson, Jr. (Co-chairman)
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PO Box 999
Richland, Washington 99352
(509) 376-0792

Todd R. Hart (Cochairman)
EMSL/Room 2384 (MSIN K8-93)
PO Box 999
Richland, Washington 99352
(509) 376-4966

2. Operating Contractor

Battelle Memorial Institute
505 King Avenue
Columbus, Ohio 43201

3. Collective Bargaining Agents

Hanford Atomic Metal Trades Council (HAMTC)

Contact: Thomas J. Schaffer, President

Jim Bateman, Vice President

1305 Knight Street
Richland, WA 99352
(509) 946-0326

PNNL Point of Contact:

Vern Madson
350 Building/Room 150 (MSIN P7-08)
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Affiliates:

PACE 8-369
I.U.O.E. Local No. 280
Sheet Metal Workers Local No. 66
I.B.E.W. Local No. 77
Carpenters and Millwrights Local No. 2403
Machinists Local No. 1951
I.B.E.W. Local No. 984
Teamsters Local No. 839
Plumbers and Steamfitters Local No. 598
Richland Painters Local No. 1789
Iron Workers Local No. 14
Asbestos Workers Local No. 120
Boilermakers Local No. 242

4. Number of Employees

PNNL has approximately 3500 staff. Current information can be obtained on the "Count of staff..." link at the [Drill-down Organization Chart](#) web page.

Subcontractor staff may include Fluor Hanford construction workers, Associated Western University (AWU) students, and others. In Calendar Year 1999, those non-staff persons logged over 669,000 hours, which is comparable to approximately 365 full-time equivalent workers.

Several terms are used to describe workers at PNNL. The most commonly used term, "staff," typically refers to Battelle employees as well as other affiliated non-employee workers (e.g., AWU students) under direct PNNL control. The term "worker" includes employees, other affiliated non-staff, and subcontractors.

5. Type of Work Performed

The Pacific Northwest National Laboratory delivers environmental science and technology in service to the nation and humanity. Building on this core mission, we carry out related national security, energy, and human health programs that make the world a better place to live. ([PNNL External Home Page](#))

A more detailed mission statement is provided in the [PNNL Institutional Plan](#).

6. Types of Hazards

Battelle works with a wide variety of potential hazards, including the following:

Biological Hazards	<ul style="list-style-type: none">• Laboratory animals• Wild animals• Human pathogens• Environmental pathogens• Recombinant DNA
Chemical Hazards	<ul style="list-style-type: none">• Carcinogens• Corrosives• Explosives• Flammable or combustible liquids• Highly Toxic• Organic-Peroxide• Oxidizers• Pyrophoric• Reactive chemicals• Toxic chemicals• Water Reactive

	<ul style="list-style-type: none">• Chemicals with special regulatory concerns (polychlorinated biphenyls, herbicides/pesticides, regulated metals, asbestos, beryllium, lead)
Non-Ionizing Radiation Hazards	<ul style="list-style-type: none">• Infrared sources• Lasers• Magnetic fields• Electric fields• Radio frequency fields• Ultraviolet sources
Radioactive Hazards	<ul style="list-style-type: none">• Non-Fissionable• Fissionable• Special Nuclear Materials• Highly Toxic Radioactive Materials• Sealed Radioactive Sources• Radiation-Generating Device

Other Physical Hazards

- Exposed energized electrical conductors at 50 V and 5 mA, or 1000 W, or 10 J stored energy
- Pressure system
- Vacuum system
- Unguarded pinch points, rollers or power transmission apparatus
- Open flame or other ignition sources
- Work at heights 6 ft (not protected by standard walking and working surfaces)
- Noise 85dba
- Thermal hazards (surfaces or fluids 120F or <0F)
- Potential energy (mass/gravity/height)
- Kinetic energy (mass/acceleration/inertia)
- Compressed gases
- Cryogenics
- Heat or cold stress

Special Occupational Concerns	<ul style="list-style-type: none">• Aircraft (other than commercial airline)• Boat operation• Use of firearms• Off-road use of motor vehicles• Underwater diving• Foreign travel• Work at sites operated by others (other than normal office visit)• Forklifts, cranes, hoists• Tools and equipment• Workers in potentially oxygen deficient/enhanced atmospheres• Work in a confined space• Special ergonomics or manual lifting issues• Excavation• Modification or construction of a facility or utility/services (power, water, ventilation, communications)• Work at a Resource Conservation and Recovery Act or Comprehensive Environmental Response, Compensation, and Liability Act hazardous waste site
Special Environmental Concerns	<ul style="list-style-type: none">• Waste disposal• Air emissions• Liquid effluents• Impact on biological or cultural resources• Transportation of hazardous materials

7. The Standard Industry Code (SIC)

The SIC for PNNL is 8731 (Research and Development)

8 & 9. Injury Incidence Rate and Lost Workday Injury Case Rate

PNNL Employees (Only)					
Historical Occupational Injury Data					
Calendar Year	Hours Worked	Total Recordable Cases	Total Recordable Case Incidence Rate	# of Lost and Restricted Workday Cases	Lost and Restricted Workday Case Incidence Rate
1997	6,287,704	59	1.88	32	1.02
1998	6,324,022	45	1.42	24	0.76
1999	6,587,110	37	1.12	20	0.61
1997-1999	19,198,836 Total hours	141 Total cases	1.47 Average	76 Total cases	0.79 Average

PNNL Subcontractors (Only)					
Historical Occupational Injury Data					
Calendar Year	Hours Worked	Total Recordable Cases	Total Recordable Case Incidence Rate	# of Lost and Restricted Workday Cases	Lost and Restricted Workday Case Incidence Rate
1997	171,262	4	4.67	0	0.00
1998	145,787	4	5.49	1	1.37
1999	86,897	2	4.60	1	2.30
1997-1999	403,946 Total hours	10 Total cases	4.95 Average	2 Total cases	0.99 Average

PNNL Total (including subcontractors)					
Historical Occupational Injury Data					
Calendar Year	Hours Worked	Total Recordable Cases	Total Recordable Case Incidence Rate	# of Lost and Restricted Workday Cases	Lost and Restricted Workday Case Incidence Rate
1997	6,458,966	63	1.95	32	0.99
1998	6,469,809	49	1.51	25	0.77
1999	6,674,007	39	1.17	21	0.63
1997-1999	19,602,782 Total hours	151 Total cases	1.54 Average	78 Total cases	0.80 Average
1998 NSC rate for SIC 8731 "Research development and testing services"			4.17		1.98

10. Site Plan

PNNL operates across the [Hanford Site](#), in [Richland](#) and Sequim, Washington, and in locations throughout the world (links to [available maps](#) are provided).

Assurance of Commitment

| [Management Statement](#) | [Union Statement](#) |

To attain STAR status within the VPP, PNNL must

- commit long-term; attaining STAR status in the DOE-VPP is not easy and will not happen overnight
- build on what we currently have in place that works
- focus on areas for improvement.

Involvement in the DOE-VPP will benefit PNNL by

- improving the accident prevention program
- reducing risk of injury/illness
- promoting teamwork
- creating a sense of pride and ownership in the safety program
- further developing lines of communication between management and employees enhancing employee morale.

PNNL [Management](#) and the [Union](#) bargaining unit representatives of the Hanford Atomic Metal Trades Council (HAMTC) have documented their commitment to support this DOE-VPP application.

Management Statement

We are committed to providing a safe and healthy working environment for all staff; protecting the general public and the environment from unacceptable environmental, safety and health risks; and operating in a manner that protects and restores the environment. ... [Laboratory Policies – ES&H](#)

Managers at every level are becoming involved and showing their commitment to worker safety by helping to identify the worksite hazards and reduce the danger of injury and illness to employees. ... [PNNL VPP](#)

The purpose of the Integrated Environment, Safety, and Health (IESH) management system is to support the deployment of systematic, integrated ES&H activities into management and work practices at all levels to enable missions to be efficiently and effectively accomplished while protecting the workers, the public, and the environment.

... [Integrated ES&H Management System](#)

Meaningful participation is essential to success. Existing organizations are playing an important role. Employees are being given more opportunity to provide input into the safety and health policies and procedures which are designed to protect them. ... [PNNL VPP](#)

To promote excellence in occupational safety and health protection, we have committed to pursue recognition under the Department of Energy Voluntary Protection Program (DOE-VPP). ... [PNNL VPP Project Management Plan](#)

PNNL will provide information such as that listed below for DOE-VPP review on site. These records will be retained until DOE communicates its decision regarding initial DOE-VPP participation. We will likewise retain comparable records for the period of DOE-VPP participation covered by each subsequent evaluation until DOE communicates its decision regarding continued approval. Information on our VPP program includes:

- Written safety and health program
- Copies of injury and illness logs and the OSHA 101 or the DOE 5484.X for recordable injuries or illnesses.
- Injury and illnesses records for subcontractor workers in areas controlled by the participant contractor.
- Monitoring, sampling, and analysis records (where applicable).
- Medical records (which will be held confidential).
- Training records.
- Agreements between management and the collective bargaining unit(s) concerning the functions of the safety committee and its organization, where applicable.

- Minutes of safety-related committee meetings, where applicable.
- Committee inspection records, where applicable.
- Management inspection and accident investigation records.
- Records of notification of unsafe or unhealthful conditions received from employees and action taken, taking into account appropriate confidentiality concerns.
- Annual internal health and safety program evaluation reports.

Materials that are classified, confidential, or revealing of trade secrets will be viewed by appropriately cleared and trained DOE staff on site to avoid placing those materials in government files where they may be subject to disclosure to third parties.

We will address all hazards identified through any assessments, investigations, reports, or maintenance in a timely manner to ensure worker safety and health is protected.

We will implement worker safety and health controls in the following order of preference:

- Engineering controls are always the preferred first line of defense against hazards. Engineering controls include process change, material substitution, isolation, ventilation, and source modifications.
- Administrative controls are the secondary line of defense against safety and health hazards and supplement engineering controls as appropriate. Administrative controls include management involvement, staff training, staff rotation, air sampling, biological sampling, pre-job briefings, postings, procedures, and medical surveillance. Stop Work Authority is an administrative control available to all staff to ensure workplace hazards are addressed prior to the start of work and during work execution.
- Personal Protective Equipment is the last line of defense against workplace hazards and is only used when engineering and administrative controls are not feasible, or as an interim measure while other controls are being implemented. This equipment includes protective clothing, eyewear, hearing protection, hardhats, safety shoes, gloves, fall protection, and respirators. ...[Hazard Assessment Program Description](#)

We will provide the results of audits, appraisals, assessments, and accident/incident investigations to our employees upon request. ...[Safety Rights and Responsibilities Subject Area](#)

Any employee who has safety related duties or who calls attention to safety related concerns will be protected from any reprisal or harassment resulting from these duties. ...[Safety Rights and Responsibilities Subject Area](#)

By February 15 of each year, we will provide DOE our annual injury incidence and lost workday case rates, hours worked, and estimated average employment for the past calendar year.

If VPP recognition is granted we will provide DOE-VPP our annual safety and health program evaluation by an agreed-upon date.

We have notified employees about their right to register safety-related concerns with DOE and their right to obtain self-inspection and accident investigation results upon request. ...[Safety Rights and Responsibilities Subject Area](#), [Staff Concerns Subject Area](#)

We have notified employees about PNNL's participation in DOE-VPP through the [VPP Web site](#), access to this application, and other outreach activities such as surveys and incentive awards.

We understand that we may withdraw our participation in the DOE-VPP at any time for any reason, should we so desire.

Lura J. Powell, Ph.D

Director, Pacific Northwest National Laboratory

Union Statement



OFFICE OF PRESIDENT

Hanford Atomic Metal Trades Council

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RICHLAND, WASHINGTON 99352
PHONE (509) 946-0326

September 7, 2000



Dr. Lura J. Powell
Laboratory Director
Pacific Northwest National Laboratory
P.O. Box 999, K1-46
Richland, Washington

Dear Dr. Powell:

SUPPORT OF PACIFIC NORTHWEST NATIONAL LABORATORY VOLUNTARY PROTECTION PROGRAM (VPP)

The Hanford Atomic Metal Trades Council firmly believes that every employee is interested in maintaining the Hanford Site as a safe and healthy place to work. We must make every effort to eliminate health hazards and protect ourselves and our co-workers from injury at the workplace.

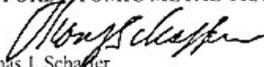
It is our opinion that the Voluntary Protection Program (VPP) may be a means to achieve an even greater level of worker protection. It is not the VPP itself that is crucial to employee safety but the quality safety and health programs that make up the VPP.

We view this as a method of encouraging positive examples of good safety practice. Of course, the combined effort of management and labor in the programs of the VPP is absolutely necessary to achieve the goal of safety at the workplace.

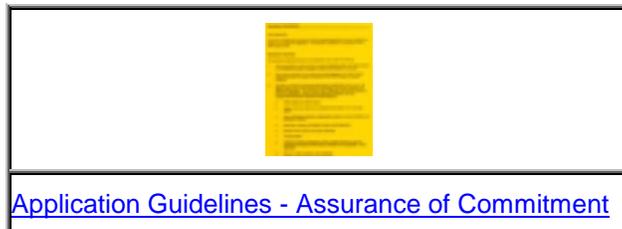
As with all credible programs at the Hanford Site designed to protect worker safety and health, we at HAMTC fully support Pacific Northwest National Laboratory's participation in the Voluntary Protection Program.

Sincerely,

HANFORD ATOMIC METAL TRADES COUNCIL


Thomas J. Schaefer
President

cc: Ben Corder, BNW
Roby Enge, BNW
John Jeskey, HAMTC
Vern Madson, BNW



Management Leadership

[1. Commitment](#)	[2. Organization](#)	[3. Responsibility](#)	[4. Accountability](#)
[5. Resources](#)	[6. Planning](#)	[7. Contract Workers](#)	[8. Program Evaluation](#)
[9. Site Orientation](#)	[10. Employee Notification](#)		

What is DOE-VPP Management Leadership?

[Commitment](#)

- Management's approach to occupational safety and health policy.
- The system in place for communicating the policy to all employees.
- The system to set goals and objectives.
- How goals and objectives are communicated to all employees.
- How top management is visibly involved in the safety and health program.

[Organization](#)

- How our safety and health functions fit into the overall management organization.

[Responsibility](#)

- Line organization and safety & health staff responsibilities.

[Accountability](#)

- The system used for holding line managers and supervisors accountable for safety and health and how that system is documented.
- Performance appraisal forms for managers and supervisors.

[Resources](#)

- Summary of personnel, equipment, budget, capital investments, and other resources devoted to the safety and health program (including the percentage of the current fiscal year site budget devoted to safety and health programs).

Planning

- How safety and health are a part of management planning.

Contract Workers

- How past performance in safety and health is taken into account in selecting contractors.
- Methods used for oversight, coordination, and enforcement to ensure that the contractor safety and health program is adequate and is implemented properly (including entry and exit procedures for contractors).
- Programs for familiarizing and holding accountable all persons in contractor-controlled areas.
- The means used to ensure prompt correction and/or control of hazards, however detected, under the contractor's control.
- The methods used to ensure that all injuries and illnesses occurring during work performed under a subcontract are recorded and submitted to PNNL.
- The methods, such as monetary penalties and dismissal from the site, used to discourage willful or repeated noncompliance by contractors or their employees.
- The number of resident contractors at PNNL.

Program Evaluation

- The safety and health program evaluation system.
- How the safety and health objectives are evaluated annually.
- How recommendations from the annual program evaluation are integrated into safety and health objectives.
- The current year's goal and objectives.
- The most recent annual evaluation of the entire safety and health program.

Site Orientation

- The programs for familiarizing and holding accountable all persons at PNNL, including vendors, consultants, students, and visiting scientists.

Employee Notification

The methods used to ensure that all employees, including newly hired employees, are aware of the following:

- participation in DOE-VPP;
 - their right to express concerns related to occupational safety and health to DOE;
 - their right to receive the results of self-inspections and accident investigations upon request.
-

1. Commitment

Management Approach to Occupational Safety and Health

[PNNL Laboratory Policies](#) state that "We are committed to providing a safe and healthy working environment for all staff; protecting the general public and the environment from unacceptable environmental, safety and health risks; and operating in a manner that protects and restores the environment." PNNL relies on well-integrated processes and tools to implement that policy, ensuring that hazards are identified and mitigated and work is performed safely.

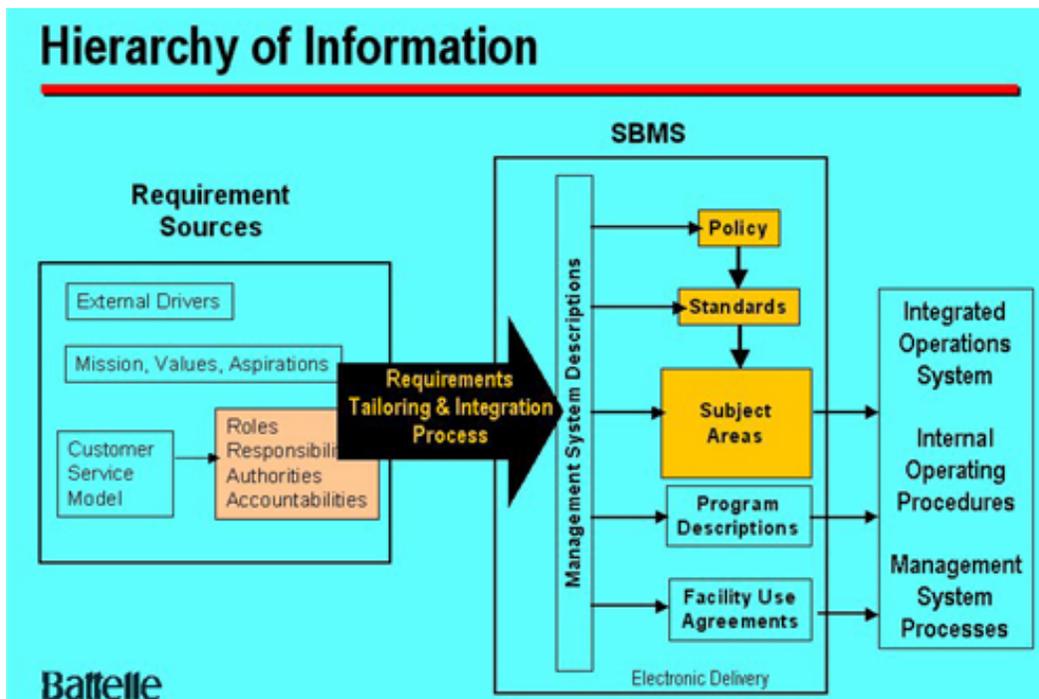
PNNL has implemented an Integrated Safety Management Program that complies with DOE P 450.4, "Safety Management System Policy." This was fully validated by DOE in June 1998.

PNNL ensures that managers and staff members understand how the hazards of their work are mitigated through the framework of the [Standards-Based Management System's](#) (SBMS's) [Integrated Environment, Safety and Health](#) (ES&H) management system. The SBMS [Worker Safety and Health](#) management system and [Radiological Control](#) management system describe how worker safety is assured. All work is managed, and all recognized potentially hazardous situations are identified and mitigated. If new hazards arise or are recognized during the process of performing work, PNNL requires that appropriate steps (including work stoppage) be taken to fully mitigate the hazards before work proceeds.

One function of the SBMS, is to provide a computerized information management and delivery system. This is used by PNNL as a storefront for all Laboratory-level requirements. PNNL's requirements are based on external drivers such as regulatory requirements (e.g., Occupational Safety and Health Administration and Washington Industrial Safety and Health Administration), contractual requirements (e.g., U.S. Department of Energy Orders), and industry best practices.

Applicable external drivers (e.g. DOE orders) are reviewed by teams of user (employee) representatives and subject matter experts to develop the internal requirements of SBMS, which provide for regulatory/contractual compliance AND operational effectiveness.

The SBMS provides a hierarchy of documents to ensure an adequate flow of information from external drivers to bench-level practices. That information flow is represented in the following figure:



The [Integrated ES&H program description](#) describes this figure as follows:

- **External Drivers** are the set of external requirements, such as the DOE Orders invoked by the 1830 Contract; regulatory permits; and applicable Federal, State, and local regulations. The external drivers are maintained in a rigorously change controlled database that identifies which management systems are responsible for implementing the requirements therein and traces the implementation into Lab-level requirements.
- The Battelle **Customer Service Model** describes the core business processes by which Battelle, including PNNL, delivers research and development services to its customers. The **roles, responsibilities, accountabilities, and authorities** establish the performance expectations of managers and staff for carrying out the Customer Service Model.
- **Aspirations** set Pacific Northwest's image of its future state, while corporate values establish the operating philosophy for the organization and its staff. The mission is the contractually defined scope of work for Pacific Northwest.

- **Management Systems** are Pacific Northwest's highest-level operating and business processes. These management systems are designed to translate the full set of external requirements into the information staff need to perform their work. Definition of these systems is provided through management system description documents, which contain information about the individual management system's purpose, ownership, requirements and drivers, customers, outputs, system operations, and responsibilities.
- Pacific Northwest **Policies** are the basis for the high level scientific, professional, and personal standards that apply to managers and staff.
- **Standards** set the expectation for how we operate; and they are used to determine whether we are conducting our business and ourselves in a manner consistent with our mission and objectives.
- **Subject Areas**, which consist of Laboratory-wide procedures and guidelines, are developed to support the implementation of the standards when a standard does not provide staff with sufficient guidance for safe and effective operations. Subject areas are prepared when procedures and guidelines apply to a broad group of staff across PNNL. If information only applies to a select or small group of staff, alternate methods of communications exist, such as task or group-specific internal operating procedures. **Note:** "A" Manuals previously provided Lab-level requirements, but they have since been replaced by Subject Areas, Program Descriptions, and Management System Descriptions.
- **Program Descriptions** are developed when required by clients, regulations, or a management system to further describe processes and operations to obtain agreement on the processes that PNNL will employ. In some cases, the program description documents are used as the basis for operations by small groups of staff who perform key activities that maintain the applicable process infrastructure.
- **Facility Use Agreements (FUAs)** define the operating boundaries/requirements (including roles and responsibilities) for each facility. The facility manager and the facility occupants are the agreement parties for the FUA. Externally approved safety basis documents such as Safety Analysis Reports become referenced attachments to the FUA for that facility.
- Laboratory-level information is generally sufficient for many activities. However, line management may determine that it is appropriate to develop an **Internal Operating Procedure** to fine tune PNNL's applicable risk mitigation strategy to the particular risks of the work being performed. When this is done, the internal operating procedures are bounded by the requirements established by the Laboratory-level documents. Significant examples of where managers use internal operating procedures are the Maintenance and Facility Operations activities, the operations of the 325 Building (a Category II Nuclear Facility), and the operations of the Environmental and Molecular Sciences Laboratory, a major user facility.

The ES&H [roles, responsibilities, accountabilities, and authorities](#) (R²A²s) of each staff member, including the various management roles of PNNL's business model, are defined and communicated in SBMS.

[Lessons Learned and Best Practices](#) are also delivered as a product of SBMS.

PNNL uses a combination of approaches to communicate occupational and health policy, goals, objectives and relevant information to employees, including Web-based information (e.g., [SBMS](#), [ES&H Web site](#), [LabWeb home page](#) – see example below), newsletters, informational e-mail, lessons learned, training, meetings, safety committees, project team activities, and informal interaction between managers, support staff, and workers. A principle method of delivering information at PNNL is the intranet. The main portal to PNNL's intranet is the LabWeb home page. An example of a recent LabWeb home page posting is provided below:

The screenshot shows the Pacific Northwest LabWeb homepage. At the top, there are navigation links for Search, Help, PNNL External, BMI Internal, and Staff Search. The main header features the 'LabWeb' logo and a 'Learn... Share... Improve' banner with a checkmark icon and the text 'Check out the Laboratory's new website!'. Below the header, the date 'News for August 3, 2000' is displayed. The main content area includes a section for 'E-bits Now Online' with a link to 'Inside PNNL (Wednesday, August 2, 2000)' and a paragraph about the E-bits newsletter. Another section titled 'Emergency Information at Your Fingertips' provides details about emergency information available on the LabWeb. At the bottom, there is a section titled 'Learn...Share...Improve: It's How We Work Best!' with a paragraph about finding lessons learned and best practices.

Facilities and Operations recently published a [Hazards Handbook](#), which has been distributed in hard-copy form to Facilities and Operations staff and is also available online. Working Smarter, Working Safer is the theme of the Hazards Handbook. The Hazards Handbook provides a pictorial reminder of the hazards that staff may encounter on any given day. It's about applying our common sense in the workplace and making it second nature to work smarter, work safer! These are real slices of life with witty captions to assist staff members in thinking about safety.

As stated in the Integrated ES&H program description, each organization or project may develop internal operating procedures that apply specifically to the organization's or

project's operations (see [Hazard Prevention and Control](#), "[Element 2, Safety & Health Rules](#)"). Those procedures must comply with the Laboratory-level requirements of SBMS and external regulatory/contract requirements, but they may include additional requirements or operation-specific guidance. An example of a system of facility-specific internal operating procedures is the [Integrated Operations System](#).

Integrated Operations is becoming the standard for how PNNL facilities conduct work. It is an integrated Web-based system that implements safety and health requirements at the bench level through clear roles and responsibilities, hazard awareness summaries, facility-specific work practice documents, task-specific permits and procedures, job-specific training, and periodic self assessments. It will soon encompass all PNNL facilities where potentially hazardous work is conducted, and discussions are under way regarding implementation of Integrated Operations for all PNNL work. Integrated Operations provides an excellent process for ensuring that hazards are identified and properly mitigated. Integrated Operations is enhancing the implementation of PNNL's already excellent Laboratory-level processes related to ES&H.

Managers are actively engaged in ES&H programs by setting priorities, goals, and objectives; providing resources; participating in accident and incident investigation and reporting; performing self-assessments; attending safety committee meetings; contributing to developing and revising SBMS subject areas; and directly communicating with staff. Managers are expected to maintain an "open door" policy, as described in the [Staff Concerns Program](#).

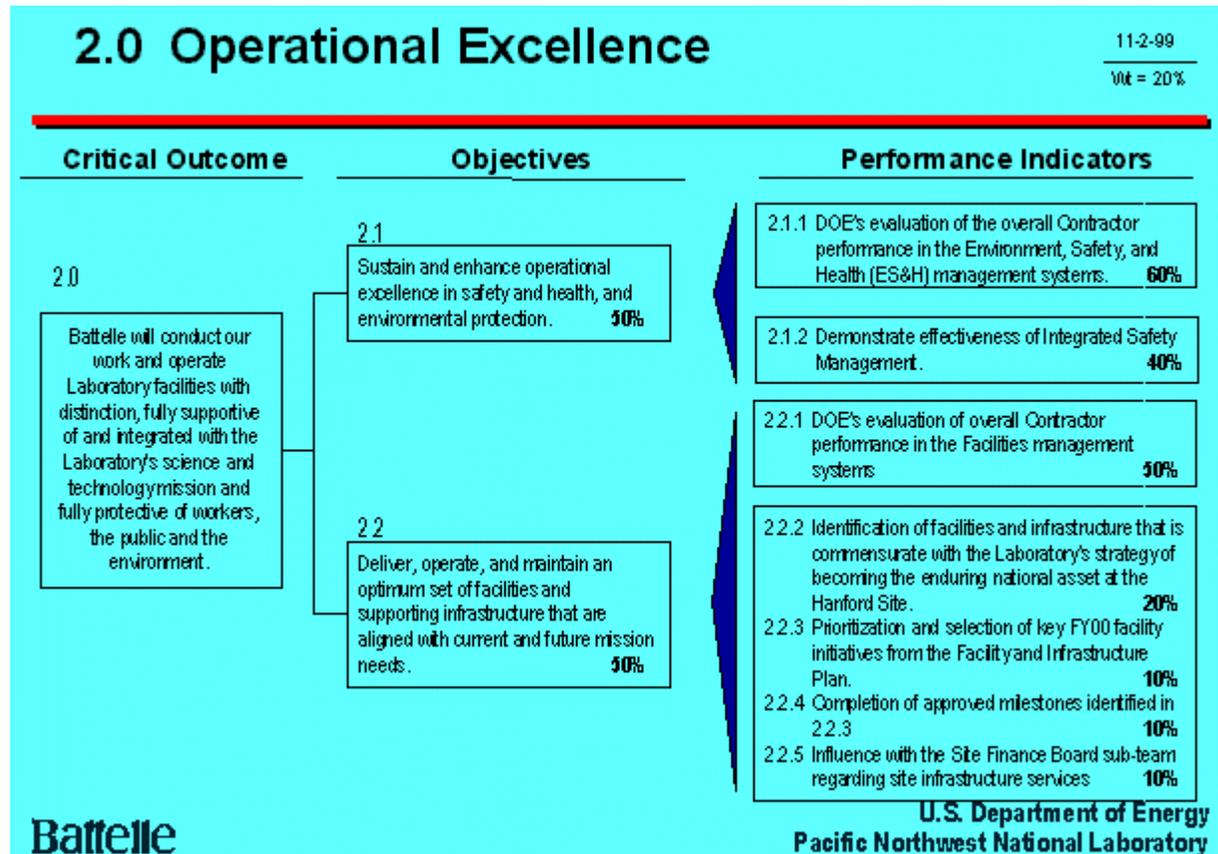
Goals and Objectives

Goals and objectives are established at each level of the organization. The [PNNL Prime contract](#) with the U.S. DOE and [strategic planning products](#) establish the general parameters under which the Laboratory is operated. Each year, specific business plan is prepared and [critical outcomes](#) are established. The business plans and objectives drive organizational planning at the division/directorate level. The variances [planning products](#) used by PNNL include Management System Plans, level 1 plans, and operational improvement plans, which set specific goals and objectives, as appropriate. Safety is included in this process through the planning and funding of initiatives, safety-related facility improvements, and the expectation that work must be in compliance with safety requirements and the standards of the Laboratory. The goals and objectives of these planning products are communicated via the Lab's intranet.

Each staff member, including managers, has a position description based on the R²A²s and an annual set of goals based on their role and involvement with specific aspects of the business plans and objectives. Safety is included in those documents as appropriate based on the staff member's R²A²s and specific aspects of each staff member's job. (See "[Creating New Positions and Reclassifying Positions](#)" section of the "Recruiting and Hiring" subject area, and the "[Performance Evaluations](#)" section of the "Staff Development and Review (SDR) Process" Subject Area)

Current goals and objectives

The Laboratory establishes [Critical Outcomes](#) in cooperation with DOE, which are "a basis for the overall management and measurement of performance within the Laboratory." The ES&H-related goals and objectives of this process for FY00 are captured under Critical Outcome 2.0 "Operational Excellence"



[Performance Indicator 2.1.1](#) is a qualitative assessment of the Laboratory's performance in the development and implementation of ES&H management systems, while [Performance Indicator 2.1.2](#) uses traditional downstream ES&H performance measures such as Total Recordable Case Rate and Lost Workday rates (see FY00 results in [Worksite Analysis, Element 7. Trend Analysis](#)).

These high-level goals and objectives are supported by [Level 1 Management Goals and Objectives](#), such as "Continue improvements in ETD ES&H/Operations metrics," which was a Fiscal Year 2000 Performance Objective written for the Associate Laboratory Director of the Environmental Technology Division – Walt [Apley](#).

The PNNL [ES&H Directorate FY00-FY03 Strategic Plan](#) contains key objectives for the Directorate established by the ES&H management team.

Under IOPS, line management responsible for a facility designates a senior staff member to be responsible for ensuring that operations in a space are conducted safely. That staff member (the cognizant space manager) is empowered to grant (and revoke)

access to workers who wish to use a space. They are also responsible for identifying the hazards in their space and for ensuring that controls are adequate to mitigate the hazards of the work conducted in their space. This delegation of responsibility and authority is backed by line management.

Research and development work at PNNL is performed as projects, which may be small or large. A project manager is identified for each project, and that staff member is responsible for ensuring that the work planning is adequate to control the hazards. The project manager is accountable to the product line manager for project performance, and the product line manager is ultimately responsible for the risk management decisions made in their business area. The project manager works with line managers (technical resource managers and technical group managers) to perform the work. Space, equipment, and staff resources are managed by the technical group managers (who report to technical resource managers). They are responsible for ensuring that work using their resources is performed safely and in compliance with requirements. They usually delegate responsibility for monitoring work in discrete spaces (e.g. laboratories) to cognizant space managers. The relationships between these participants in the work planning and control process are spelled out in the [roles, responsibilities, accountabilities, and authorities](#).

Other goals and objectives are established for specific purposes, organizations, or roles across the Laboratory. A [Resource Guide for Conducting PNNL Improvement Efforts](#) provides information on how that process works.



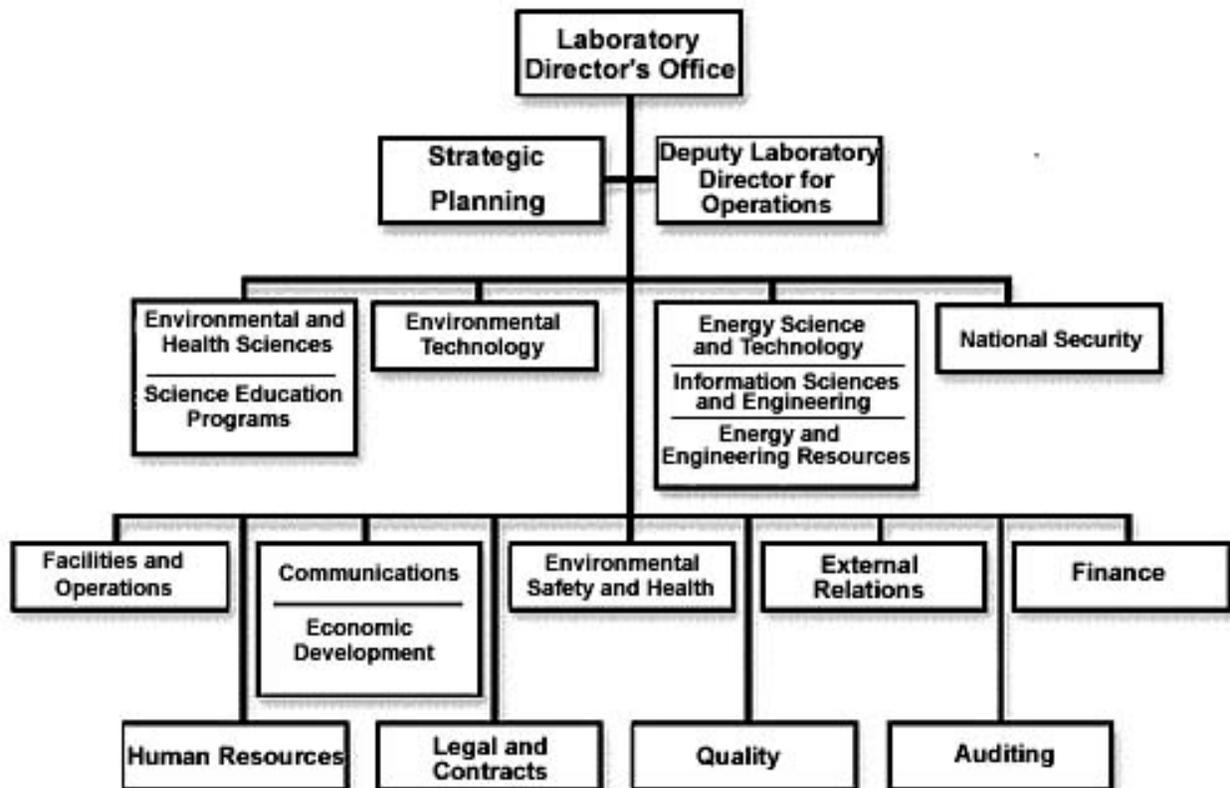
2. Organization

PNNL subscribes to the philosophy that line management is responsible for safety. However, it is clear that management needs help with implementing the Environment, Safety and Health (ES&H) Program, and that each staff member is personally responsible for safety and has a significant role to play in implementing this program.

Staff Development Review goals are established for each staff member annually. Staff and manager guides are provided that describe the process and its implementation (including periodic review and performance assessment).

PNNL is organized to support the [Customer Service Model](#) (the Laboratory's business model) and the [roles, responsibilities, accountabilities, and authorities](#) (R²A²s) of that model. Product line managers and project managers are responsible for making risk acceptance decisions related to research and development proposals and for ensuring that planning for funded projects adequately addresses ES&H issues. Technical resource managers and technical group managers (line managers) are responsible for ensuring that work is executed safely.

The Laboratory is organized into four research and development divisions (each with a specific mission area) and various support organizations (directorates) that provide expert assistance to the research and development missions. A top-level organization chart is provided below.



In addition, PNNL's [Drill Down Organization Chart](#) provides increased detail about its organization.

The [ES&H Directorate](#), a "Level 1" directorate that reports to the Laboratory Director, provides expert ES&H services to the Laboratory. Most of the staff in the ES&H Directorate (including the Safety and Health Department and the Radiological Control Group) are assigned to support specific line organizations, facilities, and/or programmatic functions. Those staff (sometimes referred to as Subject Matter Experts) provide direct support to their line organization customers and frequently participate as team members on specific projects or work activities.

The ES&H Directorate also contains the Training and Qualification Department, which supports the Laboratory's training needs by developing and delivering ES&H-related training.

Independent Oversight

The Laboratory's Independent Oversight Department provides an unbiased review of key issues related to the Environment, Safety and Health Program. Independent Oversight establishes and Annual Assessment Plan and produces Assessment Reports, which are distributed to appropriate management and are available for review by staff and others.

VPP

The VPP Steering Committee is sponsored by the ES&H directorate and the F&O directorate. It is composed of representatives from across the Laboratory and it is led by two "Co-Chairs" from the bargaining unit and the "research side" respectively. The VPP Steering Committee advises management regarding needed program improvements, and it promotes safety at PNNL and in the community.

The Laboratory's Independent Oversight Department provides an unbiased review of key issues related to the Environment, Safety and Health Program. Independent Oversight establishes and Annual Assessment Plan and produces Assessment Reports, which are distributed to appropriate management and are available for review by staff and others.



3. Responsibility

Roles, Responsibilities, Accountabilities, and Authorities

PNNL has clearly defined the [roles, responsibilities, accountabilities, and authorities](#) (R²A²s) for conducting business. Some of the R²A²s relevant to the safety and health program include the following:

Staff

- Report concerns such ... unsafe conditions.
- Identify hazards and stop unsafe work.
- Comply with applicable Laboratory policies, standards, and procedures.

Level 1 Manager

- Communicate expectations that staff follows policies, standards, and procedures.

Immediate Managers

- Ensure that mitigation is in place for all identified hazards.
- Set the expectation that staff use standards and procedures.
- Ensure staff have access to Standards-Based Management System information.
- Lead critiques evaluating ES&H [Environment, Safety and Health] and Safeguards & Security incidents.

Product Line Managers

- Identify/ensure effective management of the risks and hazards associated with project work.

Project Managers

- Identify hazards on projects.
- Ensure hazards introduced by the work can be adequately controlled in the location or facility where it will be conducted.
- Communicate project requirements to team members and their Immediate Managers.

Cognizant Space Managers

- Ensure that hazards resulting from activities and operations in the assigned workspaces have been evaluated and that adequate mitigating controls are identified and utilized by communicating requirements, approving applicable documentation, and performing required self-assessments.

Management System Owners

- Ensure that external requirements are analyzed and appropriately implemented through the management systems.
- Interface with external regulators on issues associated with requirements document implementation.
- Develop, operate, and maintain assigned systems and develop budgets for their implementation.
- Develop and maintain management system descriptions, Laboratory standards, and procedures.
- Develop guidelines and training to assure implementation of the standards.
- Provide technical assistance for assigned management systems, standards, procedures, and guidelines.
- Ensure that appropriate interfaces, including inputs and outputs, exist between management systems.
- Continuously improve performance of management systems by assessing system performance and by addressing performance and implementation issues identified from customer feedback, staff suggestions, and other assessment activities.
- Involve stakeholders and staff in the development of standards, Laboratory-wide procedures and guidelines.

The R²A²s ensure that managers and staff are responsible for safety. However, it is recognized that special technical expertise in ES&H disciplines, such as industrial hygiene, fire protection, radiation protection, and occupational safety, is required to achieve excellent performance. For that reason, highly qualified ES&H professionals are part of the operating teams that ensure that work is performed safely, and other ES&H professionals provide independent overview of PNNL operations. Each organization performing potentially hazardous work has "field-deployed" ES&H staff assigned to support operations. Those staff are available to help with project planning, address questions or concerns raised by managers or staff, and help in the performance of management self-assessments. This philosophy is described in the [PNNL ES&H and](#)

[Infrastructure Management Plan](#). The expectations and responsibilities of ES&H field-deployed staff have been described in several internal documents such as the "[Expectations and Responsibilities of Field Deployed Environmental, Safety, and Health Representatives Supporting the National Security Division](#)"

ES&H Directorate

The ES&H Directorate is responsible for providing Laboratory staff with management systems, including program implementation tools and support services, to ensure compliance with external ES&H drivers and to support the Laboratory's mission.

Position Descriptions

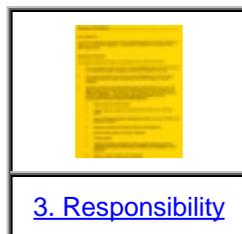
"Managers must ensure that all positions in their organizations have a current and accurate description of the duties of the job to be performed and the reporting relationship" (Standards-Based Management System subject area, [Recruiting and Hiring](#)). The [Position Description Form](#) found in this subject area addresses the responsibilities and accountabilities of the job to be performed.

Salary Development Review

[Staff Development Review](#) goals are established for each staff member annually. Staff and manager guides are provided that describe the process and implementation, including periodic review and performance assessment.

Assessment Tracking System

Responsibility for identified corrective actions resulting from Lab-level assessments, audits, or investigations is assigned to individual staff and tracked in the [Assessment Tracking System](#).



4. Accountability

General accountabilities for safety and health are described in the [roles, responsibilities, accountabilities, and authorities](#). Accountability means assuring that responsibilities are properly executed, and accountability is accomplished through overview/performance monitoring and the application of appropriate enforcement of responsibility. PNNL applies the philosophy of line management responsibility and accountability for safety and health by monitoring key indicators of performance and the application of appropriate accountability actions by immediate managers. Good performance with respect to expectations, goals, and objectives is rewarded, while performance that falls short of expectations is corrected. Corrective actions include feedback (e.g., real-time or through annual performance appraisals), disciplinary action, or removal from positions of responsibility.

Staff Development Review

A formal performance appraisal process, called [Staff Development Review \(SDR\)](#), is used at PNNL. The SDR process involves establishing annual goals and periodically monitoring performance to those goals. Safety-related goals are included in SDRs as appropriate for the individual staff member's role and level of responsibility. A [Staff Development and Performance Review Form](#) is also available for use by managers and staff.

Critical Outcomes

[Critical Outcomes](#) are established for the Laboratory, and the performance or contribution of various organizational components with respect to those Critical Outcomes is monitored by management system owners and support staff. Periodic feedback is then provided to the managers who are responsible for each organization, and actions are taken to correct unacceptable performance.

Event Reporting

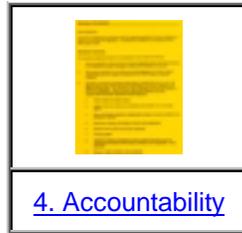
Incidents and accidents are investigated in accordance with the Standards-Based Management System (SBMS) subject areas, [Event Reporting](#), [Injury or Illness](#) and [Critiques](#). The purpose of the investigation is not to assign blame, but rather to identify the system failures or improvement opportunities that allowed the undesirable performance. However, if unacceptable personal performance or a trend of undesirable outcomes is identified, disciplinary action may be taken or an individual may be replaced in a given role.

Assessment Tracking System

Accountability for resolving identified corrective actions arising from Lab-level assessments, audits, or investigations is facilitated by use of the [Assessment Tracking System](#).

Disciplinary Action

Disciplinary action is a line management responsibility . If disciplinary action is required, processes defined by PNNL's [Human Resources Management System](#) are applied to achieve fairness and appropriateness (see SBMS subject area, [Disciplinary Actions and Administrative Reviews](#)). Disciplinary action related to a staff member under a union contract is managed in accordance with the bargaining unit contract (see SBMS subject area, [Labor Relations](#)).



5. Resources

It is difficult to establish a specific number that represents the Monetary resources devoted to safety and health. Certain expenses are easily quantified, including

- safety and health-related management systems
- training
- projects and investments [Operational Improvement Initiatives, Alterations and Modifications budget, capital budget].

Those expenses are quantified and compared to the PNNL budget below:

PNNL Site Budget				Sales
				\$Millions
Subtotal DOE (Department of Energy)				\$374
Subtotal WFO (Work for Others)				\$29
Total				\$403
	\$Thousands			
Safety & Health Management Systems	PNL Overhead	OJS	Sold Svcs	
Facility Safety	\$351	\$207	\$456	
Worker Safety & Health	\$3,186	\$417	\$1,002	
Radiological Control	\$752	\$1,296	\$2,699	
				\$10,366
	\$Thousands			
Initiatives	OII			
Chemical Management System Operational Initiative	\$150			
Institutionalize Integrated Operations System	\$250			

Radiation Exposure System Rehost	\$70			
				\$470
	\$Thousands			
Safety and Health Training and Qualification	PNNL Training and Qualification (proj)	Other Training and Qualification (proj)		
Training	\$901	\$378		
	5660	2298		\$1,279
% Total Site Budget Devoted to Safety and Health				3.01%

The funding categories "PNL Overhead", "OJS", and "OII" are overhead resources that support Lab-level activities such as program development. The funding categories "Sold Services" and the two related to training are direct charges paid by the Line organization for specific safety support and services.

However, these budget items account for only a fraction of the funds actually spent in support of the safety and health program. Other expenses that cannot be easily quantified include

- the portion of the Standards-Based Management System budget that supports safety
- project team labor related to Worksite Analysis and Hazard Prevention and Control
- Line manager and staff time related to assessments, accident/incident investigations, and general management of safety and health issues.

These expenses are reflected in: a) the project-born costs of ensuring that the work performed is to the highest standard (this is where the largest outlays for ES&H are made); and b) the facility expense and capital costs incurred by the Laboratory in sustaining an infrastructure that allows safe work to be performed, and corrects ES&H problems identified through self inspection, employee reports, accident investigations, or any other means.

Such costs are absorbed in funding accounts that are not specifically earmarked as "Worker Safety and Health". This artifact of the extensive integration of PNNL's management systems results in an artificially low percentage of the "total site budget devoted to Safety and Health" as indicated in the table above.

(Note: See "[Hazard Prevention and Control-Professional Expertise](#)" for a discussion of the personnel resources available to PNNL staff and managers from the Safety and Health Department.)



6. Planning

Annual business planning at PNNL requires all managers to budget for safety and health issues, including

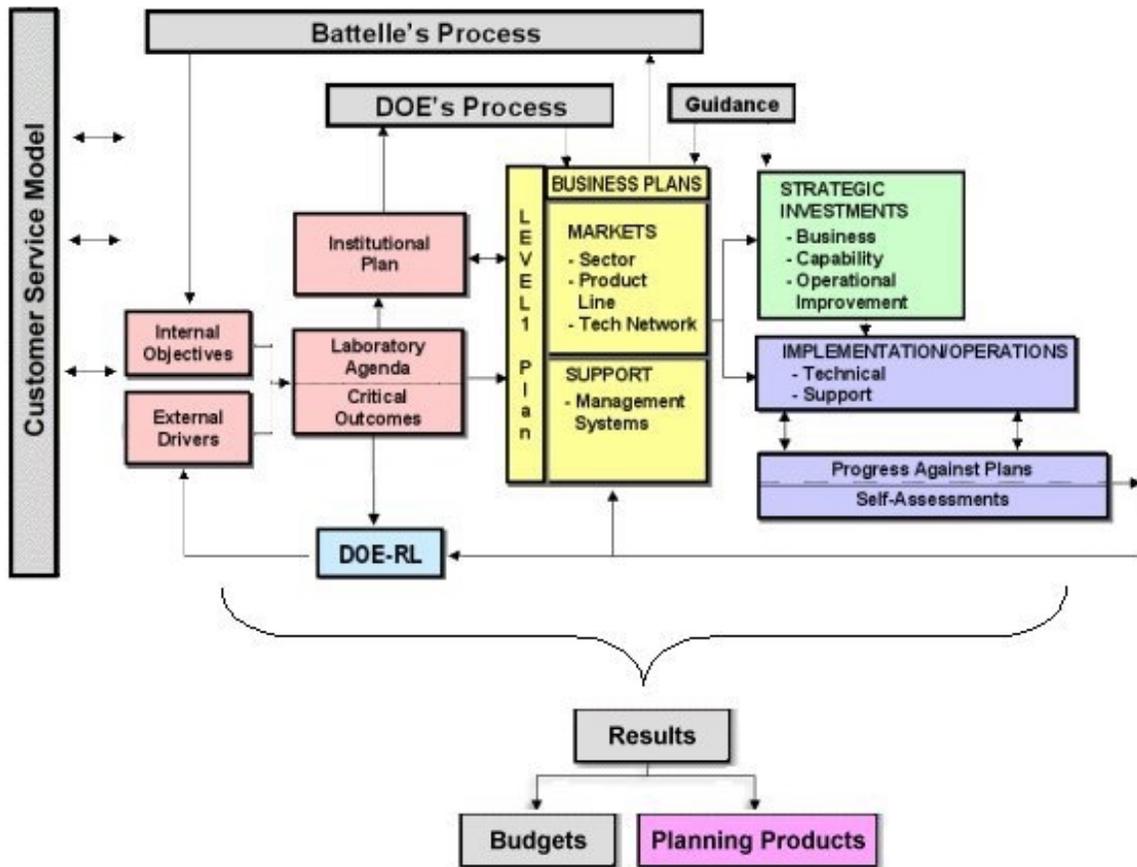
- training of staff
- field-deployed ES&H support
- operational resources related to maintenance of capabilities (facilities, equipment, work activities).

The Laboratory's [Institutional Plan](#) defines what the Laboratory does and the general projections for a 5-year period. Each year, the [Strategic Planning Calendar](#) and the [Facility Strategic Planning Process](#) drive budget planning for the upcoming fiscal year. Those processes include the Environmental, Safety and Health (ES&H) management system budgets, ES&H-related initiatives, and the safety support for implementing ES&H by the line organizations (see the [Resources](#) section with this tenet).

The "Integrated Planning Framework" ([see graphic below](#)), illustrates the process flow and logic behind the Lab's Integrated Business Planning system. The process can be broken down into four main areas: objectives and outcomes, business planning, investments, and business execution and tracking.

The [Integrated ES&H management system](#) and [Integrated ES&H program description](#) within the Standards-Based Management System (SBMS) outline how work is proposed, planned, and executed at the Laboratory. The work process at the Laboratory integrates safety and health into the project life cycle as illustrated by the following diagram:

Integrated Business Planning Framework



The results of "Business Plans", based on inputs from the Integrated Business Planning System such as "self assessments" and "critical outcomes" feed directly into "Budgets" and "[Planning Products](#)" such as management system plans and Level 1 plans as illustrated above.

Research and development project planning incorporates safety as described in the [Worksite Analysis](#) tenet. In the SBMS subject area, [Project Management](#), the [Finalizing the Project Plans](#) section, "The project manager must demonstrate to the product line manager that they have effectively planned the project prior to the start of work by...ensuring that plans for mitigating identified hazards and risk are included in the project planning"

Facilities and Operations work planning follows a similar process to ensure that safety is incorporated into work planning, as described in the [Worksite Analysis](#) tenet.



7. Contract Workers

Contract workers are held to the same standards for safety as PNNL staff. Contractors or their workers who do not meet those standards are no longer allowed to perform work at PNNL. This process is implemented by Legal and Contracts support staff and the technical administrators of the contracts. The Standards-Based Management System (SBMS) subject area, [Purchasing Goods and Services](#), provides the Laboratory-level requirements for establishing a contract, and the [Special Requirements](#) exhibit within this subject area states that "procurement requisitions must address ES&H (Environment, Safety and Health) considerations. Battelle policy states that we will seek to communicate our commitment to assess the potential health, safety and environmental impacts of our products and services, and communicate this commitment with our business partners and suppliers." [Formal and informal processes](#) are specified in this subject area for evaluating contract proposals, depending on the level of complexity or importance of the contract. A list of previously [evaluated suppliers](#) is maintained by PNNL.

Construction subcontracts are managed in accordance with the SBMS subject area, [Construction Safety](#), where a facility representative actively overviews the planning and execution of a project (see the [Worksite Analysis](#) tenet for more details).

There is "one-over-one" management approval of contracts, and the Contracts Specialist overviews the requirements of the contract to help ensure adequate risk management. The responsible staff (e.g., technical administrator, Safety and Health Representative, or quality engineer) inspect and review the deliverables (goods or services) as indicated on the purchase requisition. Staff are accountable to their immediate manager for ES&H compliance, including the implementation of their responsibilities for contractor overview. All staff have stop work authority, and any staff member (especially contract technical administrators) would be expected to take appropriate action (up to and including stopping work) if unsafe practices by a contractor are observed.

Work-related accidents involving contractors are to be reported to PNNL (e.g., the emergency single point of contact at 375-2400). Reportable occurrences are addressed in the same way as any PNNL incident. Minor injuries and illnesses to subcontractor workers are typically investigated by their parent organization (although injuries or illnesses involving Associated Western Universities students are investigated by PNNL). A formal mechanism is in place where Fluor Hanford, Inc. reports work hours and injuries or illnesses associated with PNNL work.

Subcontractors or their employees who fail to meet the requirements of the job planning package or other applicable PNNL standards may be (and have been) terminated from future work at the Laboratory.



8. Program Evaluation

Self-Assessments

Self-assessments are the primary tool for evaluating and improving performance (as indicated by DOE Order 224.1, "Contractor Performance-Based Business Management Process"). PNNL has an extensive process for performing self-assessments, including the areas of safety and health. This process is outlined in the Standards-Based Management System (SBMS) subject area, [Integrated Assessment](#).

Management System Self-Assessments

The owners of each of the Laboratory's management systems (including [Integrated Environment, Safety and Health](#) (ES&H), [Worker Safety and Health](#), and [Radiological Control](#)) perform self-assessments of program requirements and implementation at the Laboratory level. The [ES&H Directorate Self-Assessment Plan/Schedule](#) provides considerable detail regarding self-assessment activities for this fiscal year. Safety and Health self-assessments are scheduled and tracked using the [Assessment Tracking System](#) in accordance with Safety and Health Procedure-3.02, [Safety and Health Self-Assessments](#). In addition, Independent Oversight establishes and [Annual Assessment Plan](#) and produces [Assessment Reports](#), which are available for review by staff and others.

Line Organization Self-Assessments

Line organizations perform self-assessments of how they implement their safety and health programs; these self-assessments are performed typically with the assistance of field-deployed subject matter experts.

In addition, using assessment is a major part of the self-assessment process. Each line organization has an internal system for tracking internal self-assessments and their results (e.g., corrective actions). Laboratory-level issues (typically identified by ES&H, Facilities and Operations, or external reviewers) are tracked within [Assessment Tracking System](#).

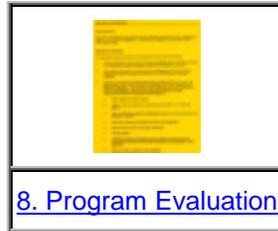
Voluntary Protection Program Evaluation

A VPP evaluation was performed as this application was developed. A process of annual VPP evaluations has been initiated to augment the Laboratory's existing ES&H self-assessment program. Thus, the current status of PNNL's Safety and Health Program with respect to VPP criteria are documented in this application. Improvement opportunities identified during application development have been documented and potential actions are being evaluated.

PNNL's most recent annual **DOE-VPP Program** evaluation is available at the [VPP Web site](#).

Identifying and Tracking Critical Outcomes

The Laboratory identifies and tracks [Critical Outcomes](#) (goals and objectives) relative to safety. PNNL's performance improvements over the past several years are largely attributed to the use of self-assessment results.



9. Site Orientation

PNNL provides general and job-specific training to all workers, including vendors, consultants, students, and visiting scientists. This important activity is controlled through the badging process. The minimum level of orientation (e.g., for visitors to areas that do not contain significant potential hazards) is a briefing that includes emergency response information. Workers who are exposed to potentially hazardous situations or who work onsite for extended periods of time are provided with computer-based or classroom training that addresses safety rights and responsibilities, the requirement for adherence to procedures, and emergency response.

PNNL also offers an external [Training and Qualification Web site](#) for visiting scientists, students, etc from remote locations. By issuing the visitor a password, the visitor can receive required training courses over the internet. Courses currently offered by this system include Battelle Business Ethics, Classified Matter Protection and Control Overview, Electrical Safety for Electrical Workers, Electrical Safety for Non-Electrical Workers, General Employee Radiological Training, Hazard Communications, Hazardous Waste Management Training, Hearing Conservation, Laser Safety Training, and Security Training for both Cleared and Uncleared Staff. Additional courses will be added as needs are identified and courses become available.

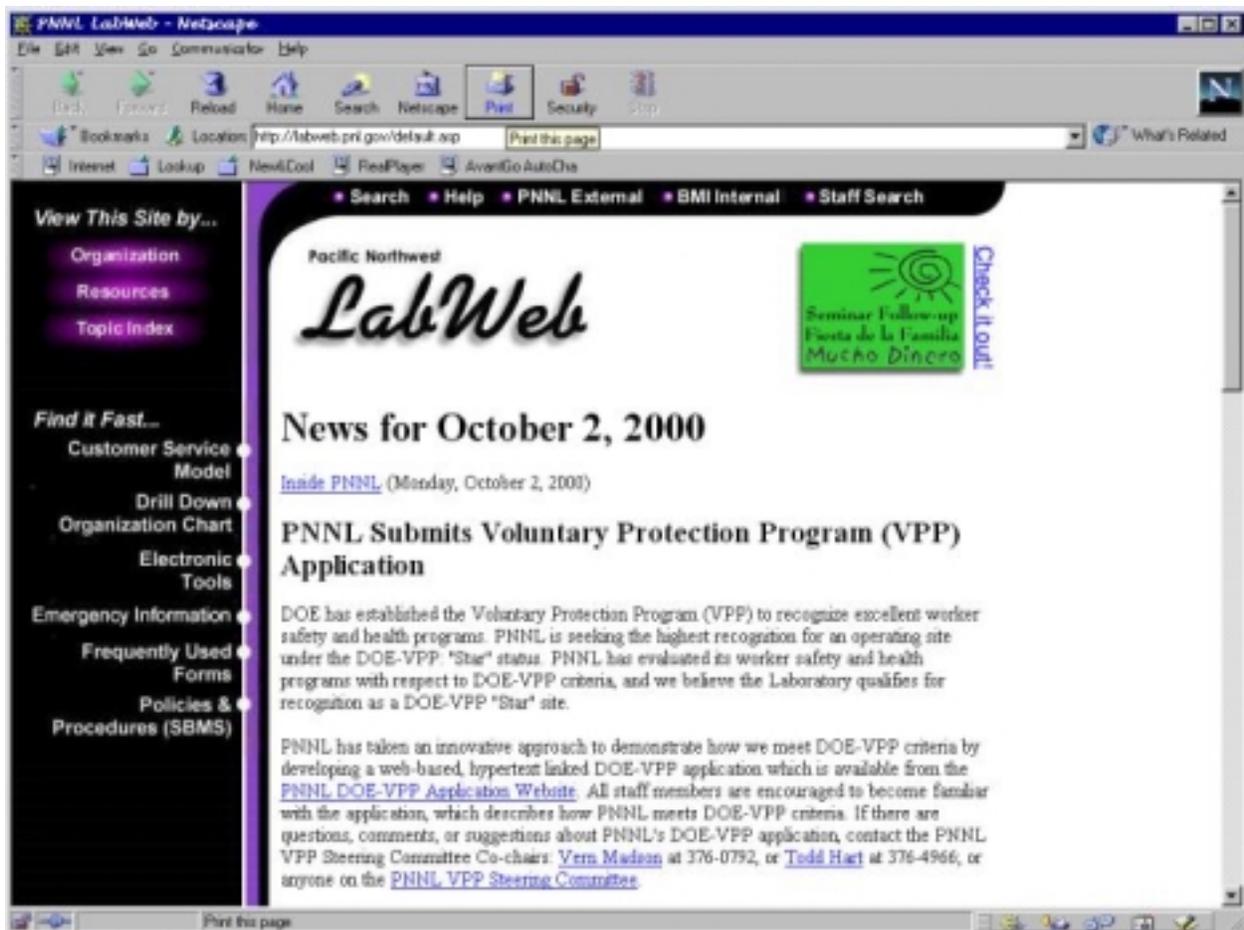
PNNL has developed the [Integrated Operation System \(IOPS\)](#) to provide job-specific orientation and appropriate training to all individuals, including staff, vendors, consultants, students, and visiting scientists. Each individual is responsible for completing their training matrix before being granted access to IOPS buildings or laboratory spaces. For each visitor, a staff member serving as host assumes responsibility to ensure that all appropriate orientation and training are completed.



10. Employee Notification

In keeping with the philosophy of Web-based information delivery, PNNL has established a [Voluntary Protection Program \(VPP\) Web site](#). In addition, VPP information brochures and postings have been developed and a survey with a significant incentive award was implemented. The survey [results](#) indicated that over 99% of staff are aware of PNNL's participation in VPP and over 73% recognized the tenets of VPP.

All PNNL staff have access to computers and use them daily (for example, to sign their time card, review required procedures, or check the status of action items). When the PNNL DOE-VPP application was signed, an announcement was made using the LabWeb home page (see image below) and all staff were invited to become familiar with the application.



Staff have the right to express concerns related to occupational safety and health, and may take their concerns to the U.S. Department of Energy (DOE), as specified in the Standards-Based Management System (SBMS) subject area, [Staff Concerns](#). Staff who raise safety and health concerns are protected from reprisal.

The SBMS subject area, [Safety Rights and Responsibilities](#), grants staff the rights to

- obtain their personal records on injury, illness, exposure, and medical documentation
- review Battelle's summary information on injury and illness. This information is available through the Safety and Health Representative and the Occupational Safety and Health Administration Form 200 summary, which is posted in each building during the month of February.
- obtain and review their radiological exposure information. This information is available through Field Dosimetry Services or the web-based [Dose Status and Radiological Qualification Reports](#) Web site.
- be represented during regulatory workplace safety inspections (i.e., inspections by DOE or Washington Industrial Safety and Health Administration). Staff members may contact their managers if they wish to request the name of their staff representative or participate in the workplace inspection as a staff representative.
- have access to DOE worker protection publications, DOE-prescribed standards, and PNNL's own protection standards or procedures applicable to the workplace. Staff members may contact their manager, supervisor, or Safety and Health Representative for more information.
- observe monitoring or measuring of hazardous agents to which the staff member is exposed and have access to the results of their exposure monitoring. Staff members may contact their manager, supervisor, or Safety and Health Representative or see the SBMS subject area, [Occupational Medical Examinations](#), for more information.
- be notified when monitoring results indicate they that were exposed to hazardous materials. Staff members may contact their manager, supervisor, or Safety and Health Representative or see the SBMS subject area, [Occupational Medical Examinations](#), for more information.
- request and receive results of inspections and accident investigations. Staff members may contact their manager, supervisor, or Safety and Health Representative for more information.



Employee Involvement

| [1. Degree and Manner of Involvement](#) | [2. Safety and Health Committees](#) |

What is DOE-VPP Employee (Worker) Involvement?

[Degree and Manner of Involvement](#)

- The ways in which employees are involved in the safety and health program.
- The decision processes that employees affect, such as hazard analysis, accident investigation, safety and health training, or evaluation of the safety and health program. And the role of employees in problem resolution.

[Safety and Health Committees](#)

- Information about existing safety committees.

1. Degree and Manner of Involvement

Processes for Becoming Involved

The expectations for PNNL staff members are defined in the Laboratory's [Roles, Responsibilities, Accountabilities, and Authorities](#). Staff members are expected to

- identify hazards and stop unsafe work
- comply with applicable Laboratory policies, standards, and procedures.

However, staff are encouraged to become more involved in safety and health matters related to their work, and their input is welcomed. Staff can provide input regarding safety and health in a variety of ways, including

- being involved with their work team(s)
- initiating informal communications with their immediate manager, the project managers with whom they work, and senior staff on their work teams
- contacting support staff such as Environment, Safety and Health (ES&H) professionals and Building Managers
- attending staff meetings, which are conducted at various organizational levels
- submitting the information via Laboratory-level processes such as the [Standards-Based Management System \(SBMS\)](#), [Integrated Operations System \(IOPS\)](#), [Let's Talk](#), and the [Staff Concerns](#) program

- participating in accident investigations and [critiques](#)
- Integrated Operations Safety committees.

In addition to the IOPS facility safety committees, IOPS provides employees with a variety of other ways to become involved with the safety program, especially related to hazard identification and control, and access control for those who wish to work in an IOPS space. Workers are responsible for reading and providing input to the [Hazard Awareness Summary](#) for their work location and for maintaining their IOPS training record (see [Worksite Analysis, Section 4](#), for an example of an IOPS training record). The cognizant space manager (a staff member designated by management to be responsible for operations in an IOPS space) has great authority to change and manage hazards, access permissions, etc. in their space.

Most PNNL staff work as members of close-knit work teams. Those work teams usually include a great deal of involvement on the part of the team members in areas such as planning, procedure writing, and problem identification and resolution. This involvement is frequent and informal, and provides staff members with a great deal of ownership for the work and empowerment for problem resolution.

The Facilities and Operations Directorate typically has more formalized employee involvement in the planning of the work before job planning packages are finalized. In the case of "planned work", at least one employee from each craft walks down the job with the work planning specialist (see the [Worksite Analysis](#) section) and provides input regarding materials and time needed to properly complete the job and the hazards that may be encountered. Hazard mitigation approaches are discussed during this process to ensure that the job planning package adequately addresses all of the worker safety and health issues. Minor jobs (such as changing a light bulb) are turned over to the staff member for appropriate action.

Management system owners have a responsibility to involve users in the development of their management systems.

Stop Work Authority

All workers (staff, subcontractor employees and visitors working in Battelle-operated facilities) have [Stop Work Authority](#). The SBMS subject area, [Safety Rights and Responsibilities](#), defines the safety rights and responsibilities of staff and other workers.

Critiques

Workers who are involved in significant events/incidents are usually asked to participate in fact-finding critiques. Through the critique meeting, relevant facts and data associated with the event are gathered and analyzed to determine the probable causal factors, corrective actions, and identify lessons learned. The rigor and scope of an event critique depends on availability of information, management emphasis, the complexity of the issues, and the severity of the event's actual or potential consequences. (see [Event Reporting Program Description](#))

Committees

The development of Laboratory-level (SBMS) and facility-specific (IOPS) requirements has a high degree of employee involvement that is institutionalized in those processes. Committees of user representatives are formed to develop SBMS and IOPS procedures and guidelines, and participant concurrence is required before the documents can be officially issued.

A variety of other formal mechanisms exists for employee involvement. Committees are established at both the Laboratory and facility levels to facilitate employee involvement. Some examples include:

- PNNL-Hanford Atomic Metals Trade Council Laboratory Safety Committee
- [VPP Steering Committee](#) and its subcommittees
- [Radiochemical Processing Laboratory Independent Review Committee](#)
- IOPS Facility Safety Committees
- [Electrical Safety Committee](#)
- [Lock and Tag Committee](#)
- [ALARA Committee](#)

Details about these committees are provided in the [Safety Committees](#) section.

If a staff member is participating in any of the processes described above, they are encouraged to provide input regarding the safety and health issues and potential solutions to related problems. Some of those activities operate on a consensus basis (e.g., SBMS and IOPS requirements development), while in other types of activities (such as project work teams), the manager or leader of the process may reserve the right to make the final decision about recommendations. However, in all cases, the typical PNNL approach is that employee involvement is welcome and encouraged. The value of employee involvement is well recognized and accepted at PNNL.

Concerns/Resolution

In the event that an employee has a concern that is not addressed through the informal and formal processes described above, they have the right to pursue it through the [Staff Concerns](#) program. (see the Worksite Analysis section, [5. Employee Reporting of Hazards](#))

Assigned Safety Representative for Bargaining Unit Staff

PNNL has an assigned safety representative from the Hanford Atomic Metal Trade Council (HAMTC) bargaining unit who is responsible for assisting bargaining unit staff members with resolving their safety-related concerns. The safety representative is responsible for

- assisting in resolving HAMTC staff concerns related to ES&H
- serving as the point of contact for Stop Work Responsibility when HAMTC staff members are involved
- attending top- and mid-level project staff meetings to provide assistance in resolving ES&H issues
- accepting HAMTC safety representative assignments as delegated by the HAMTC Safety Representative Director, and assisting other HAMTC safety representatives with respect to resource issues that may arise (e.g., site absences, special project commitments, etc.)
- assigning a designee to act as an alternate in supporting HAMTC safety representative activities where deemed necessary (e.g., safety councils, appointing bargaining unit representatives, etc.)
- working closely with employee health advocates in cases where HAMTC staff members are involved
- participating as an active member of safety councils and special ES&H committees by representing HAMTC and the project/facility
- participating in incident investigations and critiques
- participating in Laboratory Integrated Safety Management System and Voluntary Protection Program activities and events, such as the Hanford Health and Safety Expo
- accompanying inspection and assessment teams for the purpose of identifying ES&H-related hazards in the work environment
- contributing input for the ES&H tracing and trending of injury/illness statistics, including identifying and implementing corrective actions
- completing the ES&H training necessary to effectively perform duties
- retaining eligibility for and supporting overtime work when the need arises and in accordance with the Collective Bargaining Agreement.

VPP Steering Committee

The VPP Steering Committee has sponsored a number of promotional activities to enhance employee involvement in the safety program and recognition of VPP. Those activities include:

- hosting a speaker, [Bruce Madsen](#), of Hi-Tech Sports, who spoke to staff about ergonomics
- providing staff with an [informational brochure](#) about VPP
- providing staff with a VPP awareness survey and [incentive award](#)
- promoting VPP and safety at the [Battelle Staff Association Halloween Party](#)
- sponsoring and working a VPP booth at the [6th Annual Health and Safety Exposition](#) in May 2000.



2. Safety Committees

PNNL-Hanford Atomic Metals Trade Council (HAMTC) Laboratory Safety Committee

Date of committee inception	1964
Name, job, and length of service of employee members	Alvarez, J: Manager, Facility Operations Barraclough, SA: Chemical Technician Collins, J: Painter Fullmer, MW: Safety and Health Representative Gaither, KJ: Manager, Facility Services (current Secretary) Madson, VJ: Sheetmetal Worker/HAMTC Safety Representative Marshall, TE: Instrument Technician (current Chairman) Meicenheimer, RL: Plumber/Steamfitter Reck, JJ: Radiation Protection Technologist Young, JR: Industrial Hygienist
Safety and health information accessible to and used by the committee	Standards-Based Management System (SBMS) and Environment, Safety and Health (ES&H) subject matter experts

VPP Steering Committee

Staff members	See VPP Steering Committee Members
Description of committee role	See the PNNL VPP Web site
Safety and health information accessible to and used by the committee	SBMS and ES&H subject matter experts

Radiochemical Processing Laboratory Independent Review Committee

Description of committee role	See Radiochemical Process Laboratory Independent Review Committee Charter
Safety and health information accessible to and used by the committee	SBMS, Integrated Operations System, and ES&H subject matter experts

Integrated Operations System Facilities Safety Committees

Description of committee role	EMSL Standing Safety Committees
Safety and health information accessible to and used by the committee	SBMS and ES&H subject matter experts

Electrical Safety Committee

Date of committee inception	January 1999
Name, job, and length of service of employee members	See PNNL Electrical Safety Committee members
Description of committee meeting requirements	See the Electrical Safety Committee charter
Frequency	At least quarterly
Quorum rules	If a recommendation requires a vote, it shall be accepted or passed by a 75% majority of voting members present. Voting shall be valid only in the presence of a 2/3-committee member quorum consisting of representatives from HAMTC, ES&H, Facilities and Operations, and research and development.

Minutes	The Secretary shall record and distribute the meeting minutes.
Description of committee role	See the Electrical Safety Committee charter
Frequency and scope of committee inspections	Serves as an advisory and appeals board for electrical safety issues that are not resolved by the Authority Having Jurisdiction.
Role in accident investigation	Reviews PNNL electrical occurrence reports and participates in the root-cause analysis process by providing participants when needed.
Role in employee hazard notification	Communicates electrical safety recommendations to staff.
Safety and health information accessible to and used by the committee	SBMS and ES&H subject matter experts

Lock and Tag Committee

Name, job, and length of service of employee members	See the Lock and Tag Committee Web site.
Frequency and scope of committee inspections	Investigates lock and tag incidents.
Role in accident investigation	Investigates lock and tag incidents.
Role in employee hazard notification	Provides interpretation and clarification of lock and tag issues.
Safety and health information accessible to and used by the committee	SBMS and ES&H subject matter experts

As Low As Reasonably Achievable (ALARA) Committee

Description of committee meeting requirements	See the Conducting the ALARA Committee Review Meeting section of the ALARA Committee subject area.
Description of committee role	ALARA Committee Charter
Safety and health information accessible to and used by the committee	SBMS and ES&H subject matter experts

Biological Safety Committee

Membership	Authorization Letter
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Worksite Analysis

[1. Pre-Use/Pre-Startup Analysis](#)	[2. Comprehensive Surveys](#)	[3. Self-Inspections](#)
[4. Routine Hazard Analysis](#)	[5. Employee Reporting of Hazards](#)	
[6. Accident Investigations](#)	[7. Trend Analysis](#)	

What is DOE-VPP Worksite Analysis?

[Pre-use/Pre-startup Analysis](#)

- How new or significantly modified equipment, materials, processes, and facilities are analyzed for potential hazards prior to use.

[Comprehensive Surveys](#)

- The methods used for initial determination of safety and health hazards.
- Evidence that the surveyors were qualified to perform the work.

[Self-Inspections](#)

- The system used to conduct routine, general worksite safety and health inspections. Include schedules and types of inspections, the qualifications of those conducting the inspections, and how corrections are tracked.
- How these inspections cover the entire site.

[Routine Hazard Analysis](#)

- How the site reviews jobs, processes, and/or the interaction among activities to determine safe work procedures. Describe the frequency of these analyses and provide supporting documentation.
- How results from analyses, such as job hazard analyses, are used in training employees to do their jobs safely and in planning and implementing the hazard correction and control program.

Employee Reporting of Hazards

- How employees notify management when they observe conditions or practices that may pose safety and health hazards. Employees must have the option of submitting notification in writing. The reporting system must include protection from reprisal, timely and adequate response, and correction of identified hazards tracked to completion.
- How "imminent danger" situations are reported by employees and handled by management.
- The mechanism used by management to respond to employees.
- How corrections are tracked.

Accident Investigations

- The system used to conduct accident and incident investigations.
- Training and/or guidance given to investigators; provide criteria used for deciding which accidents/incidents will be investigated; and describe how near-miss incidents are handled.
- The 'lessons learned' process being used at the site, and demonstrate root cause analysis.

Trend Analysis

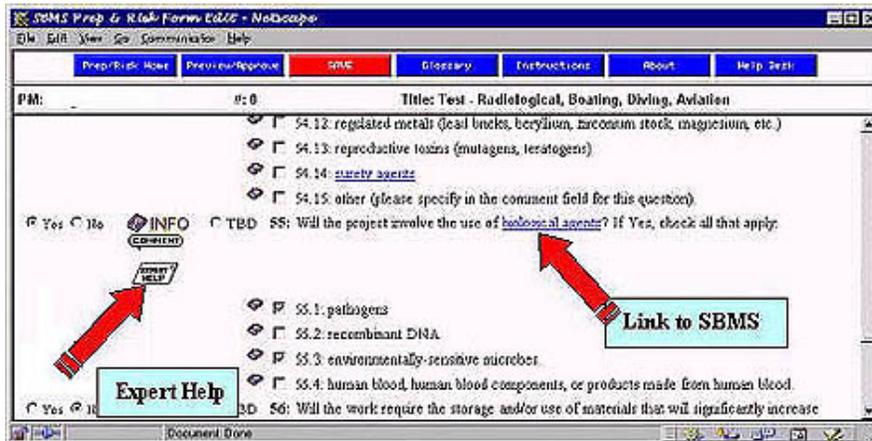
- The system(s) used to conduct trend analysis of all data generated under the safety and health program, including employee reports of hazards, hazard assessment data, radiological exposure data, and injury and illness experience data.
 - How the results of the trend analysis are disseminated and utilized by the line organizations.
-

1. Preuse/Prestartup Analysis

Research and Development Work Planning

The process of research and development work planning and execution is described in the Standards-Based Management System (SBMS) subject area, [Project Management](#).

The [Electronic Prep & Risk](#) (EPR) identifies the major hazards of proposed research and development work and is linked to the Laboratory-level requirements (e.g., SBMS) that are applicable to the work. The EPR form is updated when the scope of work or hazards change, or at least annually. The project manager completes the EPR form, and the product line manager approves it. Other staff may be enlisted to review and approve the EPR form, including the technical group manager, Environment, Safety and Health (ES&H) support staff, and technical reviewers. The EPR can also help the project manager contact their ES&H field-deployed support staff through the "Expert Help" feature (see the example below, or the blank EPR form [here](#).)



Once a decision is made to conduct work, the SBMS subject area, Project Management, [Finalizing the Project Plans](#) section requires that "plans for mitigating identified hazards and risk are included in the project planning," as follows:

- "The project manager ensures that all risks and hazards have been identified on the Electronic Prep & Risk (EPR) (*Limited Access) form and that appropriate plans have been developed to manage them."
- "The project manager identifies all project resource needs (e.g., staff, facilities, equipment, or procurements)."
- "The project manager assigns roles, responsibilities, and levels of authority to the project team members."
- "The project manager ensures that the following planning information is maintained:
 - applicable plans or procedures for mitigating identified hazards and risks

(need to be in place before the work starts); examples include chemical use documentation, laser use permits, quality assurance plans, records management plans, security plans, waste management plans, and engineered or administrative controls

- applicable project-specific procedures."

"Note: Product line managers may require additional planning documentation and/or approvals for a project."

ES&H staff are available to help project managers identify and evaluate hazards and plan for mitigation of the hazards.

Facilities and Maintenance Work Planning

Laboratory-level requirements for construction safety are provided in the SBMS subject area, [Construction Safety](#). Facility Operation and Maintenance work flow and practices are governed by the [Facility Operation & Maintenance Work Control Procedure](#), which in turn is derived from U.S. Department of Energy (DOE) Order 4330.4B and the [Maintenance Implementation Plan](#). The work control procedure is used to plan all maintenance or construction work assigned to Facilities and Operations, including work performed by PNNL craftsmen or other contractor craftsmen. The work control procedure uses a graded approach to define level of effort in work planning, from routine skill-of-the-craft to formal job planning packages that involve subject matter experts and the craftsmen. Facility Operation and Maintenance staff provide a one-stop storefront to provide service to their customers via five core teams (discussed below). Each core team has a specific set of buildings as their primary customers; staff in these buildings input work requests to the core team via the [Electronic Service Request System](#). Note that the form for submitting the job planning package is a part of the Electronic Service Request System and is not available via online linkage.

The core team consists of the building manager (who assumes the lead), building engineer, work control specialists, facility project managers, assigned craftsmen, and matrixed subject matter experts. Each member of the core team has a well-defined role (see the [Facilities and Operations roles, responsibilities, accountabilities, and authorities](#) for complete listings) and is integral in the successful and safe completion of assigned work.

- The **building manager** has overall responsibility for the core team and budget.
- The **building engineer** manages the work control specialist and reviews preventative maintenance, projects, building systems, etc.
- The **work control specialists** writes job planning packages as assigned by the building engineer.
- The **facility project manager** assigns work to the craftsmen and has oversight of all core team craft work.

- **Assigned craftsmen** perform facility maintenance work.
- Matrixed **subject matter experts** provide safety and environmental guidance in the writing of job planning packages and the management/mitigation of hazards.

Large projects are managed by Facility Project Services using the same processes as listed above (work control procedures and job planning packages). Projects are planned by a professional project manager, and construction is overseen by a construction manager who is responsible for acting as the work control specialist and facility project manager during the construction phase. The construction manager coordinates closely with the core team during the construction phase.

Facility modifications go through a rigorous design and evaluation process, culminating in an evaluation by the [Facility Review Board](#), which "ensures facility work and facility projects affecting a configured item comply with policies and procedures" and "consistent review, approval, and as-built documentation of changes to a facility system, structure, or component."

Procurements

Procurement of goods and services is controlled by SBMS requirements. Minor purchases can be made using "P-cards" (see the SBMS subject area, [Purchasing Cards \(P-Cards\)](#)), although some restrictions are required for safety-related issues, as indicated below.

- chemicals
- nuclear or hazardous materials
- conflict of interest
- construction services
- electrical equipment purchases
- environment, safety, and health
- offsite shipping
- quality assurance
- radioactive material
- sensitive property
- work on Battelle or government premises

Major purchases of goods and services that require a contract are executed in accordance with the SBMS subject area, [Purchasing Goods and Services](#). Safety and health issues are identified and addressed through purchasing constraints and contract

provisions. Appropriate contract provisions are assured through the involvement of trained contracts specialists and a recently implemented [WebReq](#) tool (electronic purchase requisition system).

If work will be performed on government installations or Battelle-owned or –operated premises (and in certain other circumstances where ES&H issues are identified) the [ES&H Requirements](#) clause is used to "ensure that subcontractors are held accountable to safe work practices, provide adequate protection for employees, the public, the environment, and comply with Battelle safety and health stipulations. Additionally, this provision allows Battelle to contractually bind the subcontractor to specific SBMS subject area procedures and guidelines when specified in the Statement of Work or specifications."

New and Modified Equipment

New and modified equipment must meet PNNL requirements for safety (e.g., guarding, electrical safety, etc.). Consensus and regulatory standards (such as the American National Standards Institute, National Electrical Code, etc.) are specified where appropriate. Although many items can be purchased without ES&H review, there is a list of items where [purchase is prohibited without prior approval](#). Complex or safety-significant systems require a level of readiness review and/or acceptance testing specified by the cognizant line or project manager. Example: [Neutron Multiplier Facility decommissioning Readiness Assessment](#), [Environmental Molecular Sciences Laboratory Readiness Assessment](#). The SBMS subject area, [Managing Project Performance](#), states "Before beginning the work, the project manager and project team members ensure that the risks and hazards are controlled (with permits, procedures, training, etc.) as specified in the approved work plans. (The determination that the risk and hazard controls are in place is accomplished using the individual project team members' organizational processes and procedures.)" SBMS provides guidance regarding the criteria that various types of equipment must meet, thresholds where overview or additional approval is required, and processes to be followed to ensure that procured equipment is properly analyzed and hazards adequately mitigated (see examples from SBMS subject areas related to the following items: [pressure systems](#), [high-power lasers](#), [radiation-generating devices](#)).

Before starting major modifications or even minor alterations of safety systems, a review of the work is completed by the project manager and/or the building engineer along with stakeholders and subject matter experts to ensure that the design meets PNNL expectations. Once the design is complete, but before the start of work, a job planning package is completed with involvement of the design engineer, construction manager, craftsperson who will perform the work, and subject matter experts, as required. The writing of the job planning package requires personnel walk-down of the job site to specifically look for hazards within the work site, while considering the age, condition of the facility, past use and other expected hazards from historical knowledge of the facility. Once work begins, if an unexpected hazard is found, all craftspersons have been informed that they have the right and are expected to stop work. How this work is performed is captured in the [work control procedure](#) and Facility Project Services operating manual (under development at this time). Any new or revised work involving

radioactive material or ionizing radiation receives comprehensive reviews by the Radiological Control Group. The process is defined within various subject areas in the SBMS and in PNL-MA-266, [PNL Radiological Control Implementing Procedures](#). The following outline describes the steps in the process:

1. After determining the need to conduct radiological work, the line organization completes a radiological risk assessment and prepares a technical work document in accordance with SBMS subject area, [Planning Radiological Work](#). The technical work document provides specific detail on how the work will be performed. In addition to identifying the organization planning the work, the radiological risk assessment provides
 - a description of the planned work
 - the dates the work is scheduled to begin and be completed
 - identification of any previous similar work and their radiological work permit number(s)
 - the location of the work
 - whether any facility modifications will be needed
 - the identity, form, and quantities of radioactive materials involved
 - the specific tasks involved , number of persons involved, and time to complete each task.
2. The line organization forwards the radiological risk assessment and technical work document to the cognizant radiological control technician (RCT) supervisor. This submittal initiates the Radiological Control Group's evaluation of the proposed work. The evaluation and approval is conducted according to PNL-MA-266, RCP-3.1.03, [Radiological Work Planning and Evaluation](#). The evaluation process involves interactions between the line organization's radiological work control specialist and the cognizant radiological engineer, RCT supervisor, and the as low as is reasonably achievable (ALARA) coordinator. When appropriate controls are agreed upon, the technical work document is approved by the Radiological Control staff and, if required, a radiological work permit is prepared. The technical work document and radiological work permit provide the requirements needed to safely perform the work, specify limiting conditions for operation, and specify survey, protective clothing, and dosimetry requirements.
3. The line organization ensures that the work is performed in accordance with the technical work document, radiological work permit, and the appropriate radiological control procedures and SBMS subject areas.

Subcontractor Work

Subcontractors are required to conform to PNNL safety and health requirements or implement their own internal requirements that are at least equivalent to PNNL's requirements. Subcontractors (and indeed all badged workers) are provided with a basic safety and health orientation that includes emergency preparedness, the need to comply with safety and health requirements, and stop work authority. The subcontract [technical administrator](#) is responsible for ensuring that requirements are met and appropriate action taken if requirements are not met.

For construction subcontracts, the job planning package process previously described is used to plan the work, communicate scope, and define the known hazards of the work. Subcontractors are required to prepare job safety analyses to mitigate hazards of the work. Those job safety analyses are submitted to PNNL for review before the contract is finalized, and when they are found to be acceptable, they are attached to the job planning package and become the requirements for the job. The job safety analyses and job planning package are reviewed by the construction manager and core team (including matrixed subject matter experts such as safety engineers, fire protection engineers, and industrial hygienists). The job planning package must be approved by the core team and construction manager before work can begin. Subcontractors or their employees who fail to meet the requirements of the job planning package or to other applicable PNNL standards may be (and have been) terminated from future work at the Laboratory.

All radiological work conducted by PNNL subcontractors is performed in accordance with the same procedural requirements that apply to PNNL staff. A Facilities and Operations representative would provide the line management functions described in the section above for new and modified equipment. Any subcontractor staff performing radiological work must complete the same training required of PNNL staff. These radiological work requirements for DOE work are documented in the PNNL implementation plan for [10 CFR 835](#). Non-DOE radiological work is subject to the same PNNL requirements as DOE work.



2. Comprehensive Surveys

Safety Surveys

Most initial determination of safety and health hazards is performed when planning work, as described in the [Pre-Use/Pre-Startup](#) section. In addition, in Integrated Operations Systems (IOPS) spaces (rapidly becoming the standard for nonoffice spaces at PNNL), the cognizant space manager performs a [hazard evaluation](#) (which is periodically updated) to ensure that hazards are identified. The cognizant space manager of an IOPS space must "Have knowledge of all work being performed in assigned workspaces" and "Ensure that hazards resulting from activities and operations in the assigned workspaces have been evaluated and that adequate mitigating controls are identified and utilized by communicating requirements, approving applicable documentation, and performing required self-assessments." In non-IOPS spaces where potentially hazardous work is performed, the laboratory monitor must "Review new and modified work before it is introduced into the Laboratory or operating space to ensure that it is consistent with the intended use of the space." (Quotes from the PNNL [roles, responsibilities, accountabilities, and authorities](#) (R2A2s.) Field-deployed Environment, Safety and Health (ES&H) staff support the cognizant space managers as they identify and evaluate hazards.

Industrial Hygiene

Where work planning or hazard identification (e.g., noise, confined space, toxic or flammable gases and vapors) indicates that industrial hygiene monitoring is needed, qualified industrial hygiene staff use calibrated instruments according to established procedures based on nationally recognized standards. Industrial hygiene monitoring is conducted in accordance with PNL-MA-430, [Industrial Hygiene Procedures](#). Monitoring records are maintained in files by the Occupational Safety and Industrial Hygiene Operations Group.

Radiological Work

Radiological hazards are managed under the Standards-Based Management System's [Radiological Control subject areas](#) and PNL-MA-266, [PNL Radiological Control Implementing Procedures](#). Both of these types of documents contain mandatory requirements that provide for compliance with federal and state regulations as well as good practice recommendations from national and international organizations such as the American National Standards Institute, National Council on Radiation Protection and Measurements, International Commission on Radiological Protection, International Commission on Radiation Units and Measurements, etc. There are currently over 40 individual Radiological Control subject areas and over 50 individual PNL-MA-266 procedures that implement the Radiological Control Program. Subject areas in general provide requirements and guidance for general staff members to be able to perform their work and still comply with regulatory requirements. The PNL-MA-266 procedures only apply to Radiological Control staff and likewise provide requirements and guidance for these staff, such as radiological control technicians, to perform their work and comply with regulatory requirements. The following are examples of subject areas and

PNL-MA-266 procedures that address radiological surveys. This is not a comprehensive listing of subject areas and procedures that have survey requirements.

Subject Areas:

1. [Control of Fixed Contamination](#). This subject area contains requirements for establishing and posting fixed contamination areas, periodic surveys to ensure the contamination remains fixed, and maintenance of the area when damage to any sealant surface is evident.
2. [Controlling DOE Sealed Radioactive Sources](#) and [Controlling Washington State-Licensed Radioactive Material](#). These subject areas contain requirements for periodic surveys of sealed radioactive sources to ensure detection of leaks before a serious spread of contamination can occur.
3. [Controlling Radiation-Generating Devices](#). This subject area contains requirements for surveys of new devices, periodic 6-month surveys of operational devices, and in-use surveys for qualifying devices.
4. [Releasing Material and Equipment from Radiological Control](#). This subject area provides requirements, including radiological surveys, on how to obtain unconditional release of items that have been in a location where they could have become contaminated.
5. [Requesting Surveys for Receipt and Shipment of Radioactive Materials](#). This subject area requires radiological surveys for all incoming and outgoing shipments of material that presents a potential for a contamination spread.

PNL-MA-266 Procedures:

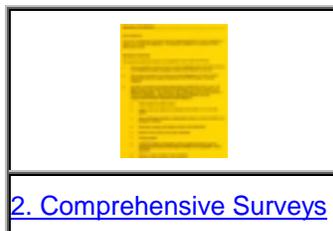
1. [RCP-3.4.09, Radiological Job Coverage and Emergency Response](#). This procedure details the actions that RCTs need to perform to ensure workers do not spread contamination beyond the work area and that workers maintain their doses as low as reasonably achievable (ALARA).
2. [RCP-3.6.01, Radiation-Generating Device Surveys](#). This procedure describes the process for performing preoperational and periodic radiation surveys of all classes of radiation-generating devices.
3. [RCP-4.2.01, Surveys for Release of Material and Equipment from Radiological Control](#). This procedure provides the methods and requirements for performing and documenting surface release surveys of material and equipment that have been used or stored in Contamination Areas, High Contamination Areas, or Airborne Radioactivity Areas.
4. [RCP-4.3.01, Performing a Radioactive Sealed Source Leak Test](#). This procedure provides requirements and identifies methods an RCT must use during performance of surveys to determine if a sealed source is leaking radioactive material.

5. [RCP-5.5.02, Radiological Surveillance Program](#). This procedure identifies the locations and frequencies for RCTs to perform periodic contamination and radiation surveys of work areas and surrounding areas. The surveys ensure compliance with dose requirements, detection of contaminations outside of posted contamination areas, helps ensure that personnel radiation exposures are maintained ALARA.

Facility Operations and Maintenance

Facility Operations and Maintenance staff have an active [self-assessment](#) program of both biweekly and targeted assessments with corrective actions documented in the [Assessment Tracking System](#). This self-assessment program is used to identify weaknesses, correct weaknesses, and foster continuous improvement.

Comprehensive review and surveillance of subcontractor work begins with the preparation of the job planning package, which describes the work and its hazards. Subcontractor job safety analyses are reviewed for adequacy before they are accepted and attached to the job planning package for compliance. The construction manager monitors the performance of work daily and takes appropriate action to ensure that requirements are met (as described in the [Facilities and Operations R²A²s](#)). Significant incidents (accidents or noncompliance) are documented and corrective action taken under the process described in the SBMS subject area, [Event Reporting](#).



3. Self-Inspections

PNNL's rigorous self-assessment process is described in the Standard-Based Management System (SBMS) subject area, [Integrated Assessment](#).

Line Organization Self-Assessments

Self-assessments are performed by each line organization, as appropriate for their work and level of risk. Performance objectives for self-assessments include

- organizational effectiveness
- compliance to contractual requirements.

Some of the areas assessed include

- ultimate impact to the Laboratory for implementing the management system (safer, more value, etc.)
- assurance that requirements are appropriately implemented through standards and procedures
- tracking progress/impact of implemented improvements
- emergency preparedness
- facility operations and maintenance
- facility safety
- SBMS
- training and qualification
- worker safety and health
- response to significant occurrences/incidents and handling of off-normal occurrences.

Each organization must "Select and document assessment activities in a Division/Directorate or Management System assessment plan." A copy of the plan is provided to the Integrated Assessment management system owner. Line management performs the self-assessments with assistance from field-deployed subject matter experts, including industrial hygienists, safety engineers, environmental compliance representatives, radiological engineers, etc.

Each organization conducts self-assessments of their performance according to their approved plan and demonstrates that they are using the results of the self-assessments for continuous improvement. Formal self-assessment of hazardous activities is typically conducted quarterly (depending on the level of hazard and past performance). Each organization establishes a regularly scheduled self-assessment schedule, and the self-assessment schedules for Fiscal Year 2000.

The National Security Division Conducts informal monthly walkthroughs and formal semi-annual assessments of safety and health conditions in their facilities.

Example of National Security Division Self-Assessments

- [NSD Self Assessment Schedule- FY 2000](#)
- [Email messages transmitting findings of assessments](#)
- [Corrective Action Tracking System](#)
- [Email Messages transmitting the results of informal walkthroughs.](#)

For Integrated Operations System facilities, a structured process is used by which [each space is evaluated regularly](#) for hazards by the cognizant space manager. These self-assessments are performed according to tailored self-assessment checklists. [Example of Environmental Technology Division Quarterly Self-Assessment Checklist.](#)

Facility Operations and Maintenance staff are required to perform [biweekly self-assessments](#) as well as [targeted self-assessments](#). Facility Operations and Maintenance has special [formats](#) used for self-assessments. Databases are used to track self-assessment performance and improvement actions (including the [Assessment Tracking System](#) [click on the overview link] and organization specific databases, such as the FO&M biweekly database showing [ATS](#) actions as a result of the self-assessments.).

Management System Self-Assessments

Each management system performs self-assessments of the development and implementation of management system elements on a periodic cycle (e.g., every 2 to 5 years). The self-assessments of the [Worker, Safety and Health](#), [Radiological Control](#), and [Facility Safety](#) management systems include assessing related SBMS subject areas and program descriptions.

[Safety and Health Self-Assessments](#) are described in an internal procedure. A good example is how we document the requirement [10 CFR 835.102](#), "Internal audits of the radiation protection program, including examination of program content and implementation, shall be conducted through a process that ensures that all functional elements are reviewed no less frequently than every 36 months." The functional limits for those assessments are found in the [Radiological Control Program Description](#), article 143.

Independent Oversight

The Laboratory's [Independent Oversight](#) Department provides an unbiased review of key issues related to the Environment, Safety and Health Program. Independent Oversight establishes and [Annual Assessment Plan](#) and produces [Assessment Reports](#), which are available for review by staff and others.

Using Results

According to the Integrated Assessment Program, each organization must "Document and analyze assessment results and make in-process corrections." In addition, the SBMS subject area, Integrated Assessment, requires that each organization "[Evaluate organizational performance against objectives.](#)" "[Categorize improvement actions.](#)" "[Prioritize improvement actions,](#)" and "[Implement and document the planned improvement actions.](#)"

The SBMS subject area [Conducting and Using Results from Operational Assessments](#) requires that "Results from the assessment must be analyzed to produce information useful to improve performance and prevent recurrence of negative issues. To be effective, the information must be communicated to the manager responsible for the assessment. Using his or her best judgement, the responsible manager must report significant findings to upper management and the Laboratory Lessons Learned Coordinator, and to the Price Anderson Amendments Act (PAAA) Coordinator, as necessary."

An annual report of PNNL's [Integrated Assessment Program](#) is used by PNNL and DOE to evaluate the Laboratory's overall performance.



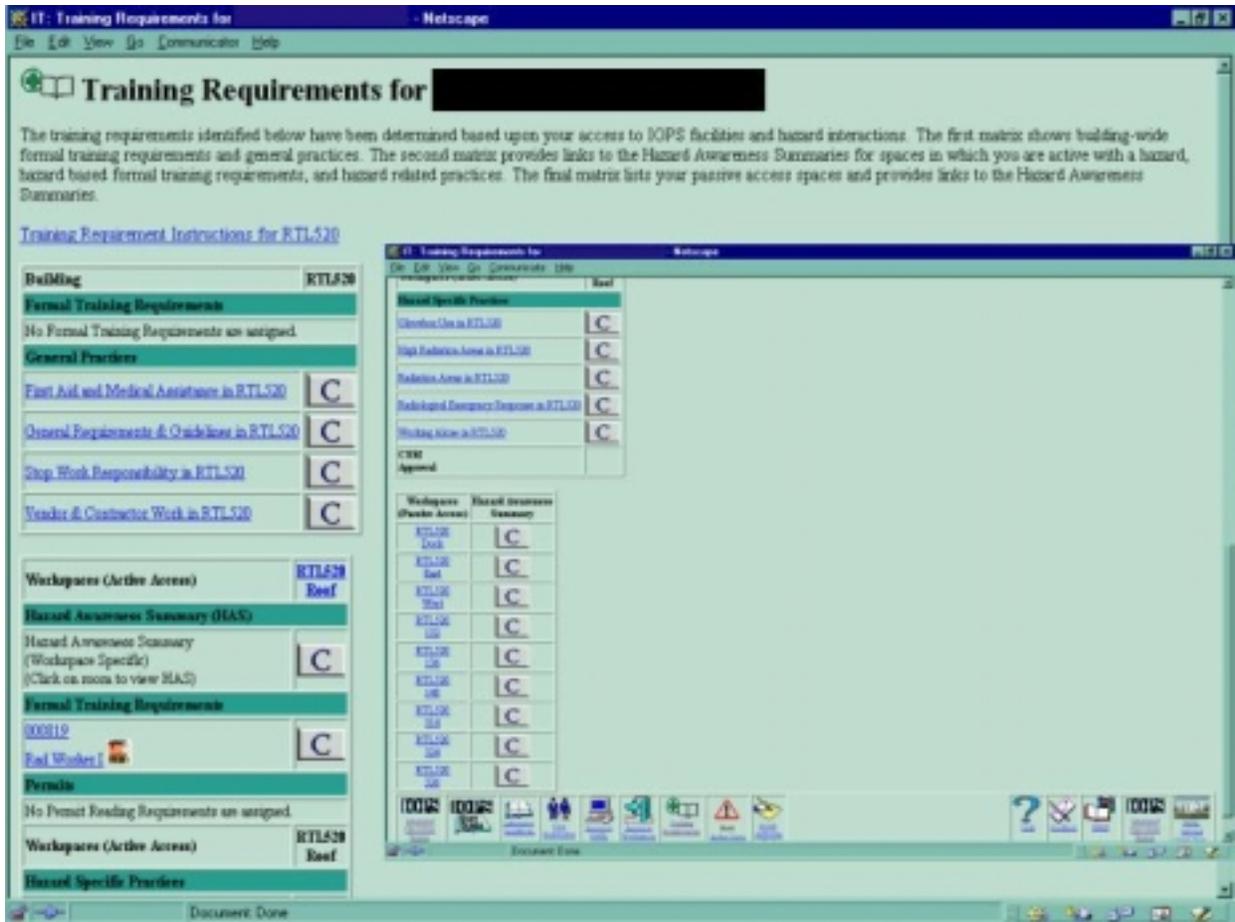
4. Routine Hazard Analysis

All work is planned and analyzed before activities begin, as described in the [Preuse/Prestartup Analysis](#) section. Research and development projects are analyzed beginning with the [Electronic Prep and Risk](#) process. During this process, product line managers and project managers evaluate the risk of proposed work in order to ensure that it can be performed safely. For Facilities Operation and Maintenance work, activities are evaluated by an assigned core team, which includes the building manager, work planners, and subject matter experts who determine whether the work requires formal planning or may be performed by skill of the craft. Lastly, all organizations perform routine self-assessments to identify and mitigate hazards that may not have been adequately addressed by work preplanning.

Line management is responsible for routinely monitoring for changing conditions and hazards as described in the [Self-Inspections](#) section.

Hazards Addressed by Integrated Operations (IOPS)

Hazards and routine controls in IOPS facilities are communicated by means of the Hazard Awareness Summary. Workers who are granted unescorted access to a space are required to read the Hazard Awareness Summary, which is documented in their IOPS training record (an example of this training record is shown below):



Hazards Addressed by the Standards-Based Management System

If hazards are identified during work preplanning, the requirements of the Standards-Based Management System (SBMS) are applied to ensure that the hazards are mitigated. Hazards-specific SBMS subject areas provide requirements and guidelines to address most of the hazards encountered by normal work at the Laboratory. Through SBMS, [chemical](#), [radiological](#), and [confined space](#) work, and work involving other special hazards (e.g., [pressure systems](#), [lasers](#), etc.) require special permits that evaluate hazards and identify safe work practices.

Hazards Addressed by Internal Operating Procedures

For hazards that may not be adequately addressed by specific SBMS subject areas, the SBMS subject area, [Internal Operating Procedures](#), requires that procedures be developed

- if technical or operating processes are required to be documented by the client or contract
- if the identified hazards warrant technical or operating procedures (Note: A well-written operating manual or "skill-of-craft" used by qualified workers may substitute for a technical or operating procedure. Vendors or subcontractors may use their own procedures if they are judged as being adequate by the technical administrator of the contract or procurement.)
- if the work activity involves the operation or maintenance (corrective or preventive) of any safety class or operational safety requirement-related system, structure, or component
- if technical or operating procedures are needed to ensure quality (e.g., data or standards traceability, reproducibility, or consistency of the process or data)
- if a procedure is required to satisfy a regulatory requirement
- if the procedure has environment, safety and health significance.

Line managers and staff are responsible for preparing and approving internal operating procedures, which address the analysis and mitigation of work-specific hazards.

[Integrated Operations System](#) (IOPS) provides an excellent example of location-specific internal operating procedures.

Medical Evaluation

Staff members are medically evaluated specifically to the work they are assigned to perform and the hazards to which they may be exposed. Medical evaluation requirements are specified in the SBMS subject area, [Occupational Medical Examinations](#), which uses the Web-based [Employee Job Task Analysis \(example of EJTA\)](#) to identify the hazards of each staff member's job and to help determine the medical surveillance requirements associated with their job. The EJTA also communicates information about the staff member's job to occupational medical professionals.

Training

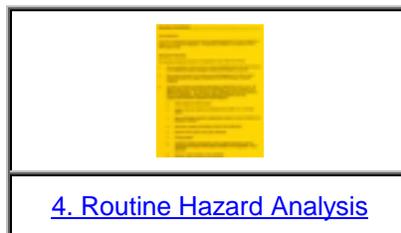
Staff members are trained specifically to the work they are assigned to perform and the hazards to which they may be exposed. Training requirements are defined in the Web-based [Staff Development and Training Planning Tool](#), ([example of SDTP](#)) which identifies the training requirements specific to each staff member's job based on the various SBMS subject areas.

Many types of training involve job-specific components (e.g., forklift, electrical safety) that involve hazards. Such work (e.g., [chemicals](#), [laser use](#), [confined space](#)) typically requires job-specific permits or procedures that are used as prejob training tools.

List of Processes for Which Hazard Analyses Have Been Conducted

- Use of hazardous chemicals [e.g., Chemical Process Permits in the [Integrated Operations System](#) (IOPS)]
- Radiological work (e.g., Radiological Work Permits)
- Use of lasers (e.g., Laser Use Permits in [IOPS](#))
- Use of open flame (e.g., Hot Work Permits in [IOPS](#))
- Maintenance Service's job planning packages
- Flight operations
- Underwater dive plans
-

This is a partial list. Many project specific hazard analyses have been conducted, and hazard analysis for many other hazards are embedded in SBMS subject areas and internal operating procedures.)



5. Employee Reporting of Hazards

Staff Concerns

Many PNNL staff work quite independently and feel that they are personally responsible for ensuring that their work is performed safely. All PNNL staff members have the right and responsibility to stop work "if they are convinced that a situation exists which places them, their coworkers, or the environment in danger AND there is insufficient time to seek effective redress" (see [Safety Rights and Responsibilities](#)) through a variety of methods of raising concerns, including the process described in the Standards-Based Management System (SBMS) subject area, [Staff Concerns](#).

Imminent hazard situations are not allowed to persist at PNNL. If hazard situations are noted, work is either stopped or mitigating actions are put in place before work is allowed to proceed. If other unsafe or questionable conditions are observed, staff members have the right and the culture to report such conditions to their line manager or project manager. This information is documented in the SBMS subject area, [Safety Rights and Responsibilities](#). Staff members who raise concerns in good faith are protected from retaliation or reprisal. Battelle is committed to providing a work environment in which staff members feel comfortable voicing concerns through their line manager and other avenues. Management is expected to investigate the concern and take any necessary actions to correct or mitigate the hazard.

The SBMS subject area, [Staff Concerns](#), describes the formal process that staff members may use to raise concerns and obtain management resolution of those concerns. Formal concerns that are submitted to the Concerns Program Office are managed according to an internal procedure. That procedure calls for the staff member to be contacted within 48 hours to further identify issues and discuss a path forward for resolution of the concern.

For radiological concerns, the SBMS subject area, [Radiological Risk Communications](#), provides guidance to line managers on effectively resolving concerns regarding radiation exposure or possible health effects.

Bargaining unit staff members who have concerns may use the [grievance process](#) described in the SBMS subject area, Labor Relations.

The self-assessment process previously described in the [Self-Inspections](#) section frequently captures issues reported or identified by staff during the self-assessment process.

Facility-Related Concerns

Facility-related safety concerns are reported to the building manager either by phone or through the [Service Request System](#), and they are addressed as part of the Facility Operation and Maintenance [Work Control Procedure](#), as described in the [Preuse/Prestartup Analysis](#) section. [Service Requests](#) are tracked and managed to completion.

Let's Talk Database

The online [Let's Talk](#) database is used for any suggestions, issues, questions, and rumors that do not fall under the scope of the Staff Concerns Program or the [Grievance process](#). Let's Talk is committed to providing timely, quality responses to staff input. In addition to submitting suggestions, issues, questions, and rumors, staff members may view previous staff input and responses. Let's Talk strives for high quality responses within 5 working days. Documentation of past issues and their resolutions can be found in the Let's Talk [Previous Staff Input](#). In addition, quarterly [performance measures](#) have been developed in a effort keep staff informed about how well the process is doing.



6. Accident Investigations

Injury or Illness

PNNL investigates all off-normal events and evaluates their root cause. As a result, corrective actions for significant or repeated adverse incidents are incorporated into the Laboratory's improvement initiatives.

Work-related injuries and illnesses, no matter how minor, are reported as described in the Standards-Based Management System (SBMS) subject area, [Injury or Illness](#). Field-deployed Safety and Health Representatives assist management with investigating and documenting staff injuries and illnesses. Those investigations are recorded in the Safety and Health Information Management System (SHIMS), which can provide a variety of reports, including

- US Department of Energy (DOE) CAIRS (DOE F 5484.3., "[U. S. Department of Energy Individual Accident/Incident Report](#)")
- Occupational Safety and Health Administration (OSHA) 101, "[Supplementary Record of Occupational Injuries and Illnesses](#)"
- OSHA 200 Log, "Log and Summary of Occupational Injuries and Illnesses"
- [OSHA 200 Summary](#)
- safety performance reports (see the [Trend Analysis](#) section).

SHIMS allows managers to submit an initial injury report directly to the database or by sending a written report to Environment, Safety and Health staff. A professional Safety and Health Representative (safety engineer or industrial hygienist) is then assigned to investigate the accident by working with the line manager and affected workers. After the investigation, the Safety and Health Representative completes the case documentation (including classification using Bureau of Labor Statistics guidelines). The PNNL OSHA Recordkeeping Clerk maintains the SHIMS database and completes routine reports.

The SHIMS process documents a root-cause as part of the investigation process.

Occurrence Reporting

Other events (e.g., those reportable under DOE Manual 232.1-1A, "Occurrence Reporting and Processing of Operations Information," and near-miss incidents) are reported and investigated in accordance with the SBMS subject area, [Event Reporting](#). Trained accident investigators from the Facilities and Operations Directorate facilitate investigations of significant events and ensure that root causes are properly evaluated and addressed. The Occurrence Reporting process uses a rigorous root-cause analysis as part of the investigation process.

[Critiques](#) are conducted as soon as practicable after an event or situation is stabilized or after a successful special effort is completed, preferably, within 24 hours. Critiques are required for all radiological events and are recommended for nonradiological events as well.

Examples of Occurrence Reports and Critiques for several recent events are provided below:

- Potentially Unstable Chemical Found
 - [Occurrence Report](#)
 - [Critique Minutes/Notes](#)
 - [Workplace Exposure Assessment](#)
 - [Adverse Chemical Condition Recovery Plan](#)

- Potential Asbestos Exposure to PNNL Staff Members
 - [Occurrence Report](#)
 - [Critique Minutes/Notes](#)

- Two Staff Members Locked in Walk-in Freezer
 - [Occurrence Report](#)
 - [Investigation Report](#)
 - [Barrier/Control Analysis](#)
 - [Events & Causal Factors Chart](#)

Corrective actions from occurrences are tracked as described in the SBMS subject area, [Assessment Closure \(Corrective Action Management\)](#). In addition, lessons learned are captured and disseminated. Occurrence reports are distributed to a broad cross-section of organizations, managers, and staff to share the lessons learned and corrective actions. In the past, distribution of lessons learned to specific organizations at PNNL have been handled by each organization (division or directorate); however, a new Laboratory-wide [Lessons Learned/Best Practices](#) Web site for supporting this process was recently introduced.

Radiological Problem Reports

The Radiological Control Group maintains a Radiological Problem Report Program to track and evaluate radiological events that do not qualify for reporting under the DOE occurrence reporting order. The process is detailed in the SBMS subject area, [Radiological Problem Reports](#). These reports are prepared by any staff member who has detected an abnormal radiological condition. The condition is reported to the responsible line manager, who then develops an appropriate corrective action plan in cooperation with Radiological Control staff.



7. Trend Analysis

Safety Performance Reports

Safety and Health Information Management System (SHIMS) safety performance reports are available and may be customized for a given organization/level or date range for trending purposes. The example below addresses the information at the Laboratory-level for Fiscal Year 2000 through June:

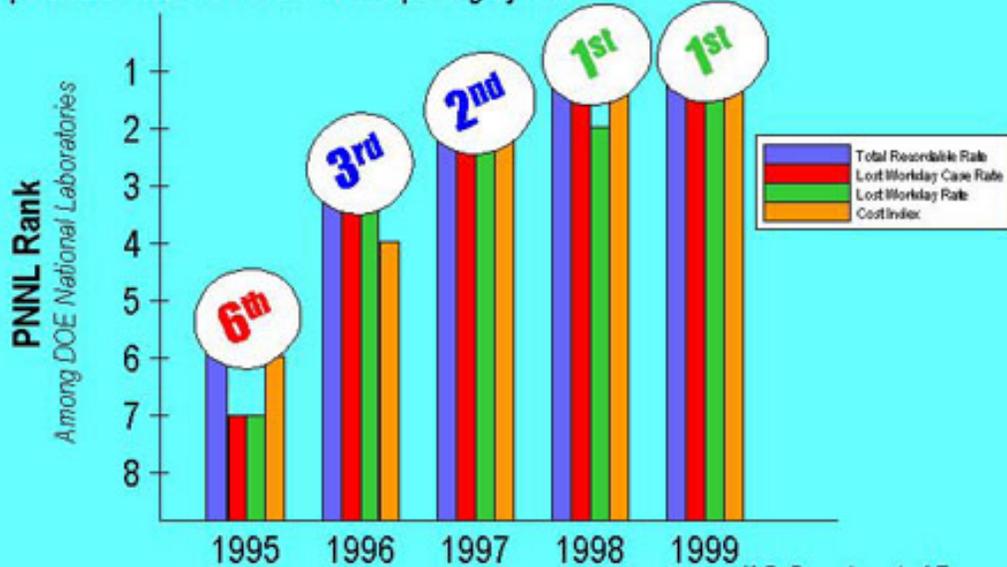
Org Cd	Staff Hours	First Aid Cases	Recordable Cases ¹	Lost Workday Cases ²	Days Away From Work	Restricted Workdays	Total Lost Workdays	First Aid Case Rate	Recordable Injury or Illness Rate	Lost Workday Case Rate	Lost Workday Rate	Cost Index
PNL	4,227,525	84	47	26	201	290	491	3.03	2.22	1.23	23.23	9.72
D6200	127,843	1	3	0	0	0	0	1.58	4.69	0.00	0.00	4.69
D6600	7,155	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00
D6700	197,352	6	5	3	2	41	43	6.08	5.07	3.04	43.58	14.39
D7000	9,374	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00
D7100	8,521	1	0	0	0	0	0	23.47	0.00	0.00	0.00	0.00
D7200	128	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00
D7300	140,179	2	0	0	0	0	0	2.85	0.00	0.00	0.00	0.00
D7500	163,790	1	1	1	29	0	29	1.22	1.22	1.22	35.41	18.93
D7600	125,857	0	2	1	1	0	1	0.00	3.18	1.59	1.59	3.97
D7700	85,955	3	0	0	0	0	0	6.98	0.00	0.00	0.00	0.00
D7800	15,815	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00
D7800	564,407	21	23	18	168	242	410	10.98	8.15	6.78	145.28	55.07
D7A00	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00
D7E00	607,485	8	5	2	1	2	3	1.98	1.65	0.86	0.99	1.94
D7F00	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00
D7P00	331,855	1	1	0	0	0	0	0.60	0.60	0.00	0.00	0.60
D8000	8,589	1	0	0	0	0	0	38.31	0.00	0.00	0.00	0.00
D8C30	651,805	4	4	0	0	0	0	1.23	1.23	0.00	0.00	1.23
D9J80	2,780	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00
D9T00	950,861	7	3	1	0	5	5	1.47	0.63	0.21	1.05	0.84

Current occupational injury and illness rates are available to management and staff through a new [SHIMS Web Reporting Tool](#). Occupational injury and illness trends are reported quarterly to management via formal memo: [see attachment](#).

Safety performance trends are used by management to ensure that PNNL's goals of excellence and continuous improvement are attained.

Integrated Safety Management Results: OSHA comparison of DOE Labs (1995 – 1999)

Computerized Accident and Incident Reporting System



Battelle

U.S. Department of Energy
Pacific Northwest National Laboratory

From "Excellence in Operations and ES&H" Presented by Don Boyd, Deputy Laboratory Director for Operations, During Office of Science on-site review, August 29, 2000

Occurrence Reports

The Off-Normal Event Coordinator monitors the results of occurrence reports and makes the trending information available to management and others. Root cause and corrective actions for significant events are rigorously managed to ensure that future performance is improved.

Radiological Problem Reports

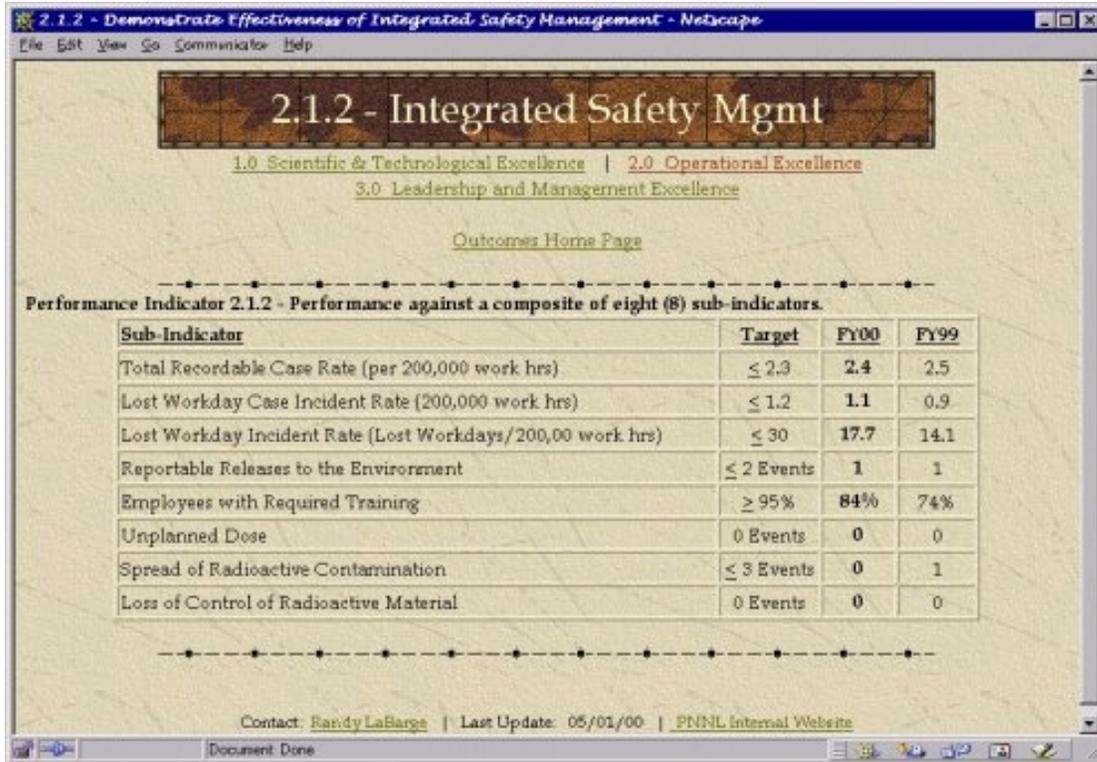
Radiological Control staff examine Radiological Problem Reports quarterly, compare performance against the previous three quarters, and submit a report to appropriate line organizations. This report is intended to alert the line organizations of potential trends for their facilities and to develop appropriate corrective actions, if warranted.

Staff Concerns

Staff concerns are evaluated for trends monthly. A quarterly report is provided to the Directors of Human Resources, Internal Auditing, and Legal, and the Price-Anderson Amendments Act Office. Results of the trend analysis are used to target any necessary actions such as training or management communications.

Critical Outcomes

Significant performance measures related to safety performance are monitored as [Critical Outcomes](#) of the Laboratory. Those performance measures for Fiscal Year 2000 include the following:



The screenshot shows a web browser window titled "2.1.2 - Demonstrate Effectiveness of Integrated Safety Management - Netscape". The page content includes a title "2.1.2 - Integrated Safety Mgmt" and three sub-sections: "1.0 Scientific & Technological Excellence", "2.0 Operational Excellence", and "3.0 Leadership and Management Excellence". Below these is a link for "Outcomes Home Page". The main content is a table titled "Performance Indicator 2.1.2 - Performance against a composite of eight (8) sub-indicators." The table has four columns: "Sub-Indicator", "Target", "FY00", and "FY99". The data rows are as follows:

Sub-Indicator	Target	FY00	FY99
Total Recordable Case Rate (per 200,000 work hrs)	≤ 2.3	2.4	2.5
Lost Workday Case Incident Rate (200,000 work hrs)	≤ 1.2	1.1	0.9
Lost Workday Incident Rate (Lost Workdays/200,00 work hrs)	≤ 30	17.7	14.1
Reportable Releases to the Environment	≤ 2 Events	1	1
Employees with Required Training	≥ 95%	84%	74%
Unplanned Dose	0 Events	0	0
Spread of Radioactive Contamination	≤ 3 Events	0	1
Loss of Control of Radioactive Material	0 Events	0	0

At the bottom of the page, there is contact information: "Contact: [Randy LaBarge](#) | Last Update: 05/01/00 | [PNNL Internal Website](#)".



[7. Trend Analysis](#)

Hazard Prevention & Control

[1. Professional Expertise](#)	[2. Safety and Health Rules](#)
[3. Personal Protective Equipment](#)	[4. Preventative Maintenance](#)
[5. Emergency Preparedness](#)	[6. Radiation Protection Program](#)
[7. Medical Programs](#)	[8. List of Occupational Safety and Health Programs](#)

What is DOE-VPP Hazard Prevention and Control?

[Professional Expertise](#)

- How certified professionals, such as occupational medical personnel, health physicists, industrial hygienists, and safety professionals are used.
- What safety and health services are available at PNNL how these professionals integrate their services with each other; and how communication is maintained.

[Safety and Health Rules](#)

- List the site's safety and health rules and attach a description of the disciplinary system used to enforce those rules. Demonstrate that the rules apply to and are communicated to all employees.
- Positive reinforcement system(s).

[Personal Protective Equipment](#)

- The requirements for the use of personal protective equipment and how the equipment is maintained and distributed.

[Preventive Maintenance](#)

- The procedures used for the equipment preventive maintenance programs, including scheduling and how the maintenance timetable is followed.

[Emergency Preparedness](#)

- The company's emergency planning and preparedness program, including emergency or annual evacuation drills.

- How credible scenarios are chosen for emergency drills and how they are related to site specific hazards.

Radiation Protection Program

- The procedures used for protecting employees from radiological hazards.

Medical Programs

- How the medical program is integrated with the safety and health program.
- The availability of both onsite and offsite medical services or physicians
- The coverage provided by employees trained in first aid, CPR, and other paramedical skills, and what type of training they have received. Address coverage on all shifts.
- How occupational health professionals are involved in routine hazard analysis, early recognition and treatment of illness and injury, and in limiting severity of harm.
- How the site addresses specific programs (e.g., hearing conservation, fitness testing for respirators, bioassay and/or whole body counting, and other required medical testing) under OSHA and DOE standards, such as those for lead, asbestos, and HAZWOPER.
- How the medical program interacts with the industrial hygiene, health physics, and safety programs.

List of Occupational Safety and Health Programs

- The written occupational safety and health programs that are in effect at PNNL.
-

1. Professional Expertise

PNNL's Safety and Health Department is staffed by highly qualified professionals, including Certified Safety Professionals (CSPs), Certified Industrial Hygienists (CIHs), Certified Health Physicists (CHPs), and Professional Engineer (PE) Fire Protection Engineers. Other staff who have credentials in hazardous material management, training, transportation, and environmental compliance are also available to support the program. Although not all staff members who support the Safety and Health Program currently have professional society certifications, all have been selected for their knowledge, experience, and ability to provide first-class safety and health support to the Laboratory.

The Safety and Health Department has 74 staff members with an average of 9 years experience each (several have over 20 years experience). Within the Department, there are four CSPs, two CIHs, three CHPs, eight certified by the National Registry of Radiation Protection Technologists, and one PE (Fire Protection). The table below provides a breakdown of the staffing and longevity at PNNL within the technical groups of the Safety and Health Department. (Note that many Safety and Health Department staff have had experience at other sites.)

	Number of Staff			Longevity (Years)		
	Exempt	Nonexempt	Total	Max	Min	Avg
Safety and Health	1	1	2	3	3	3
Facility Safety	7	1	8	19	0.8	9
Industrial Hygiene and Occupational Safety Operations	13	2	15	22	1	8.4
Radiological Engineering	4	0	4	22	2	9.3
Radiological Control	8	24	32	22	5	11.8q
Safety and Health Technical Support	8	5	13	35	0.5	4.9
Total	41	33	74			

Safety and Health Department staff have programmatic (development, self-assessment, continuous improvement) responsibilities as well as responsibilities to provide direct support to the line organizations (implementation, consulting, corrective action). [Subject Matter Experts](#) who have programmatic support assignments ensure that their assigned program is current and adequate for the Laboratory and provide a technical resource for field-deployed Safety and Health Department staff if questions arise about the program. Field-deployed Safety and Health Department staff (referred to as [Safety and Health Representatives](#)) provide direct support to their line organization customers in terms of planning work; implementing controls; monitoring for hazardous chemical, radiological, or physical agents; and assisting with self-assessments, accident investigations, and general consulting.

The Safety and Health Department staff work closely together to ensure that programs are integrated and to communicate about issues. Regular staff meetings are conducted, and the intranet, pagers, and office phones/cell phones provide the opportunity for a great deal of communication among these staff. Managers within the Safety and Health Department also work closely with other management teams at the Laboratory (e.g., Operations Managers and management system owners) to ensure that good communication and integration exists regarding safety and health issues.



[1. Professional Expertise](#)

2. Safety and Health Rules

Laboratory-wide Standards, Procedures, and Guidelines

The [Standards-Based Management System](#) (SBMS) delivers a storefront for PNNL's Laboratory-level requirements and delivers a combination of [processes and software tools](#) that provide staff with Laboratory-wide standards, procedures, and guidelines that are current, accurate, and relevant to the work they perform. PNNL develops these standards, procedures, and guidelines based on its evaluation of external requirements documents, including orders; directives; and federal, state and local laws; as well as Battelle policy. [SBMS subject areas](#), or Laboratory-wide processes, related to worker safety and health establish the minimum set of rules for work at the Laboratory.

PNNL has established the following [Laboratory Standards](#) for all staff

- All staff shall comply with applicable Laboratory policies, standards and procedures, unless a variance is obtained.
- All staff shall conduct work safely, operate in a manner that protects the public and environment, and avoid accidents

Internal Operating Procedures

[SBMS Information Hierarchy](#) says that "Internal operating procedures are prepared for operations that are not sufficiently covered by a subject area. Internal operating procedures do not generally cross organizational lines, typically impact only a specific organization, or have a limited audience. This information may be contained in technical and operating procedures, administrative procedures, and desk procedures. The maintenance and delivery of these procedures is the responsibility of the organization performing the operation. The issuing organization must ensure that internal operating procedures are current, based on, and not in conflict with, the governing Laboratory standards and subject areas".

As stated in the [Integrated Environment, Safety and Health Program Description](#), each organization or project may develop internal operating procedures that apply specifically to the organization's or project's operations. Those procedures must be in compliance with the Laboratory-level requirements of the SBMS. This ensures that internal operating procedures comply with external regulatory/contract requirements. These procedures may include additional requirements or operations-specific guidance. One example of a system of internal operating procedures that contains location-specific requirements is the [Integrated Operations System](#).

Roles, Responsibilities, Accountabilities, and Authorities

PNNL's [roles, responsibilities, accountabilities, and authorities](#) (R²A²s) establish the expectation for staff to "identify hazards and stop unsafe work," and "comply with applicable Laboratory policies, standards, and procedures." Violation of those rules is subject to [disciplinary action](#).

Evaluation of performance to the R²A²s is also a part of the annual performance review for all staff (also known as the Staff Development Review). Significant failure to comply with safety and health rules can affect a staff member's or manager's performance evaluation, compensation, and career advancement.



Evaluation of performance to the R²A²s is also a part of the annual performance review for all staff (also known as the Staff Development Review). Significant failure to comply with safety and health rules can affect a staff member's or manager's performance evaluation, compensation, and career advancement.

Performance Reinforcement

The staff development review is often used to provide positive reinforcement for good performance. The Laboratory has also established several other programs to reward exceptional performance, including the Outstanding Performance Award Program and the Outstanding Team Performance Award Program. Most divisions and directorates have established reward programs specifically focused on ES&H performance. (See the Environmental Technology Division ES&H Award Program and the Facilities & Operations Rewards & Recognition Program)



3. Personal Protective Equipment

Requirements for obtaining and using personal protective equipment are contained in the Standards-Based Management System (SBMS) subject area, [Personal Protective Clothing and Equipment](#).

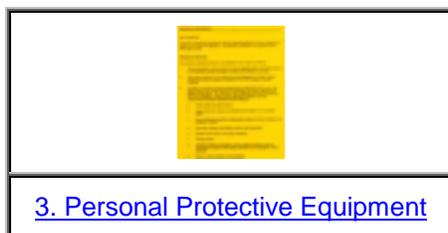
The use of personal protective equipment "is the last line of defense against workplace hazards and is only used when engineering and administrative controls are not feasible, or as an interim measure while other controls are being implemented," as stated in the SBMS program description, [Personal Protective Clothing and Equipment](#).

Use of personal protective equipment is guided by job-specific hazard evaluations that are typically documented in special hazard control permits, technical work procedures, or work planning documents.

Use of personal protective equipment may be associated with industrial hygiene or radiological monitoring (especially for use of respiratory protection), and Safety and Health Department staff are always involved in the selection of respiratory protection.

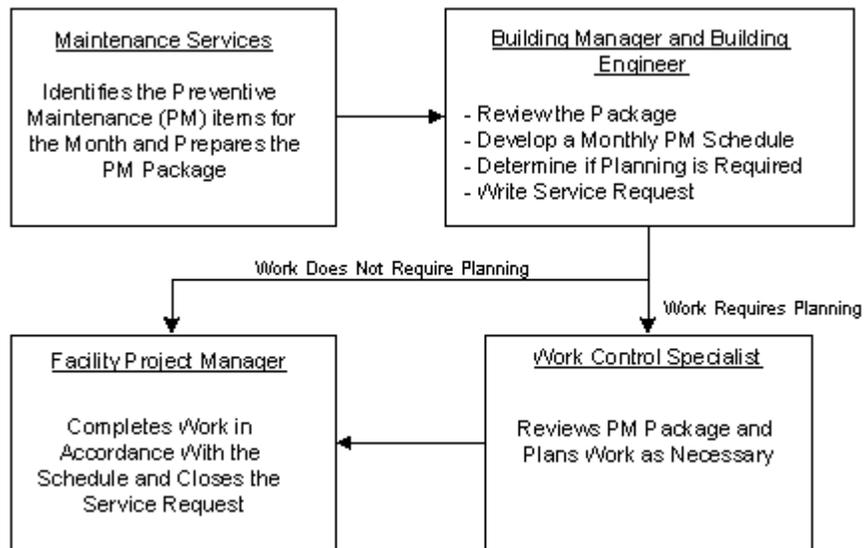
Respiratory Protection

The [Respiratory Protection program description](#) and the [Respiratory Protection subject area](#) describe the PNNL Respiratory Protection Program. The Respiratory Protection Program is the responsibility ("owned by") the [Worker Safety and Health Management System](#) owner, who has appointed a Certified Industrial Hygienist as the Respiratory Protection Program Administrator.



4. Preventive Maintenance

PNNL's [Preventive/Predictive Maintenance program](#) describes the purpose, roles and responsibilities, and process for preventive maintenance at the Laboratory. The process for performing a PM is illustrated below:



Requests to include structures, systems or components in the Preventive/Predictive Maintenance program are initiated through the [Electronic Service Request system](#). PNNL has [preventive maintenance procedures](#) for various pieces of equipment including:

- emergency lights
- backflow preventer devices
- safety showers and eyewash stations
- cranes and hoists

There is a [Writer's Guide for Preventive Maintenance Documents](#) to ensure that high quality procedures are produced.

The preventive maintenance schedule is administered by Facility Operations to ensure that preventive maintenance is performed when needed. The Building Engineer assures that PM/PdM (preventive maintenance/predictive maintenance) documents are completed in an acceptable and timely manner. The facility project manager works with the Building Engineer to schedule and assign PM/PdM work, and the Work Control Specialist works with the Building Engineer to plan complex PM/PdM activities (see "[Preventive/Predictive Maintenance Program](#)").



5. Emergency Preparedness

The [Emergency Preparedness](#) management system within PNNL's Standards-Based Management System (SBMS) provides expertise, guidance, oversight, training, and counsel related to implementing emergency preparedness activities and coordinating and directing the planning, preparedness, and response to emergency conditions and/or off-normal events.

Key functions are as follows:

- **Emergency planning** includes ongoing efforts necessary to develop, distribute, and update emergency plans and procedures.
- **Emergency preparedness** includes activities related to the acquisition of resources and facilities, training of response personnel, and the timely exercising of plans and procedures by means of drills and exercises to ensure effective response.
- **Readiness assurance** includes reviews to ensure that emergency plans are consistent with hazards and appraisal programs so that emergency capabilities are adequate to implement the emergency plans. It also addresses the adequacy of timely needed improvements.
- **Emergency responses** are those activities related to the effective and efficient management of an emergency that occurs.
-

Key responsibilities in the Emergency Preparedness Program are as follows:

Building Emergency Directors

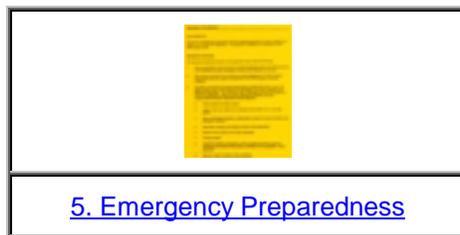
- assign and train building emergency response organizations
- review and revise the building emergency plans and protective actions
- maintain facility emergency response information and procedures
- determine appropriate emergency event classification and provide emergency classification information in accordance with established procedures
- direct the Hanford Occurrence Notification Center to initiate center activations, notifications, and predetermined protective actions in accordance with established procedures
- implement predetermined protective and mitigating actions within their assigned building.

Immediate Managers and/or Building Managers secure event sites for preservation of evidence related to emergency events that occur under their responsibility.

Staff comply with Emergency Preparedness procedures and implement the appropriate emergency response, reporting, and notification processes, including using the single-point-of-contact to report events.

The SBMS subject area, [Emergency Preparedness](#), provides required procedures for staff, immediate managers, zone wardens, staging area supervisors, building emergency directors, and the manager of Facility Operations. In particular, it directs staff to

- know the telephone number to call in the event of an emergency (375-2400)
- activate the appropriate alarm and call the emergency telephone number (375-2400) if you identify an emergency condition
- report to your assigned staging area during an evacuation
- avoid exposure to harmful or life-threatening conditions.



6. Radiation Protection Program

PNNL's Radiation Protection Program is founded on the U.S. Department of Energy's Radiological Control Program. The [Radiological Control](#) management system description and the [Radiological Control](#) program description provide the basis for PNNL's implementation of radiological control. The [Radiation Protection Program - Implementation Plan for 10 CFR 835](#) provides the regulatory basis for PNNL's Radiation Protection Program.

The Laboratory's Radiological Control Program serves several key purposes:

- Protect staff from unnecessary exposure to ionizing radiation.
- Protect facilities and equipment from contamination with radioactive materials.
- Promote compliance with applicable regulatory and contractual requirements.

Specific radiation protection requirements are implemented by PNNL's radiological control procedures ([PNL-MA-266](#)) and [Radiological Control](#) subject areas within the Standards-Based Management System.

Those requirements include full compliance with DOE, federal, and state radiological control standards.

The Radiological Control Organization provides support and overview for implementation of the Radiation Protection Program, as described in the documents referenced above.

[Critical Outcome performance indicators](#) have been established and are tracked to ensure an excellent and continuously improving level of performance. Those indicators include

	Target	Fiscal Year 2000	Fiscal Year 1999
Unplanned Dose	0 events	0	0
Spread of Contamination	≤ 3 events	0	1
Loss of Control of Radioactive Material	0 events	0	0



7. Medical Programs

Employee Job Task Analysis

The [Employee Job Task Analysis \(EJTA\)](#) identifies the hazards to which a staff member (Battelle staff and non-Battelle personnel whose work is under the direction of Battelle) is potentially exposed and the physical demands that may be placed on the staff member by the work or the work environment. EJTA is the tool by which the manager, Safety and Health Representative, and Hanford Site Medical Contractor determine which staff members must participate in occupational medical qualification or surveillance examinations. EJTA's must be completed for staff who work 15 or more days per year, and approved EJTA's must be transmitted to the Hanford Site Medical Contractor within 30 days of

- the staff member's hire date (the manager is notified)
- the staff member's job transfer or change in work scope/assignment (the manager must recognize when the staff member has new work scope)
- receipt by the manager of an EJTA review request.

Managers review EJTA's for changes when the staffmember's job changes and at least annually. This process may also be requested by the medical scheduler. The medical scheduler is prompted by the Hanford Environmental Health Foundation when reviews are due.

Managers may also be requested to complete EJTA's for staff who work less than 15 days a year when there is a potential for exposure to hazards at levels that trigger examination requirements. The Safety and Health Representative provides assistance with this process.

The EJTA is completed using an online system, which is available to offsite managers and staff. Offsite examinations are scheduled and performed by local medical providers or according to specific agreements. The Standards-Based Management System (SBMS) subject area, [Occupational Medical Examinations](#), establishes the minimum required procedures for initiating, reviewing, and closing out occupational medical examinations for onsite and offsite staff.

Occupational Medical Examinations Subject Area

The Occupational Medical Examinations subject area is applied

- a medical examination is clearly needed to determine baseline and ongoing physical conditions resulting from hazards in the workplace, including various key jobs (e.g., staff are included in special occupational fitness groups)
- hiring new employees or appointing workers (an EJTA will be completed as part of this process)
- staff members' work activities have changed (including transfers to different jobs)
- a work-related injury or illness resulted in 1 or more days away from work
- a non-occupational injury or illness resulted in an absence of 5 or more consecutive workdays
- staff members wish to be included in voluntary health maintenance examinations.

The Occupational Medical Examinations subject area defines the process used to determine the need for and to schedule necessary medical qualification and surveillance examinations for Battelle staff and non-Battelle personnel under the direction of Battelle [all of whom are referred to as "staff member(s)" for the purposes of this subject area]. While all new staff are required to receive an initial medical examination, the subject area also defines the process for obtaining voluntary health maintenance examinations. The need for additional medical qualification and surveillance is based on the requirements of the job, the hazards, potential and real exposures, and overall risk associated with the assigned work.

Medical qualification and surveillance needs are identified using the EJTA, which serves as a tool for collecting the necessary information to evaluate those needs. A medical examination determines the physical condition and other capabilities of an individual and compares them with the capabilities required to perform the assigned duties safely and reliably. The EJTA also triggers special medical examinations that may be required, including respiratory protection, hearing conservation, and bioassay for certain chemical or radiological hazards (such as lead or beryllium).

Results from medical examinations are also used by the Hanford Site Medical Contractor or other designated physician to authorize staff members to return to work following a medical absence.

Hanford Occupational Health Process Advisory Council

A PNNL staff member represents PNNL on the Hanford Occupational Health Process (HOHP) Advisory Council. The purpose of the advisory council is to help the U.S. Department of Energy, Richland Operations Office ensure that the HOHP provides an adequate basis for a preventive and risk-based approach to occupational health at the Hanford Site.

First Aid Program

PNNL has a first aid program in place to provide emergency support to injured staff until professional medical assistance can be obtained. The requirements of that program are contained in the SBMS subject area, [Injury or Illness](#). First aid stations are provided in major facilities. (See the [Map Information Tool – Emergency Equipment](#)). Currently, qualified first aid providers can be identified using another aspect of the same tool (see the [Map Information Tool – First Aid Providers](#)). This information can be accessed through a number of links, including the [Map Information Tool](#) home page and the [LabWeb "Emergency Information"](#) page.



8. List of Occupational Safety and Health Programs

PNNL uses the [Standards-Based Management System](#) (SBMS) structure of

- [laboratory policies](#)
- [standards](#)
- [management systems](#)
- [program descriptions](#)
- [subject areas](#).
-

The [management systems](#) relevant to occupational safety and health include

- [Emergency Preparedness](#)
- [Facility Operations and Maintenance](#)
- [Facility Safety](#)
- [Human Resource](#)
- [Integrated Assessment](#)
- [Integrated Environment, Safety and Health \(ES&H\)](#)
- [Project Management](#)
- [Radiological Control](#)
- [Standards-Based Management System](#)
- [Training and Qualification](#)
- [Worker Safety and Health](#).
-

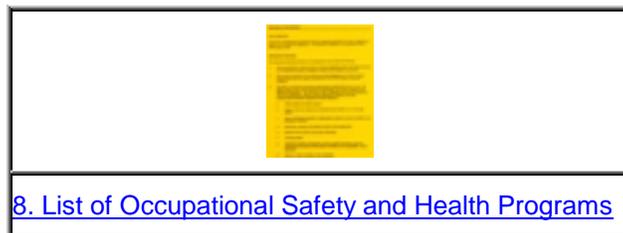
The [program descriptions](#) relevant to occupational safety and health include

- [ALARA](#) (As Low As Reasonably Achievable)
- [Chemical Hygiene Plan](#)
- [Chemical Management System](#)
- [Electrical Safety](#)
- [Event Reporting](#)
- [Field Dosimetry](#)
- [Hazard Assessment](#)

- [Hazard Communication](#)
- [Integrated Environment, Safety and Health](#)
- [Packaging and Transportation](#)
- [Personal Protective Clothing and Equipment](#)
- [Radiation Protection](#)
- [Radiological Control](#)
- [Respiratory Protection.](#)
-

Many [subject areas](#) are relevant to occupational safety and health, and they have been grouped into [categories](#) for ease of reference. Some of the categories most relevant to occupational safety and health include

- [Assessment](#)
- [Environment, Safety, and Health](#)
- [Facility Related](#)
- [Human Resources](#)
- [Project Management](#)
- [Purchasing, Contracts, and Subcontracts](#)
- [Radiological Control](#)
- [Research](#)
- [Staff Concerns](#)
- [Standards-Based Management System](#)
- [Training and Qualification](#)
- [Worker Safety and Health.](#)



[8. List of Occupational Safety and Health Programs](#)

Safety and Health Training

| [1. Employees](#) | [2. Supervisors](#) | [3. Managers](#) |

What is DOE-VPP Safety and Health Training?

[Employees](#)

- Formal and informal safety and health training programs for employees.
- How employees are taught to recognize the hazards of their jobs.
- How often and in what way courses are evaluated and updated.
- What types of testing are performed to ensure that employees retain course information.

[Supervisors](#)

- Formal and informal safety and health training for supervisors. Particular attention should be given to understanding hazards associated with a job; potential effects on employees; how to ensure through teaching and enforcement that employees follow rules, procedures, and work practices; and how to ensure that everyone knows what to do in emergencies.

[Managers](#)

- How top-level managers are trained in their safety and health responsibilities.
-

1. Employees

Training or other qualification activities that adequately prepare PNNL staff to perform their assigned work are a primary and ongoing focus by staff members and their managers. Regardless of the specific position of the staff member, appropriate and quality training and qualification events are expected to continuously improve task performance and maintain the high standard of PNNL business.

The Standards-Based Management System subject area, [Training and Qualification for Staff](#), describes training and qualification considerations for PNNL staff members and onsite nonstaff. It establishes required procedures and suggested guidelines for identifying, planning, and completing training. It is intended to include all training considered to have an affect on the performance of work that presents a possible risk or consequence to PNNL staff, facilities, or business.

The immediate manager, training coordinator, and/or staff member identifies the staff member's training and qualification needs by:

- developing a training plan using the [Staff Development and Training Planning \(SDTP\)](#) Tool within 30 days of hiring and at least annually thereafter
- assigning any additional training and qualification activities when needed to address local, organizational, project-specific, or job-specific needs. These training and qualification assignments are made whenever needed to support work.

The SDTP is available via the [Training and Qualification Web site](#). The information it contains is specific to each staff member, so staff members must enter their employee ID and password. For training and qualification assignments not included within the scope of the SDTP, managers can request that the SDTP be revised to include these requirements or use their own methods to document these assignments.

The SDTP provides lists of courses that are available. The "Workplace Hazards" button provides a listing of the courses available. Lists of courses by designated location and job assignment help to identify what courses a staff member (or manager) may need.

Most hazards-related training courses provide information about how to recognize hazards as well as mitigate the hazards. Lesson plans are available for each course, and a rigorous process of development, approval, periodic review, and student evaluation ensures a high level of quality and continuous improvement in the training process. Many courses are provided by computer-based training, although testing and practical examination to demonstrate proficiency is used when appropriate or required. Classroom training is made available as an alternative to most online courses for those staff who do not feel comfortable using the computer.

A wide range of training courses are offered to PNNL staff, managers, and other workers. The [Training Course Catalog](#) allows an individual to search for a course or view lists of available courses by category.

A good example of employee training courses is under the [Emergency Preparedness](#) category, which lists training for various workers including General Emergency Preparedness, Building Emergency Directors, members of the Building Emergency Organization, members of an Incident Command Post, Control Room Technicians, and those who must man the DOE Emergency Operations Center.

PNNL also offers an external [Training and Qualification Web site](#) for visiting scientists, students, etc. By issuing the visitor a password, the visitor from home can take only the training courses for which they are approved. Courses currently offered by this system include Battelle Business Ethics, Classified Matter Protection and Control Overview, Electrical Safety for Electrical Workers, Electrical Safety for Non-Electrical Workers, General Employee Radiological Training, Hazard Communications, Hazardous Waste Management Training, Hearing Conservation, Laser Safety Training, and Security Training for both Cleared and Uncleared Staff. Additional courses will be added as needs are identified and courses become available.

Job-specific training for work in Integrated Operations (IOPS) facilities is administered and documented in the IOPS tool. Each worker who is granted unescorted access to an IOPS space has training designated by the cognizant space manager based on their level of access and the specific work that they will be doing. The training includes applicable [Work Practice Documents](#) and [job-specific permits](#). The training (see Worksite Analysis, Section 4, for an example of an IOPS training record) for each worker is administered and documented in the IOPS tool.



2. Supervisors

Supervisors undergo similar training and qualification processes as staff. Many courses are designed for supervisors of staff who work with certain potential hazards (see [Job Assignments](#)), such as

- building managers
- control room coordinators
- crafts supervisors
- resource supervisors of bargaining unit staff
- supervisors
- supervisors of the Price-Anderson Amendments Act
- supervisors of hazardous material packagers/shippers
- supervisors of radiological control technicians
- supervisors of radiological workers
- supervisors of respiratory protection wearers
- material balance area managers.

Several [Training Course Catalog](#) categories address supervisor/manager training, including

- [Manager's ES&H Awareness](#)
- [Manager Training](#).

Supervisors can also contact subject matter experts (e.g., Safety and Health Representatives) from the Environment, Safety and Health Directorate for assistance whenever the need arises. Much of the safety and health expertise of supervisors comes from frequent interaction with these subject matter experts during self-assessments, consulting situations, and accident investigations.



3. Managers

Managers may have all of the safety and health training requirements previously listed for staff and supervisors, depending on their job requirements. Many managers are also afforded the opportunity to attend specialized management training under Human Resources programs such as

- [The Effective Manager](#)
- [Management Series](#)
- [Performance Management.](#)

As with supervisors, managers can also contact subject matter experts (e.g. Safety and Health Representatives) from the Environment, Safety and Health Directorate for assistance whenever the need arises. Much of the safety and health expertise of managers comes from frequent interaction with these subject matter experts during self-assessments, consulting situations, and accident investigations.





Pacific Northwest National Laboratory

Operated by Battelle for the
U.S. Department of Energy

September 29, 2000

Mr. Keith A. Klein
Manager
U.S. Department of Energy
Richland Operations Office
P.O. Box 550, K8-50
Richland, Washington 99352

Dear Mr. Klein:

APPLICATION FOR DOE VOLUNTARY PROTECTION PROGRAM

The Pacific Northwest National Laboratory (Pacific Northwest) continually strives for scientific and operational excellence. As a result, Pacific Northwest has achieved outstanding performance as demonstrated by our self-assessment results, recent U.S. Department of Energy (DOE) performance evaluations, and independent verification of our Integrated Safety Management Program.

DOE has established the Voluntary Protection Program (VPP) to recognize excellent worker safety and health programs. PNNL is seeking the highest recognition for an operating site under the DOE-VPP: "Star" status. Pacific Northwest has evaluated its worker safety and health programs with respect to DOE-VPP criteria, and we believe Pacific Northwest qualifies for recognition as a DOE-VPP "Star" site.

The benefits that Pacific Northwest expects from participation in DOE-VPP include

- continuous improvement of worker safety and health programs
- enhanced worker involvement leading to greater worker ownership in the safety and health program
- improved worker motivation to work safely, leading to better quality of work and productivity
- worker trust in management and cooperation with continuous improvement of the worker safety and health program
- improved labor/management relations
- lower accident rates, leading to reduced worker compensation and other costs related to occupational injuries and illnesses

902 Battelle Boulevard • P.O. Box 999 • Richland, WA 99352

Mr. Keith A. Klein
September 29, 2000
Page 2

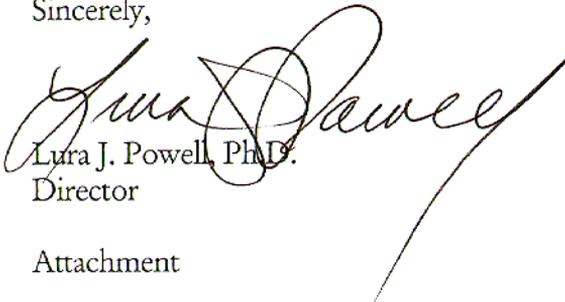
- increased partnering with DOE, the Occupational Safety and Health Administration, and Washington Industrial Safety and Health Administration related to worker safety and health issues
- positive national and community recognition and interactions.

Pacific Northwest has taken an innovative approach to demonstrate how we meet DOE-VPP criteria by developing a web-based, hypertext linked DOE-VPP application. A "hard copy" summary of the application is attached, and approved individuals may review the full application (including backup materials and examples) by accessing the Pacific Northwest DOE-VPP Website at http://www.wi/vpp_app/index.htm. We have already granted website access to key DOE staff to support your review of our application. To obtain approval for others to access the website or for help using it, please contact Mr. Patrick Wright at (509) 372-6201.

Please accept Pacific Northwest's DOE-VPP application and transmit it to the appropriate authorities within DOE for review and approval. We are proud of our worker safety and health program and we look forward to DOE's review and approval of our application for "Star" status under the DOE-VPP.

If you have questions or comments about our application, please contact Mr. Roby Enge at (509) 376-1187.

Sincerely,



Lura J. Powell, Ph.D.
Director

Attachment

RDE:PWV;jlw

Assurance of Commitment

Union Statement.

If the site is unionized, the authorized collective bargaining agent(s) must sign a statement of support for the DOE-VPP application. The statement is included in the application before DOE comes on site.

Management Statement.

The assurance statements required in the application must include the following:

1. We are committed to doing our best to provide outstanding safety and health protection to our employees through management systems and employee involvement.
2. We are also committed to the achievement and maintenance of the Star Program requirements and to the goals and objectives of the DOE Voluntary Protection Programs.
3. We agree to provide the information listed below for DOE-VPP review on site. We agree to retain these records until DOE communicates its decision regarding initial DOE-VPP participation. We will likewise retain comparable records for the period of DOE-VPP participation covered by each subsequent evaluation until DOE communicates its decision regarding continued approval.
 - a. Written safety and health program.
 - b. Copies of the log of injuries and illnesses and the OSHA 101 or the DOE 5484.X.
 - c. Injury and illnesses records for subcontractor workers in areas controlled by the participant contractor.
 - d. Monitoring, sampling, and analysis records (where applicable).
 - e. Medical records (which will be held confidential).
 - f. Training records.
 - g. Agreement between management and the collective bargaining agents(s) concerning the functions of the safety committee and its organization, where applicable.
 - h. Minutes of each committee, where applicable.

- i. Committee inspection records, where applicable.
 - j. Management inspection and accident investigation records.
 - k. Records of notification of unsafe or unhealthful conditions received from employees and action taken, taking into account appropriate privacy concerns.
 - l. Annual internal health and safety program evaluation reports.
4. In agreeing to make this information available to DOE, we understand that any materials we feel are classified, confidential, or revealing of trade secrets will be viewed by DOE on site to avoid placing those materials in government files that are subject to Freedom of Information Act requests.
5. We agree to correct all hazards identified through any assessments, investigations, reports, or maintenance in a timely manner.
6. We agree that control of hazards will be implemented in the following order:
 - a. Process and/or material substitution
 - b. Engineering controls
 - c. Administrative controls
 - (1) Work rules
 - (2) Operating procedures
7. We will provide the results of self-audits, appraisals, assessments, and accident/incident investigations to our employees upon request.
8. Any employee who has safety related duties or who calls attention to safety related items will be protected from any reprisal or harassment resulting from these duties.
9. By February 15 of each year, we will provide DOE our annual injury incidence and lost workday case rates, hours worked, and estimated average employment for the past calendar year.
10. By an agreed-upon date, we will provide DOE our safety and health program evaluation.
11. We will notify employees about participation in DOE-VPP, their right to register a complaint with DOE, and their right to obtain self-inspection and accident investigation results upon request.

Withdrawal.

We understand that we may withdraw our participation at any time for any reason, should we so desire.

Applicant agrees that the required information is included and is correct to the best of his or her knowledge.

Applicant Signature: _____

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Area Office			
Operations Office			
Headquarters DOE-VPP Office			

**DOE VOLUNTARY PROTECTION PROGRAM
RECOMMENDATION SIGNATURE SHEET**

The following signature documents that this DOE-VPP formal application has been reviewed by the Cognizant Secretarial Office representative to ensure that the required information is included and that there are no objections to the content of the application.

**Cognizant Secretarial Office
Representative**

Date

Mail stop

Program Element I: Management Leadership

1. Commitment

Required Information:

Provide a narrative describing the site's management approach to the occupational safety and health policy.

Describe the system in place for communicating the policy to all employees.

Describe the system used to set goals and objectives.

Describe how goals and objectives are communicated to all employees.

Describe how top management is visibly involved in the safety and health program.

Attach the current year's goal and objectives.

Additional Guidance:

Attach the site's occupational safety and health policy, goals, and objectives for current year. This section should not include specific safety and health programs, such as confined space entry, but rather the site's overall occupational safety and health policy.

Objectives should be aimed at specific areas of performance that can be measured or verified.

Examples of management participation include an "open door" policy, participation in formal and informal inspections, participation in regular safety meetings, and insistence on accountability.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

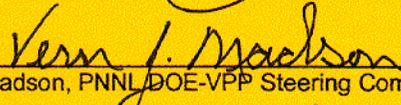
Applicant Signatures:



 Roby D. Enge, PNNL Environment, Safety & Health

9/28/00

 Date



 Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair

9/28/00

 Date



 Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair

9/28/00

 Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology _____			
Operations Office _____			
Headquarters DOE-VPP Office _____			

Program Element I: Management Leadership

2. Organization

Required Information:

Provide a narrative describing how the site safety and health functions fit into the overall management organization.

Attach the overall organizational chart.

For larger sites, include a separate organizational chart for the safety and health functions.

Additional Guidance:

Names are not necessary on the organizational charts.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:

	<u>9/28/00</u>
Roby D. Enge, PNNL Environment, Safety & Health	Date
	<u>9.28.00</u>
Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair	Date
	<u>9/28/00</u>
Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology _____			
Operations Office _____			
Headquarters DOE-VPP Office _____			

Program Element I: Management Leadership

3. Responsibility

Required Information:

Describe the assignment of line and staff safety and health responsibility.

Attach previously established written material, such as job descriptions.

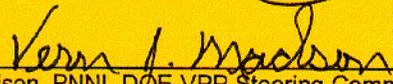
Additional Guidance:

Responsibility for safety and health at all levels should be clearly defined.

Any examples of authority provided to responsible persons would be helpful.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:

 Roby D. Enge, PNNL Environment, Safety & Health	9/28/00 Date
 Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair	9.28.00 Date
 Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	9/28/00 Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology			
Operations Office			
Headquarters DOE-VPP Office			

Program Element I: Management Leadership

4. Accountability

Required Information:

Describe the system used for holding line managers and supervisors accountable for safety and health and how that system is documented.

Attach blank performance appraisal forms for managers and supervisors.

Additional Guidance:

Previously established written material, such as management objectives or performance evaluations for managers, supervisors, and employees, may be attached.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:



 Roby D. Enge, PNNL Environment, Safety & Health

9/28/00

 Date



 Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair

9-28-00

 Date



 Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair

9/28/00

 Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology _____			
Operations Office _____			
Headquarters DOE-VPP Office _____			

Program Element I: Management Leadership

5. Resources

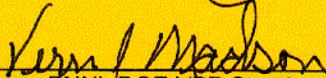
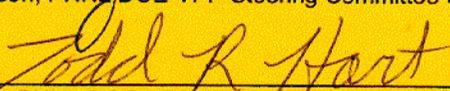
Required Information:

Provide a narrative summary of personnel, equipment, budget, capital investments (if any), and other resources devoted to the safety and health program, including the radiological control program.

Include the current fiscal year site budget and the percentage devoted to safety and health programs.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:

	9/28/00
Roby D. Enge, PNNL Environment, Safety & Health	Date
	9.28.00
Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair	Date
	9/28/00
Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology			
Operations Office			
Headquarters DOE-VPP Office			

Program Element I: Management Leadership

6. Planning

Required Information:

Describe how safety and health are a part of management planning.

Additional Guidance:

Portions of actual planning documents can be attached.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:

 Roby D. Enge, PNNL Environment, Safety & Health	9/28/00 Date
 Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair	9.28.00 Date
 Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	9/28/00 Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology _____			
Operations Office _____			
Headquarters DOE-VPP Office _____			

Program Element I: Management Leadership

7. Contract Workers

Required Information:

Describe how past performance in safety and health is taken into account in selecting contractors.

Describe the methods used for oversight, coordination, and enforcement to ensure that the contractor safety and health program is adequate and is implemented properly. Specify site entry and exit procedures for contractors.

Describe the programs for familiarizing and holding accountable all persons in contractor-controlled areas.

Describe the means used to ensure prompt correction and/or control of hazards, however detected, under the contractor's control.

Describe the methods used to ensure that all injuries and illnesses occurring during work performed under your contract are recorded and submitted to you.

Describe methods, such as monetary penalties and dismissal from the site, used to discourage willful or repeated noncompliance by contractors or their employees.

Provide the number of resident contractors on the site.

Additional Guidance:

Include criteria for selecting contractors.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

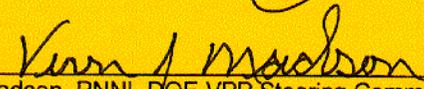
Applicant Signatures:



 Roby D. Enge, PNNL Environment, Safety & Health



 Date



 Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair



 Date



 Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair



 Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology			
Operations Office			
Headquarters DOE-VPP Office			

Program Element I: Management Leadership

8. Program Evaluation

Required Information:

Safety and Health Program Evaluation

Describe the safety and health program evaluation system.

Provide a narrative describing how the safety and health objectives are evaluated annually.

Describe how recommendations from the annual program evaluation are integrated into safety and health objectives.

Attach the current year's goals and objectives.

Attach a copy of the most recent annual evaluation of the entire safety and health program.

Rate Reduction Information (for applicants with rates above the industry average)

Specify short-term and long-term strategies for reducing injury rates to below the industry average; include specific methods.

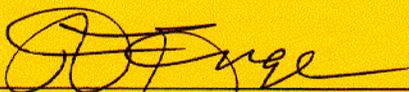
Additional Guidance:

Ensure that the program evaluation follows the requirements set forth in *Part I: Program Elements*—i.e., it must be in narrative form and must address the five basic elements and all the sub-elements.

Do not attach Tiger Team Assessments, Progress Assessments, Technical Safety Appraisals, or Corrective Action Plans. Checklists should not be submitted as demonstration of program evaluation.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:

	<u>9/28/00</u>
Roby D. Enge, PNNL Environment, Safety & Health	Date
	<u>9.28.00</u>
Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair	Date
	<u>9/28/00</u>
Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology _____			
Operations Office _____			
Headquarters DOE-VPP Office _____			

Program Element I: Management Leadership

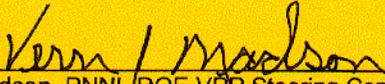
9. Site Orientation

Required Information:

Describe the program(s) for familiarizing and holding accountable all persons using the site, including vendors, consultants, students, and visiting scientists.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:

 _____ Roby D. Enge, PNNL Environment, Safety & Health	_____ 9/28/00 Date
 _____ Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair	_____ 9-28-00 Date
 _____ Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	_____ 9/28/00 Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology _____			
Operations Office _____			
Headquarters DOE-VPP Office _____			

Program Element I: Management Leadership

10. Employee Notification

Required Information:

Describe the methods used to ensure that all employees, including newly hired employees, are aware of the following:

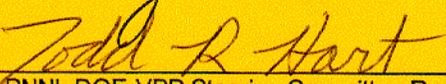
1. participation in DOE-VPP
2. their right to express concerns related to occupational safety and health to DOE;
3. their right to receive the results of self-inspections and accident investigations upon request.

Additional Guidance:

Sections from orientation handbooks for new employees, posters, flyers, and bulletin board notices can be attached.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:

 Roby D. Enge, PNNL Environment, Safety & Health	9/28/00 Date
 Vern J. Madson, PNNL DOE/VPP Steering Committee Union Co-Chair	9.28.00 Date
 Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	9/28/00 Date

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Reviewer	Agree	Disagree	Date
Assistant Manager, Technology			
Operations Office			
Headquarters DOE-VPP Office			

Program Element II: Employee Involvement

1. Degree and Manner of Involvement

Required Information:

Describe the ways in which employees are involved in the safety and health program.

Provide specific information about decision processes that employees affect, such as hazard analysis, accident investigation, safety and health training, or evaluation of the safety and health program. Also address the role of employees in problem resolution.

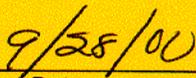
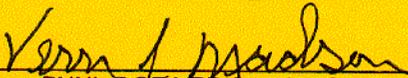
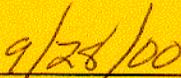
Additional Guidance:

Documents containing input from employees on any of the above items would be of value.

Any description or documentation of the results of employee participation, such as workplace changes or corrections, would be helpful.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:

	
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Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology			
Operations Office			
Headquarters DOE-VPP Office			

Program Element II: Employee Involvement

2. Safety and Health Committees

Required Information:*

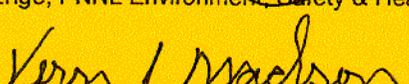
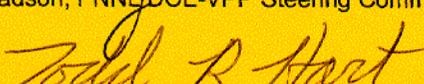
1. Date of committee inception
2. Method of selecting employee members
3. Name, job, and length of service of employee members
4. Average length of service of employee members
5. Description of committee meeting requirements:
 - a. Frequency
 - b. Quorum rules
 - c. Minutes
6. Description of committee role:
 - a. Frequency and scope of committee inspections
 - b. Procedures for inspecting entire worksite
 - c. Role in accident investigation
 - d. Role in employee hazard notification
7. Description of hazard recognition training procedures (if covered under Safety and Health Training, indicate "see training")
8. Safety and health information accessible to and used by the committee

Additional Guidance:

*Construction applicants must provide the above information. Nonconstruction applicants may also provide the information if a safety and health committee is used. At least half of the members of construction committees must be bona fide employee representatives who work at the site, or hourly craft workers who are rotated through committee membership.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:

 Roby D. Enge, PNNL Environment, Safety & Health	9/28/00 Date
 Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair	9.28.00 Date
 Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	9/28/00 Date

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Reviewer	Agree	Disagree	Date
Assistant Manager, Technology _____			
Operations Office _____			
Headquarters DOE-VPP Office _____			

Program Element III:

Worksite Analysis

1. Pre-use/Pre-startup Analysis

Required Information:

Explain how new or significantly modified equipment, materials, processes, and facilities are analyzed for potential hazards prior to use.

Additional Guidance:

Documentation such as project design evaluations, preliminary hazard analyses, process hazard analyses, fault tree analysis, or management change forms may be attached.

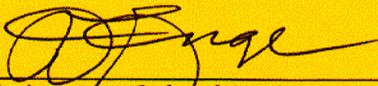
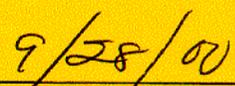
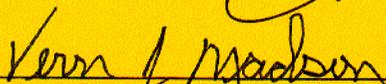
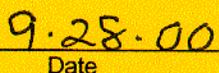
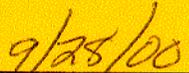
Analysis should include radiological hazards, if applicable.

Construction firms may want to include phase hazard analyses.

Do not include complete Safety Analysis Reports or Operational Readiness Reviews. Summaries of findings and tables of contents from recent documents may be attached.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

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 _____ Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	 _____ Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology			
Operations Office			
Headquarters DOE-VPP Office			

Program Element III: Worksite Analysis

2. Comprehensive Surveys

Required Information:

Describe the methods used for initial determination of safety and health hazards. Methods may include baseline industrial hygiene surveys, comprehensive safety surveys, radiological surveys/exposure mapping, and/or project safety reviews at the time of design.

Provide evidence that the surveyor were qualified to perform the work.

Additional Guidance:

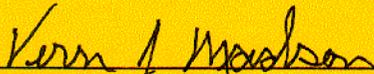
Do not attach entire surveys; executive summaries and tables of contents should be sufficient.

Evidence that nationally recognized procedures are used for all sampling and analysis would be helpful.

Industrial hygienists, safety professionals, health physicists, and specialists in occupational medicine are the professionals generally used on teams performing comprehensive surveys.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

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	<u>9.28.00</u>
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	<u>9/28/00</u>
Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology			
Operations Office			
Headquarters DOE-VPP Office			

Program Element III: Worksite Analysis

3. Self-inspections

Required Information:

Describe the system used to conduct routine, general worksite safety and health inspections. Include schedules and types of inspections, the qualifications of those conducting the inspections, and how corrections are tracked.

Describe how these inspections cover the entire site quarterly, through at least monthly assessments. *

Additional Guidance:

Include sample-tracking forms.

Samples of checklists used for self-inspections would be of value.

*For construction sites, safety and health inspections shall cover the entire worksite weekly; safety committee hazard inspections are conducted monthly.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:



 Roby D. Enge, PNNL Environment, Safety & Health

9/28/00

 Date



 Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair

9-28-00

 Date



 Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair

9/28/00

 Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology			
Operations Office			
Headquarters DOE-VPP Office			

Program Element III: Worksite Analysis

4. Routine Hazard Analysis

Required Information:

State how the site reviews jobs, processes, and/or the interaction among activities to determine safe work procedures. Describe the frequency of these analyses and provide supporting documentation.

Construction applicants must describe phase planning.

Describe how results from analyses, such as job hazard analyses, are used in training employees to do their jobs safely and in planning and implementing the hazard correction and control program.

If process hazard analyses are being conducted, describe how you decide which processes to analyze.

Additional Guidance:

Include procedures used in conducting job hazard analyses.

Documentation showing that line personnel participate in job hazard analyses would be helpful.

Include a list of any processes for which hazard analyses have been conducted and two or three examples of job hazard analyses.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

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Assistant Manager, Technology			
Operations Office			
Headquarters DOE-VPP Office			

Program Element III: Worksite Analysis

5. Employee Reporting of Hazards

Required Information:

Describe how employees notify management when they observe conditions or practices that may pose safety and health hazards. Employees must have the option of submitting notification in writing. The reporting system must include protection from reprisal, timely and adequate response, and correction of identified hazards tracked to completion.

Describe how "imminent danger" situations are reported by employees and handled by management.

Describe the mechanism used by management to respond to employees.

Describe how corrections are tracked.

Additional Guidance:

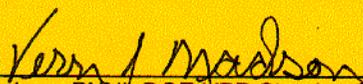
Forms or procedures, such as maintenance work orders or "stop" cards, may be attached.

An actual tracking form following a hazard to correction would be valuable.

Documentation of individual employees receiving timely and appropriate responses would be helpful.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

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 _____ Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	9/28/00 _____ Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology _____			
Operations Office _____			
Headquarters DOE-VPP Office _____			

Program Element III: Worksite Analysis

6. Accident Investigations

Required Information:

Describe the system used to conduct accident and incident investigations.

Describe training and/or guidance given to investigators, provide criteria used for deciding which accidents/incidents will be investigated; and describe how near miss incidents are handled.

Describe the "lessons learned" process being used at the site, and demonstrate root cause analysis.

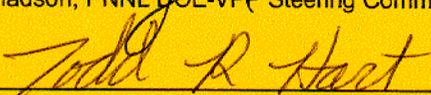
Additional Guidance:

Include a copy of a brief accident investigation report; however, do not include any DOE accident investigations.

Do not include supervisors' first report of injury.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

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 Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	9/28/00 Date

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Reviewer	Agree	Disagree	Date
Assistant Manager, Technology			
Operations Office			
Headquarters DOE-VPP Office			

Program Element III: Worksite Analysis

7. Trend Analysis

Required Information:

Describe the system(s) used to conduct trend analysis of all data generated under the safety and health program, including employee reports of hazards, hazard assessment data, radiological exposure data, and injury and illness experience data.

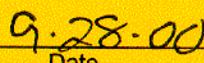
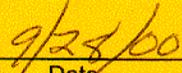
Describe how the results of the trend analysis are disseminated and utilized by the line organizations.

Additional Guidance:

Attach a copy of a recent trend analysis; include recommendations if applicable.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:

	
_____ Roby D. Enge, PNNL Environment, Safety & Health	_____ Date
	
_____ Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair	_____ Date
	
_____ Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	_____ Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology _____			
Operations Office _____			
Headquarters DOE-VPP Office _____			

Program Element IV: Hazard Prevention and Control

1. Professional Expertise

Required Information:

Provide details concerning the use of certified professionals, such as occupational medical personnel, health physicists, industrial hygienists, and safety professionals.

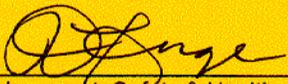
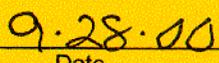
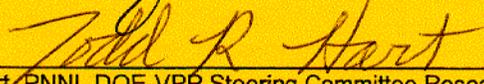
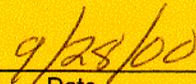
Describe what services are available at the site; how these professionals integrate their services with each other; and how communication is maintained.

Additional Guidance:

References to the organizational charts may be appropriate to demonstrate where the various safety and health professions are found.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

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 Roby D. Enge, PNNL Environment, Safety & Health	 Date
 Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair	 Date
 Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	 Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology _____			
Operations Office _____			
Headquarters DOE-VPP Office _____			

Program Element IV: Hazard Prevention and Control

2. Safety and Health Rules

Required Information:

List the site's safety and health rules and attach a description of the disciplinary system used to enforce those rules. Demonstrate that the rules apply to and are communicated to all employees.

Describe positive reinforcement system(s).

Additional Guidance:

Entire safety and health manuals are not appropriate here. It is acceptable to attach a table of contents from the manual, with pages that demonstrate the disciplinary system.

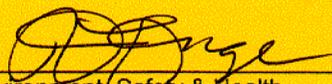
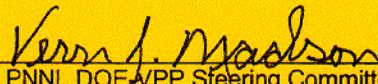
Positive reinforcement may include such activities as:

- Informal positive feedback
- Formal "one-on-one" feedback sessions
- Rewards for desirable behavior

Award systems should recognize positive activities, rather than simply an absence of injuries.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

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Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology _____			
Operations Office _____			
Headquarters DOE-VPP Office _____			

Program Element IV: Hazard Prevention and Control

3. Personal Protective Equipment

Required Information:

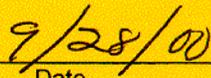
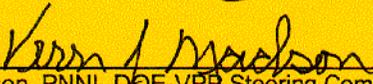
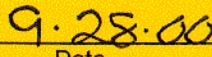
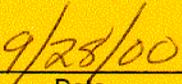
Describe the requirements for the use of personal protective equipment and how the equipment is maintained and distributed.

Additional Guidance:

If respirators are used, attach the table of contents from the respirator program.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

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Reviewer	Agree	Disagree	Date
Assistant Manager, Technology			
Operations Office			
Headquarters DOE-VPP Office			

Program Element IV: Hazard Prevention and Control

4. Preventive Maintenance

Required Information:

Summarize and briefly describe the procedures used for the equipment preventive maintenance programs. Include information on scheduling, and describe how the maintenance timetable is followed.

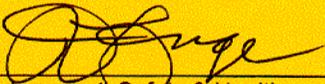
Additional Guidance:

Examples of maintenance schedules are of value.

Describe how computerization is used in the scheduling and tracking of preventive maintenance.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:

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Reviewer	Agree	Disagree	Date
Assistant Manager, Technology			
Operations Office			
Headquarters DOE-VPP Office			

Program Element IV: Hazard Prevention and Control

5. Emergency Preparedness

Required Information:

Describe the company's emergency planning and preparedness program. Include information on emergency or annual evacuation drills.

Describe how credible scenarios are chosen for emergency drills and how they are related to site-specific hazards.

Additional Guidance:

Actual forms from training drills may be attached.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:



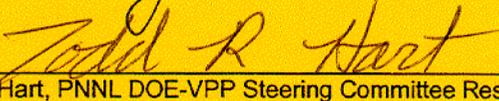
 Roby D. Enge, PNNL Environment, Safety & Health

 9/28/00
 Date



 Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair

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 Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair

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 Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology			
Operations Office			
Headquarters DOE-VPP Office			

Program Element IV: Hazard Prevention and Control

6. Radiation Protection Program

Required Information:

Summarize and briefly describe (2-3 pages) the procedures used for protecting employees from radiological hazards.

Additional Guidance:

Some ALARA performance indicators may be useful, particularly collective dose, maximum individual dose, and number of contamination incidents for each of the previous three years.

Do not attach Tiger Team Assessments, Technical Safety Appraisals, Corrective Action Plans, Radiological Control Manual Implementation Plans, or Radiological Protection Program Plans.

Checklists should not be submitted as demonstration of program evaluation.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:



 Roby D. Enge, PNNL Environment, Safety & Health

9/28/00

 Date



 Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair

9.28.00

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9/28/00

 Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology _____			
Operations Office _____			
Headquarters DOE-VPP Office _____			

Program Element IV: Hazard Prevention and Control

7. Medical Programs

Required Information:

Describe how the medical program is integrated with the safety and health program.

Describe the available of both onsite and offsite medical services or physicians. Indicate the coverage provided by employees trained in first aid, CPR, and other paramedical skills, and indicate what type of training they have received. Address coverage on all shifts.

Describe how occupational health professionals are involved in routine hazard analysis, early recognition and treatment of illness and injury, and in limiting severity of harm.

Describe how the site addresses specific programs—e.g., hearing conservation, fitness testing for respirators, bioassay and/or whole body counting, and other required medical testing—under OSHA and DOE standards, such as those for lead, asbestos, and HAZWOPER. Describe how the medical program interacts with the industrial hygiene, health physics, and safety programs.

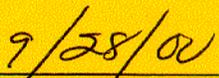
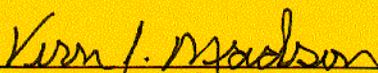
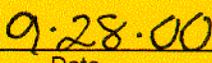
Additional Guidance:

Individual medical tests should not be attached, although aggregated results may be included. Similarly, forms may be included, as long as there are no personal identifiers present.

Describe the location and the accessibility of medical services. Maps, directions, and access times are valuable information, but are not required.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

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Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology			
Operations Office			
Headquarters DOE-VPP Office			

Program Element IV: Hazard Prevention and Control

8. List of Occupational Safety and Health Programs

Required Information:

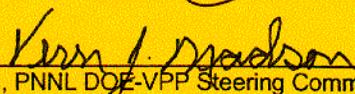
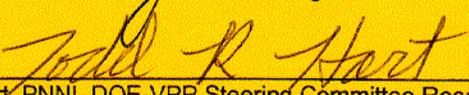
List the occupational safety and health written programs that are in effect at your facility.

Additional Guidance:

Do not attach the programs themselves to this application. Only a list is required, but it should include document numbers that will facilitate identifying and retrieving the documents during the onsite visit.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:

 Roby D. Enge, PNNL Environment, Safety & Health	9/28/00 Date
 Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair	9.28.00 Date
 Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	9/28/00 Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology			
Operations Office			
Headquarters DOE-VPP Office			

Program Element V: Safety and Health Training

1. Employees

Required Information:

Describe formal and informal safety and health training programs for employees. Specifically address how employees are taught to recognize the hazards of their jobs.

Describe how often and in what way courses are evaluated and updated.

Describe what types of testing are performed to ensure that employees retain course information.

Additional Guidance:

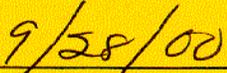
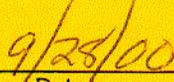
Sample course attendance lists and tracking methods may be attached.

Address how employees receive safety training at the same time they are taught their jobs. Supporting documentation is helpful.

A list of safety and health courses provided to employees would be helpful.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:

 _____ Roby D. Enge, PNNL Environment, Safety & Health	 _____ Date
 _____ Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair	 _____ Date
 _____ Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	 _____ Date

Reviewer Signature Block

	Reviewer	Agree	Disagree	Date
Assistant Manager, Technology	_____			
Operations Office	_____			
Headquarters DOE-VPP Office	_____			

Program Element V: Safety and Health Training

2. Supervisors

Required Information:

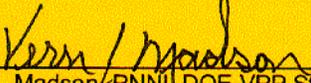
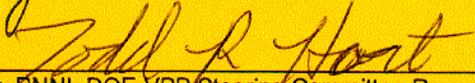
Describe formal and informal safety and health training for supervisors. Particular attention should be given to understanding hazards associated with a job; potential effects on employees; how to ensure through teaching and enforcement that employees follow rules, procedures, and work practices; and how to ensure that everyone knows what to do in emergencies.

Additional Guidance:

- Sample course attendance lists and tracking methods may be attached.
- A list of safety and health courses provided to supervisors would be helpful.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:

 Roby D. Enge, PNNL Environment, Safety & Health	9/28/00 Date
 Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair	9.28.00 Date
 Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	9/28/00 Date

Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology _____			
Operations Office _____			
Headquarters DOE-VPP Office _____			

Program Element V: Safety and Health Training

3. Managers

Required Information:

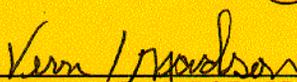
Describe how top-level managers are trained in their safety and health responsibilities.

Additional Guidance:

This training may be accomplished through informal means, e.g., staff meetings.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

Applicant Signatures:

 _____ Roby D. Enge, PNNL Environment, Safety & Health	9/28/00 _____ Date
 _____ Vern J. Madson, PNNL DOE-VPP Steering Committee Union Co-Chair	9.28.00 _____ Date
 _____ Todd R. Hart, PNNL DOE-VPP Steering Committee Research Co-Chair	9/28/00 _____ Date

Reviewer Signature Block

	Reviewer	Agree	Disagree	Date
Assistant Manager, Technology	_____			
Operations Office	_____			
Headquarters DOE-VPP Office	_____			

Program Element V: Safety and Health Training

3. Managers

Required Information:

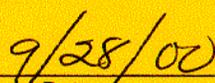
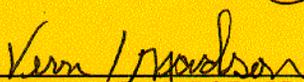
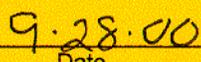
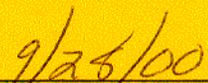
Describe how top-level managers are trained in their safety and health responsibilities.

Additional Guidance:

This training may be accomplished through informal means, e.g., staff meetings.

Applicant agrees that the required information is included and is correct to the best of their knowledge.

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 Roby D. Enge, PNNL Environment, Safety & Health	 Date
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Reviewer Signature Block

Reviewer	Agree	Disagree	Date
Assistant Manager, Technology _____			
Operations Office _____			
Headquarters DOE-VPP Office _____			