



Voluntary Protection Program

Pacific Northwest National Laboratory

PNNL 13785 Rev. 7



FY-2008 | **PROGRAM EVALUATION** January

vpp.pnl.gov

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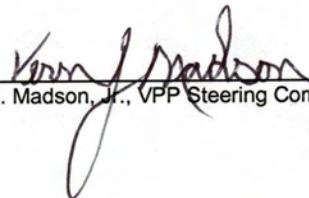


FY-2008 PNNL VPP Program Evaluation

January 2008



S.C. Goheen, VPP Steering Committee R&D Co-Chair



V.J. Madson, Jr., VPP Steering Committee Bargaining Unit Co-Chair

PNNL VPP Program Evaluation Team

In fiscal year (FY)2008 the entire PNNL VPP Steering Committee was asked to participate in performing the VPP Program Evaluation. The PNNL VPP Steering Committee submits this Program Evaluation report and confirms that it is accurate and objective to the best of our knowledge. Input into this evaluation was obtained from staff members via an all-staff survey, awareness of activities within the VPP Steering Committee members' organizations, document reviews, and review of previous Program Evaluation issues and actions. This year's Program Evaluation also took advantage of input from the recent DOE VPP On-Site Review.

Signatures

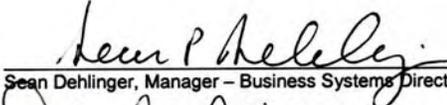
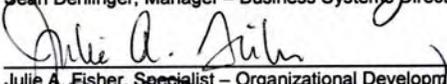
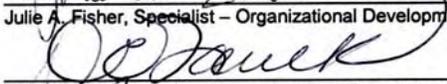
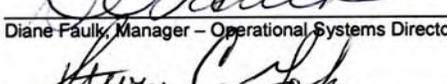
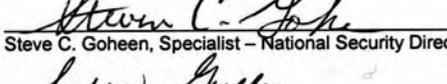
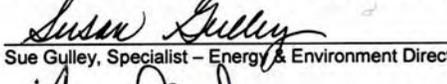
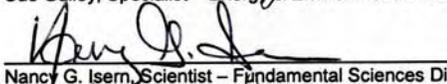
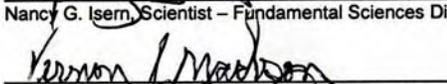
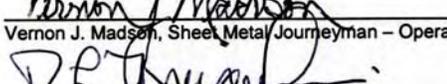
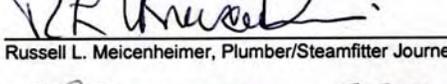
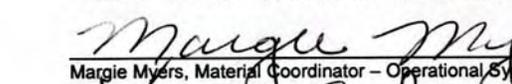
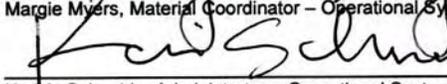
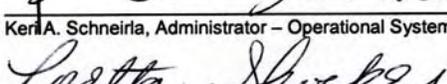
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ACRONYMS

AED	Automated External Defibrillators
ALARA	As Low As Reasonably Achievable
AMH	AdvancedMed Hanford
ARACS	Automated Radiological Access Control System
ATS	Assessment Tracking System
Be	beryllium
BEP	Building Emergency Plan
CAMP	Capital Asset Management Program
CMS	Chemical Management System
CPP	Chemical Processing Permit
CRL	Central Research Laboratory
CSM	Cognizant Space Managers
CY	Calendar Year
D&D	Decontamination and decommission
DART	Days Away and Restricted Time
DOE	Department of Energy
DZAC	Directorate Zero Accident Committee
EHSS	Environment, Health, Safety & Security Directorate
EJTA	Employee Job Task Analysis
EMR	Experience Modifier Rating
EPR	Electronic Preparation and Risk System
ES&H	Environmental Safety and Health
F&O	Facilities and Operations
FO&ED	Facility Operations & Engineering Directorate
FY	Fiscal Year
HAMTC	Hanford Atomic & Metal Trades Council
HAS	Hazard Awareness Summary
HDI	“How Do I?” (next generation SBMS)
HPI	Human Performance Improvement
IOPS	Integrated Operation System
JETS	Job Evaluation Training System
JPP	Job Planning Package
JSA	Job safety analysis
LL	Lessons Learned
MIT	Map Information Tool
OSHA	Occupational Safety and Health Administration
PM	Preventative maintenance
PNNL	Pacific Northwest National Laboratory
POD	Plan of the Day (FO&ED)
PPE	Personal Protective Equipment
PZAC	President's Zero Accident Council
RadCon	Radiological control
R&D	Research and Development
R2A2s	Roles, Responsibilities, Accountabilities, and Authorities
RCP	Radiological control procedure
RCT	Radiological control technician
RMT	Radiological materials tracking [database]
RPL	Radiochemical Processing Laboratory
RPMP	Radiation Protal Monitor Project
S&H	Safety and Health
SBMS	Standards Based Management System
SDR	Staff Development Review
SHIMS	Safety and Health Information Management System
SME	Subject matter expert
STOP	Safety Training and Observation Program
TDP	Technical data package
VPP	Voluntary Protection Program
VPPPA	VPP Participants Association
WDOSH	Washington Department of Occupational Safety & Health
WPD	Work practice document

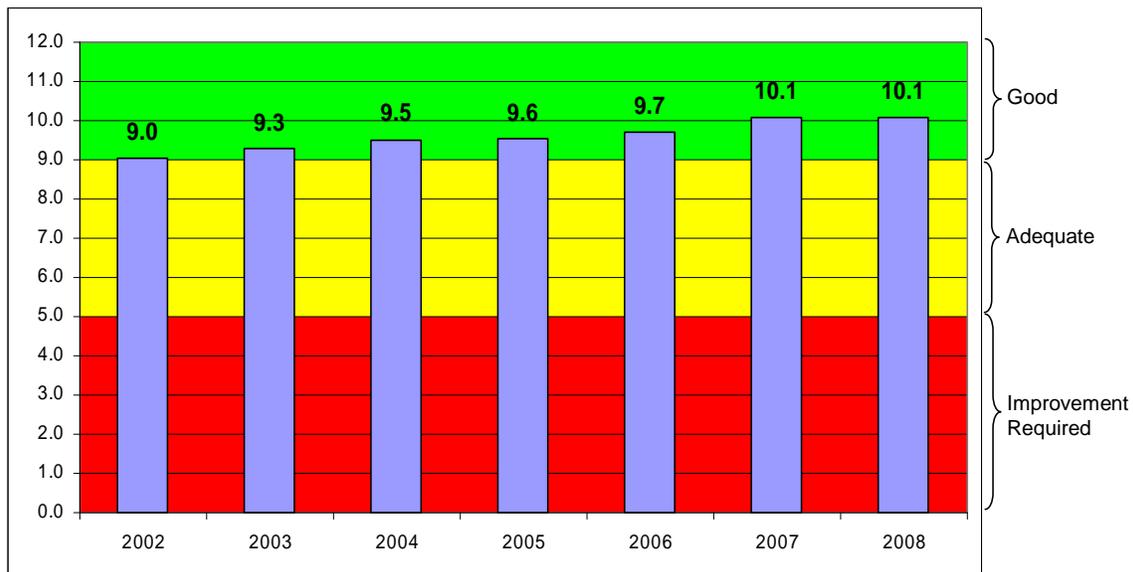
PNNL FY 2008 VPP Program Evaluation

Executive Summary

The Voluntary Protection Program (VPP) is a recognized third-party certification of worker safety and health program excellence based on industry best practices that focus on management leadership and employee involvement, as well as other safety and health program elements.

This Pacific Northwest National Laboratory (PNNL) VPP Program Evaluation is the FY-2008 report of the PNNL VPP Steering Committee regarding the status of VPP at PNNL. It is an update of the previous annual report dated January 2007 and was completed in January 2008. An annual evaluation of the status of VPP is required of all sites that participate in the Department of Energy (DOE) VPP. This report provides a detailed summary of the PNNL VPP Steering Committee's evaluation of program performance and documents both strengths and improvement opportunities related to the various aspects of the VPP model.

This evaluation indicates that the worker safety and health program at PNNL is very good. The overall VPP Program Evaluation rating this year was 10.1 on a scale of 0-12, which is consistent with last year.



Although PNNL is doing well in terms of safety, continuous improvement is required to continue participation in VPP, and is needed to maintain VPP STAR status and continue to enhance our safety performance. It is important to recognize that the average injury and illness rates for our industry improved by approximately 0.2 injuries per 200,000 work hours in the most recent year that industry average rates are available; indicating that safety across the entire industry is improving.

PNNL safety performance (as measured by injury and illness rates) has improved dramatically over the past several years. In calendar year (CY) 2007 PNNL's total recordable accident (TRC) rate was 27% better than the

industry average and the days away and restricted time (DART) rate was 31% better than the industry average. PNNL has strong worker safety and health programs and there have been notable improvements in a number of key aspects of safety, including:

- implementing expectations for managers to perform activity observation
- enhancing expectations for excellence in the conduct of research and development (R&D) projects through roles, responsibilities, accountabilities, and authorities (R2A2s), staff development review (SDR)s, and stronger processes for R&D work planning and control
- improving feedback and improvement mechanisms associated with regular assessments and performance monitoring
- improving the solicitation and response to safety issues identified by employees (particularly by Facilities and Operations [F&O])
- frequently communicating senior management concern for safety and focusing attention on higher risk areas.

However, significant incidents in the past year indicate there are opportunities for additional improvement in the safety culture of the Laboratory. In particular, the VPP Steering Committee believes that by enhancing employee involvement in the worker safety and health program PNNL can further improve our safety performance. It has been clearly demonstrated in similar organizations that employee involvement in the worker safety and health program builds a successful and continuously improving safety culture.

Management commitment to greater employee involvement in VPP and other aspects of the safety program will help PNNL improve our safety performance and maintain our VPP STAR status. PNNL is the only DOE Office of Science Laboratory with VPP STAR status and our safety performance is outstanding; however, involvement in PNNL's VPP Steering Committee by research staff has declined, as has research involvement in other aspects of PNNL's safety and health program such as development of standard-based management system (SBMS) subject areas and engagement of cognizant space managers (CSMs) in safety improvement. At the same time, the safety performance of the R&D programs in general has reached a plateau, while outstanding safety performance is demanded by our customer and is incorporated in the Laboratory's stated goals. A committee chartered last year by the Deputy Laboratory Director for Operations to identify how to achieve a "quantum leap" improvement in safety, strongly recommended implementation of more opportunities for employee involvement and engagement.

There is other evidence that PNNL has an improvement opportunity for its safety culture. Specifically, there is inconsistent adherence to some safety requirements. Recent examples of this include:

- failure of some staff and subcontractors to use the correct personal protective equipment (e.g., eye protection) when required

- inadequate hazard analysis documented in some Chemical Process Permits
- inadequate housekeeping and minor compliance issues in some areas, which is a leading indicator of safety culture.

These examples indicate there is room for improvement in our safety culture.

The VPP Steering Committee recommends that managers enhance their visibility and involvement in regularly scheduled forums with staff to emphasize safety and identify areas needing improvement and provide sufficient resources to support employee participation in those safety forums. (Note: The F&O “Directorate Zero Accident Council [DZAC]” is a good example of a working model.)

PNNL VPP Program Evaluation Approach

A team of evaluators representing PNNL's VPP Steering Committee and safety professionals from the Environment, Health, Safety, and Security (EHSS) Directorate, assessed PNNL's programs and performance with respect to VPP criteria.

The overall performance of PNNL's program implementation for each element was rated (e.g., good, adequate, improvement required) and its trend (e.g., improving, stable, declining) was rated using the scales in the tables to the right.

RATING	
Good	
Adequate	
Improvement Required (IR)	
TREND	
↗	
→	
↘	

The performance of the program was also quantitatively rated in accordance with the following values. The ratings were applied to each element and combined (averaged) for each tenet. The rating for each tenet is weighted as indicated below to achieve the overall program score.

TENET/ELEMENT		RATING		
		IR	Adequate	Good
General Information	3%	0-4	5-8	9-12
Assurance of Commitment	7%			
Management Leadership	18%			
Employee Involvement	18%			
Worksite Analysis	18%			
Hazard Prevention & Control	18%			
Safety & Health Training	18%			

The VPP Steering Committee modified the rating criteria developed by the Hanford VPP Champions group based on the unique needs of the PNNL environment to define characteristics for each rating range and VPP element.

This Program Evaluation report contains a summary of results related to the worker safety and health program evaluation as defined by the VPP tenets and a data sheet for each element of the VPP tenets. The data sheets contain the strengths, weaknesses, improvement opportunities, recent/anticipated changes that will affect each element, and a rating for each element as described above.

Evaluation of the tenets and elements was based on a review of documentation including SBMS, previous Program Evaluations, regular interaction with staff members by the VPP Steering Committee, knowledge of PNNL-controlled work locations, an all-staff survey, and a review of the draft DOE VPP On-Site Review report from the recent assessment performed in October 2007.

An electronic survey of all PNNL staff members (nearly 4,000) was conducted during December 2007. Responses from 2,184 respondents (~55%) were received. This response rate continues a trend of very high response to the VPP program evaluation survey. The results of the survey provided insight regarding staff perception of PNNL's safety program with respect to VPP criteria and the value placed on safety by the staff members, their managers, and co-workers. The survey results will be shared with staff and management in conjunction with this evaluation, and were used to validate the conclusions of this Program Evaluation. Results of the survey can be viewed at <http://vpp.pnl.gov/about/survey.asp>.

This Program Evaluation identifies the current status of PNNL's programs with respect to the tenets/elements of VPP and includes the strengths, weaknesses, and improvement opportunities.

A "report card" showing the rating of each element and tenet is provided in Exhibit 1. In addition to the required annual Program Evaluation, VPP STAR sites must also maintain three-year injury and illness rates better than industry averages. As indicated by Exhibit 2, PNNL injury and illness rates are better than industry average.

The evaluations of the elements are rolled-up into an overall rating and summary for each tenet, and those evaluations are rolled-up into an overall PNNL VPP Program Evaluation Rating and Summary for FY 2008 (see the following pages). The analysis from the Program Evaluation helped to define the recommendation that the VPP Steering Committee offers for continuous improvements in our safety culture.

This report is based on previous VPP Program Evaluation reports. Although there have been changes in some PNNL safety-related programs, most aspects of the safety and health program are consistent over time. For that reason, there are strong similarities between this report and previous reports. Changes in the individual datasheets are highlighted as described in the introduction to the datasheets on page "Datasheet – i."

Program Evaluation Overview

RATING
Good (10.1)

PNNL has excellent safety programs and is continuously improving implementation of programs that conform to VPP safety and health criteria.

PNNL continues to implement improvement initiatives to address issues from internal and external assessments. Such initiatives reflect a healthy, growing program in a dynamic environment focused on continuous improvement. Some of the significant safety program improvements in the past year includes the following.

- Managers began performing Activity Observations across the Laboratory using DuPont® Safety Leadership techniques. The Laboratory Director established challenging expectations for each manager to perform Activity Observations. Those expectations are being monitored by the Integrated Planning and Analysis Management System.
- The Laboratory developed a program description that establishes enhanced expectations for managers related to achieving excellence in the conduct of R&D projects. Those expectations are institutionalized through R2A2s, SDRs, and stronger processes for R&D work planning and control that apply to all staff.
- Feedback and improvement mechanisms associated with regular assessments and performance monitoring continued to improve, allowing managers to more closely monitor performance and evaluate the achievement of expectations.
- The solicitation and response to safety issues identified by employees was improved through the implementation of the Safety DiaLOG process, which is managed by VPP, and the F&O DZAC.
- Senior management continued to regularly communicate concern for safety through all-staff messages, presentations to managers, and other mechanisms. The communications helped to demonstrate management commitment to safety and focus attention on higher risk areas.

The general health of each of the principal VPP tenets is indicated below:
(using a 12-point scale, with 9-12 being "Good" and 5-8 being "Adequate")

TENET/ELEMENT (Weight)	FY08 RATING (Score)
Management Leadership (18%)	Good (9.9)
Employee Involvement (18%)	Good (9.0)
Worksite Analysis (18%)	Good (10.4)
Hazard Prevention & Control (18%)	Good (10.5)
Safety & Health Training (18%)	Good (10.0)

Exhibit 1 summarizes the ratings and trends associated with each VPP element.

Significant improvements and changes recognized during the FY 2008 VPP Program Evaluation include:

Management Leadership

- Safety and compliance related to subcontract work continued to improve. The process for planning contracted work has been improved with solid controls embedded within the acquisition management and badging process.
- The rating for Site Orientation was increased by a point due to the processes to improve orientation of subcontractor workers.
- The investment in the “How Do I?” (HDI) initiative demonstrates management’s commitment to continue to improve the safety performance of the Laboratory and constructively reinforce responsibilities and accountabilities through excellent processes and access to necessary information.
- While resources for physical safety improvements are generally readily available, resources in support of employee participation in safety programs and culture improvement (particularly for research staff) are limited and seem to be decreasing. Specific examples are that most research members on the VPP Steering Committee are either not funded or poorly funded for their participation. Another is that SBMS modifications are often carried out with minimal research staff participation. Funding for both activities appears to have decreased over the past few years.
- The rating for Management Commitment was decreased by one point largely because of the diminishing financial support by most R&D managers for VPP. This relates to the level of support for the key tenet of Employee Involvement. The Steering Committee also recognizes its responsibility to more strongly demonstrate the value of VPP participation to achieve increased levels of support from the various organizations.

Employee Involvement

- While Employee Involvement in safety relative to job related work activities is good, there are still indications that the participation of non-bargaining unit employees in improving safety culture is not consistently valued by management and may be declining. An example is in the trend to appoint more CSMs from the lower ranks of the organization, suggesting this is a position of low priority.
- Management support for safety committees, particularly the VPP Steering Committee, is not consistent. There is strong support from F&O and EHSS, but management support for involvement of researchers in safety committee activities continues to be limited, evidenced by pressure from declining resource allocations and subtle negative communications from

immediate managers about the relative value of researcher involvement in safety program improvement activities.

Worksite Analysis

- Workplace hazards are typically well analyzed both before work begins and periodically thereafter.
- Two recent radiological events identified improvement opportunities related to pre-use/pre-startup analysis, which are being implemented through formal corrective action plans.
- Employee reporting of hazards has improved significantly, thanks to initiatives such as Facility Operations and Engineering Directorate's (FO&ED's) DZAC and VPP's SafetyDiaLOG.

Hazard Prevention & Control

- The level of safety and health professional expertise is excellent and continues to improve with the addition of new staff and the professional certification attained by several existing staff.
- Adherence to Personal Protective Equipment standards was less than desired during the recent DOE VPP On-Site Review. Continued emphasis on adherence to basic safety requirements and performance standards (including housekeeping) is required.
- Hazard prevention and control at PNNL continues to be very good, as evidenced by the improving safety performance and management's commitment to use self-assessments and lessons learned from minor events for continuous improvement.

Safety & Health Training

- Staff overwhelmingly believe they get good training that is relevant to their job and they are knowledgeable of safety and health requirements.
- The recent Manager Safety Operations and Security training is a good example of delivering a powerful, focused safety message.

The FY 2008 VPP Program Evaluation identified several strengths and a few improvement opportunities. Since maintaining VPP Star status requires continuous improvements in our safety performance, PNNL meets this expectation. By moving forward with the recommended improvement opportunities, we should be able to continue to exceed the safety expectations of our clients while minimizing accidents.

RECOMMENDATION FOR IMPROVEMENT

The FY 2008 PNNL VPP Program Evaluation confirms a high degree of maturity in PNNL safety systems and processes, and it reflects the ongoing continuous improvement efforts related to advancing toward an outstanding safety culture. As with any healthy organization, there are opportunities for

improvement. Although some of these opportunities address key elements of VPP and Integrated Safety Management principles, the conclusion of this Program Evaluation is that PNNL has progressed nicely toward achieving a healthy safety culture. Most of the remaining improvements needed to achieve this goal focus on the more subtle cultural aspects of leading and implementing our excellent safety programs and processes across the Laboratory.

The VPP Program Evaluation Team believes addressing the following issue will have the greatest potential impact on achieving sustainable improvements to our safety culture based on an evaluation of PNNL's implementation of VPP tenets and elements.

ISSUE: Greater employee involvement in the worker safety and health program is needed to achieve optimal safety performance

Management commitment to greater employee involvement in VPP and other aspects of the safety program is needed if PNNL is to further improve its safety performance and maintain recognition as a VPP STAR site. Specifically, the involvement in PNNL's VPP Steering Committee by research staff has declined, as has research involvement in other aspects of PNNL's safety and health program, such as development of SBMS subject areas and engagement of CSMs in safety improvement. At the same time, the safety performance of the R&D programs in general has reached a plateau and the Laboratory did not achieve optimal safety performance last year, which has been demanded by our customer and is incorporated in the Laboratory's stated goals.

Industries with the lowest accident rates have demonstrated that employee involvement in the worker safety and health program is the key to their success, and that a successful and continuously improving safety culture requires the commitment and creativity of an engaged workforce.

A committee chartered last year by the Deputy Laboratory Director for Operations to identify how to achieve a "quantum leap" improvement in safety strongly recommended implementation of more opportunities for employee involvement and engagement. Employee involvement is a proven way to achieve the best possible performance in worker safety and health.

There is other evidence that PNNL's safety culture has room to improve. Specifically, there is inadequate adherence to high safety and health standards. Recent examples of this include:

- failure on the part of some staff and subcontractors to use the correct personal protective equipment (e.g., eye protection) when required
- inadequate hazard analysis documented in some Chemical Process Permits
- inadequate housekeeping and minor compliance issues in some areas, which is a leading indicator of safety culture.

These examples indicate that managers need to lead further improvement in safety culture.

Based on careful analysis of the data presented in this report, the PNNL VPP Steering Committee concluded that:

- Management's current commitment of resources to sustain VPP and improve worker safety and health is not sufficient to enable the VPP Steering Committee to help management achieve sustainable improvements in the safety culture at PNNL. This is reflected in declining funding for R&D employee representatives on the VPP Steering Committee.
- R&D employee representatives do not receive appropriate incentive and recognition for participation in VPP and other safety-related activities, including this program evaluation.

These issues are hampering efforts to improve safety culture at PNNL. The VPP Steering Committee relies on empowerment by management to be a strong, independent voice representing employees' safety interests and perspectives. Improvement in this critical area will re-establish that support and allow PNNL to achieve the goal of optimal safety performance, with an ongoing commitment to continuous improvement of our safety culture.

Recommendation: The VPP Steering Committee recommends that managers commit to greater personal and visible involvement in regularly scheduled forums with staff to emphasize safety and identify areas needing improvement and provide sufficient resources to support employee participation in those safety forums. (Note: The F&O DZAC is a good example of a working model.)

PRIMARY VPP TENET/ELEMENT:

Management Leadership – Commitment (*see Datasheet – 5*)

OTHER RELATED VPP TENETS/ELEMENTS:

- Management Leadership – Resources (*see Datasheet – 9*)
- Employee Involvement – Degree and Manner of Involvement (*see Datasheet – 17*)
- Employee Involvement – Safety Committees (*see Datasheet – 18*)

Exhibit 1

**PNNL VPP PROGRAM EVALUATION
VPP TENET/ELEMENT RATINGS & TRENDS – FY 2008**

TENET/ELEMENT (Weight)	FY08 RATING (Score)	2007	2006	2005	2004	2003	2002
General Information (3%)	Good (12)	12	12	12	12	12	12
Assurance of Commitment (7%)	Good (11)	11	11	11	11	10	10
Management Leadership (18%)	Good (9.9)	9.9	9.8	9.6	9.6	9.6	9.4
Commitment	Good (10)	11	11	11	11	11	11
Organization	Good (10)	10	10	10	10	10	10
Responsibility	Good (10)	10	10	10	10	10	10
Accountability	Good (9)	9	9	9	9	9	9
Resources	Good (10)	10	10	10	10	10	10
Planning	Good (10)	10	10	10	10	10	10
Contract Workers	Good (10)	10	9	8	8	8	7
Program Evaluation	Good (11)	11	11	11	11	11	11
Site Orientation	Good (10)	9	9	9	9	9	9
Employee Notification	Good (9)	9	9	8	8	8	7
Employee Involvement (18%)	Good (9.0)	9.0	8.0	8.0	8.0	7.5	6.5
Degree and Manner of Involvement	Good (9)	9	8	8	8	8	7
Safety Committees	Good (9)	9	8	8	8	7	6
Worksite Analysis (18%)	Good (10.4)	10.1	9.9	9.7	9.4	9.3	9.0
Pre-Use/Pre-Startup Analysis	Good (10)	10	10	10	10	10	10
Comprehensive Surveys	Good (11)	11	10	10	10	10	10
Self-Inspections	Good (10)	10	10	10	10	10	10
Routine Hazard Analysis	Good (11)	11	11	11	10	10	10
Employee Reporting of Hazards	Good (11)	10	9	9	9	8	7
Accident Investigations	Good (10)	9	9	9	9	9	9
Trend Analysis	Good (10)	10	10	9	8	8	7
Hazard Prevention & Control (18%)	Good (10.5)	10.6	10.5	10.5	10.4	10.4	10.4
Professional Expertise	Good (11)	11	10	10	10	10	10
Safety & Health Rules	Good (10)	10	10	10	10	10	10
Personal Protective Equipment	Good (10)	11	10	10	9	9	9
Preventive Maintenance	Good (10)	10	10	10	10	10	10
Emergency Preparedness	Good (11)	11	11	11	11	11	11
Radiation Protection Program	Good (10)	10	10	10	10	10	10
Medical Programs	Good (11)	11	11	11	11	11	11
Occupational Safety & Health Programs	Good (11)	11	12	12	12	12	12
Safety & Health Training (18%)	Good (10.0)	10.0	9.5	9.0	9.0	9.0	9.0
Employees	Good (10)	10	10	10	10	10	10
Supervisors	Good (10)	10	9	8	8	8	8
Managers	Good (10)	10	9	8	8	8	8

Exhibit 2

Three-year Occupational Injury and Illness Data					
PNNL Employees (Only)					
Calendar Year	Hours Worked	Total # Recordable Cases	Total Recordable Case Incidence Case Rate*	# of Cases w/ Days Away or Restricted Time	Days Away & Restricted Time (DART) Case Rate*
2005	7,083,350	40	1.13	15	0.42
2006	7,207,247	29	0.80	11	0.31
2007	6,969,671	25	0.72	11	0.32
2005-2007	21,260,268 <i>Total hours</i>	94 <i>Total cases</i>	0.88 <i>3-yr Average</i>	37 <i>Total cases</i>	0.35 <i>3-yr Average</i>
PNNL Subcontractors (Only)					
Calendar Year	Hours Worked	Total # Recordable Cases	Total Recordable Case Incidence Case Rate*	# of Cases w/ Days Away or Restricted Time	Days Away & Restricted Time (DART) Case Rate*
2005	53,951	0	0.00	0	0.00
2006	59,630	0	0.00	0	0.00
2007	41,448	0	0.00	0	0.00
2005-2007	155,029 <i>Total hours</i>	0 <i>Total cases</i>	0.00 <i>3-yr Average</i>	0 <i>Total cases</i>	0.00 <i>3-yr Average</i>
PNNL TOTAL (including subcontractors)					
Calendar Year	Hours Worked	Total # Recordable Cases	Total Recordable Case Incidence Case Rate*	# of Cases w/ Days Away or Restricted Time	Days Away & Restricted Time (DART) Case Rate*
2005	7,137,301	40	1.12	15	0.42
2006	7,266,877	29	0.80	11	0.30
2007	7,011,119	25	0.71	11	0.31
2005-2007	21,415,297 <i>Total hours</i>	94 <i>Total cases</i>	0.88 <i>3-yr Average</i>	37 <i>Total cases</i>	0.35 <i>3-yr Average</i>
CY2006 BLS rates for NAICS 5417		<i>>1000 empl</i>	1.2	<i>>1000 empl</i>	0.5
"Scientific research and development services"		<i>All employers</i>	1.4	<i>All employers</i>	0.6

* Rates are expressed as cases per 200,000 hours worked.

INJURY AND ILLNESS PERFORMANCE

PNNL injury and illness performance in CY 2007 continued to improve, resulting in the best performance in the history of the Laboratory. PNNL encourages reporting of all injuries and illnesses, no matter how minor. All injuries and illnesses are thoroughly investigated and some managers (notably the Director of Facility Operations & Engineering Division) investigates ALL injuries, no matter how minor. It is important to note that, while PNNL is seeing a continuing decrease in the recordable injury rate, days away severity rate, and the total number of first aid cases, reports of incidents to PNNL's emergency reporting number continue to increase, indicating there is not an injury reporting problem at the Laboratory. This is a sign of a healthy safety culture that will improve our ability to determine accident causes or trends and prevent recurrence.

PNNL three-year average injury and illness performance is 0.88 TRC per 200,000 hours and 0.35 days away, DART cases per 200,000 hours. This performance continues to reflect significant improvements in management leadership that began in FY 2004 following the Battelle Safety Summit and intensified management focus on safety performance improvement. There has been a consistent downward trend in incident and severity rates for occupational injuries and illnesses at PNNL.

Note that prior year case counts may vary from previously reported data because the program continues to monitor worker compensation claims and other inputs to verify that all cases are recorded and attributed to the appropriate year.

PNNL safety and health performance continues to exceed the VPP STAR performance requirements based on achieving TRC and DART rates that are better than the average in our industry. PNNL's TRC rate is 27% better than the industry average (for employers in our industry with more than 1000 employees) and the DART rate is 31% better than the industry average (for employers in our industry with more than 1000 employees).

OUTREACH

The PNNL VPP Steering Committee continued to have strong outreach activities this year. The bullets below describe the outreach achieved by the PNNL VPP website.

- The PNNL VPP website (<http://vpp.pnl.gov>) continues to be a source of significant outreach activity. Some highlights of CY 2007 outreach (the performance period for this FY 2008 Program Evaluation) include the following.
 - Several contacts were made via the PNNL VPP website from people seeking assistance in starting a VPP program at other companies (see Exhibit 3).
 - PNNL's VPP Program Description is online at <http://sbms.pnl.gov/program/pd27d010.htm>
 - The Porcelain Press - available both electronically and in each bathroom stall on campus - continues to receive a 98% readership response when putting payroll numbers in each issue. (Staff contact the VPP Porcelain Press editor if their payroll number is in the newsletter to receive a recognition award and provide feedback and suggestions for future articles.)

- Many non-PNNL domains hosted a significant number of visits to the PNNL VPP website:
 - Hanford
 - Lawrence Livermore National Laboratory
 - Los Alamos National Laboratory
 - National Aeronautic and Space Administration (NASA)
 - Accelovation (a software company that helps businesses with online market and technical insights)
 - Premier-Industries (The largest SIPs manufacturer in North America, Premier Building Systems is a division of [Insulfoam LLC](#), the largest EPS foam manufacturer and fabricator in North America.)
 - U.S. Army Pine Bluff Arsenal (PBE). (The Arsenal is the Joint Services' Center of Expertise for Chemical/Biological Defensive Equipment production, maintenance, testing, certification and training. PBA augments design agencies with development and engineering, prototype production, testing and evaluation, Technical Data Packages [TDPs] and concept prove-out and demonstration.)
- Many countries continue to visit our site throughout the year:
 - Canada
 - Great Britain
 - India
 - Australia
 - Saudia Arabia
 - China
 - Italy
 - Malaysia
 - Uruguay
 - Germany
 - South Korea
 - Taiwan
- Several pages consistently ranked among the "top 10" pages which were viewed each month:
 - Porcelain Press (<http://vpp.pnl.gov/resources/pp.asp>)
 - VPP's Wellness program and activities <http://vpp.pnl.gov/initiatives/wellness.asp>
 - VPP Events <http://vpp.pnl.gov/events/>
 - VPP Resources <http://vpp.pnl.gov/resources/>
 - VPP's Program Evaluation <http://vpp.pnl.gov/about/evaluation.asp>
 - Safety Topics <http://vpp.pnl.gov/initiatives/safetytopics.asp> (a list of resources and topics for staff to assist staff in promoting the best practice of starting each meeting with a safety topic).
- CY 2006 Web site metrics:
 - VPP external website - <http://vpp.pnl.gov>
 - Total unique visitors: 14,898
 - Total visits: 18,143
 - Total hits: 270,153

PNNL provided counsel and direct support to a number of specific institutions interested in VPP. Exhibit 3 is a summary of PNNL VPP outreach activities during CY 2007.

Exhibit 3

 VPP Steering Committee Outreach Activities		
Date (range) of the Outreach	Organization or Person Receiving the Outreach	Description of Outreach
1/24/2007	Refinery	Former employee now working for a refinery, requesting information about VPP and presentations.
1/24/2007	Safety Expo	PNNL had a strong participation in Expo and provided funding to
2/22/2007	DOE-VPP/CHG	Assisted the DOE Headquarters Team reviewing the soil and groundwater remediation project for VPP Star status.
3/2/2007	CH2MHill	Really liked the VPP Flashlight, called for vendor information with possibility of getting something similar for their staff.
3/22/2007	Benton Franklin Health District	Working with Benton Franklin Health District as a vendor at the Spring Health Challenge
4/26/2007	Bechtel	Helped with a VPP assessment for the last two weeks. Steve noted that Bechtel does a company-wide daily stretch and flex activity. They are using an Excel tool that we might find very useful. Bechtel is starting a program similar to Safety DiaLOG.
5/16/2007	Conoco Phillips	She is interested in the video "VPP-a Partnership that Works", which is on our website in an abbreviated form, and was originally produced by HAMMER. She wants to buy a copy; do you know if HAMMER has these for sale? She has tried to view the video and has been unsuccessful. I just called her and let her know I would refer her request to
6/4/2007	Los Alamos National Laboratory (LANL)	LANL is on its way to VPP. They would like to have a copy of a written Institutional Glovebox Safety ISD (Implementation Support Document). They also require a Glovebox Safety Program Board
6/5/2007	LANL	LANL is asking PNNL to provide mentorship for their VPP program for Worker Safety and Health
6/26/2007	LANL	LANL is asking PNNL to provide name of an Emergency
7/26/2007	LANL	Representatives from Los Alamos plan to attend our September VPP Steering Committee meeting.
7/26/2007	Boeing in Seattle	Representatives from Boeing in Seattle will meet with VPP representatives from various Hanford contractors at the Hammer facility July 31. They are gathering information about VPP the
8/23/2007	representative from Oman	Representative from Oman talkded to the PNNL VPP R&D Co-Chair during a business trip to the region and was invited to attend the VPPPA conference in Washington, D.C.
8/23/2007	Fluor Hanford	Fluor will be undergoing an evaluation September 4 – 14 and requested assistance from anyone willing to help with the
9/17/2007	Princeton Plasma Physics	A representative of Princeton Plasma Physics (P3) visited PNNL. He is very impressed with the various safety & health and operational programs discussed and the systems knowledge we
10/1/07-10/2/07	LANL	Eleven employees from LANL came out to our site to learn more about how we operate our VPP program at the Laboratory.
11/6/07-11/7/07	Battelle Columbus, Oak Ridge National Laboratory, Brookhaven National Laboratory	Employees from all three company's came out to discuss the similarities/differences between VPP and OHSAS 18001.
11/9/2007	EFCOG	Interested in hearing about the value that DOE contractors have experienced related to implementing VPP.
11/12/2007	Lawrence Berkeley National Laboratory	Came out to the Laboratory to learn more about our VPP program and discuss aspects of our worker safety and health programs.

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**PNNL VPP
Annual Program Evaluation
FY 2008**

DATASHEETS

ORGANIZED BY:

**VPP
TENET AND ELEMENT**

PNNL VPP PROGRAM EVALUATION DATA SHEETS

Data sheets capture the significant observations and conclusions of the PNNL VPP Program Evaluation team based on their interviews, walkthroughs, document reviews, and native understanding of PNNL operations. The data sheets are organized to simplify the documentation and reflect the team approach which was used to generate information for the evaluation.

The format of the data sheets is indicated below:

PNNL VPP Program Evaluation <Tenet/Element> -			
<u>Strengths</u> •	<u>Weaknesses</u> •		
<u>Recent/Expected Changes</u> •	<u>Improvement Opportunities</u> •		
<u>Conclusion</u>		<u>Trend:</u>	<u>Rating:</u>

Changes in the text of the datasheets since last year are indicated in *indigo-colored italics*.

Two administrative elements “General Information” and “Assurance of Commitment” begin the datasheet section. The remaining elements are organized by each of the VPP tenets:

- Management Leadership
- Employee Involvement
- Worksite Analysis
- Hazard Prevention & Control
- Safety & Health Training.

There is a certain amount of redundancy between some of the datasheets because of the structure of the VPP tenet elements.

A summary of PNNL’s performance for each tenet is provided at the beginning of the relevant set of data sheets.

General Information *This section captures the basic descriptive information about PNNL related to the VPP program.*



Strengths

- PNNL’s safety performance TRC and DART rate continued to *improve, achieving record performance this year.*
- The on-line VPP Program Description is maintained to describe how PNNL currently meets the VPP tenets and elements. It is a valuable tool to aid in the understanding PNNL worker safety and health programs.
- The original VPP Application is maintained as an example of the first DOE VPP electronic application. While it is no longer fully descriptive of the current program, it provides a model for how the first electronic application was created. A “watermark” on each page indicates it is no longer the current program description.
- PNNL continues to be involved in many outreach activities as described in the Outreach section. *PNNL is increasingly being benchmarked by other DOE laboratories, which seek to understand how PNNL is achieving the current excellent level of safety performance.*

Weaknesses

- No weaknesses are evident in the General Information related to the PNNL Voluntary Protection Program.

Recent/Expected Changes

- There are no recent or expected changes in this section.

Improvement Opportunities

- Continue to keep the VPP Program Description up-to-date as a valid description of how PNNL achieves excellent worker safety and health in the context of the VPP tenets and elements.

Conclusion

Trend: →

Rating: Good (12)

PNNL’s General Information about VPP (i.e. the VPP Program Evaluation, the VPP Website, and the Annual VPP Program Evaluation) are very good products that fully meet VPP requirements and provide valuable insight and information for continued safety improvement at PNNL. *PNNL continues to achieve improving safety performance, setting best-ever records this year. PNNL is often benchmarked by other DOE labs.*

Assurance of Commitment *This section evaluates how PNNL management and Hanford Atomic and Metal Trades Council (HAMTC) support VPP at PNNL.*

Strengths

- The VPP Steering Committee Charter documents and demonstrates the commitment to VPP from PNNL management and HAMTC leadership.
- PNNL VPP Steering Committee bylaws are in place and being used.

Recent/Expected Changes

- There are no recent or expected changes in the Assurance of Commitment from either PNNL management or HAMTC leadership.

Weaknesses

- The approved charter does not contain the signature of the current PNNL Interim Laboratory Director.

Improvement Opportunities

- Obtain the signature of the PNNL Interim Laboratory Director for the PNNL VPP Charter.

Conclusion

Trend: →

Rating: Good (11)

The PNNL VPP Steering Committee Charter demonstrates PNNL management and HAMTC commitment to VPP.

Tenet: *Management Leadership*

SUMMARY

TENET/ELEMENT	ASSESSMENT SUMMARY
Management Leadership	
Commitment	Good (10)
Organization	Good (10)
Responsibility	Good (10)
Accountability	Good (9)
Resources	Good (10)
Planning	Good (10)
Contract Workers	Good (10)
Program Evaluation	Good (11)
Site Orientation	Good (10)
Employee Notification	Good (9)

TENET RATING

TENET	ASSESSMENT SUMMARY
Management Leadership	Good (9.9)

SYNOPSIS

Management leadership at PNNL is strong. PNNL's VPP has strong staff ownership and partnership with *some key managers including the Director of Operational Services, the Director of F&O, and the Director of EHSS*. While accountability (through management commitment to safety and a "just" culture) is improving, *recent events have highlighted the need to continue to emphasize manager and staff accountability for safety*.

Management commitment to VPP and excellence in safety and health needs to be clarified and strengthened by providing necessary resources to achieve employee participation in safety performance improvement, and reinforcing expectations. Examples of recently noted issues that indicate improvement is needed include:

- failure on the part of some staff and subcontractors to use the correct personal protective equipment (e.g., eye protection) when require,*
- inadequate hazard analysis documented in some Chemical Process Permit,*
- insufficient attention to housekeeping and minor compliance issues in some areas, which is a leading indicator of safety culture.*

These examples indicate that managers need to lead further improvement in safety culture.

PNNL needs to continue working to improve staff members' understanding of and involvement in worker safety and health processes, including VPP. Management needs to provide strong and consistent support for staff

participation in safety related activities (FO&ED has done a good job of improving in this area).

PNNL also needs to continue the improvement of the excellent tools that have been created to help manage operations (e.g., SBMS, Integrated Operation System [IOPS], Map Information Tool [MIT], Electronic Preparation and Risk [EPR]) and to reinforce the execution of PNNL manager and staff member R2A2s through those tools and other processes (e.g., performance evaluation, reinforcement, etc.), *which is being addressed through actions being taken in response to some of the recent events. The HDI initiative is expected to better integrate R2A2s, expectations, and workflow at PNNL.*

Continuing improvement was realized this year in the work planning and control of subcontractor work.

Management Leadership – Commitment *This element describes how management demonstrates commitment to leadership of worker safety and health through effective policies, standards, requirements, and communication.*

Strengths

- PNNL has a well-constructed process for requirements management (SBMS), which clearly describes how the Laboratory intends to achieve operational excellence, including worker safety.
- Most managers *and staff (82%)* believe all or *almost all* injuries and illnesses are preventable.
- Most staff (96%) believe *efforts to improve safety and health are encouraged, recognized, and responded to.*
- All staff understand that safety is a *core value.*
- There is a strong and recently refreshed Environment, Safety and Health (ES&H) policy promulgated by Battelle Memorial Institute (BMI) and PNNL senior management.
- *PNNL implements* safety programs that go above and beyond minimum requirements (e.g., the initiatives for safety 24 hours/day-7days/week, wellness).
- Managers clearly articulate their commitment to safety and health.
- *FO&ED has established an exemplary safety culture over the past several years. Managers and staff in FO&ED are fully engaged in safety and understand expectations. Establishment of DZAC, effective implementation of Safety Training and Observation Program (STOP) observations, and providing HPI training to all staff has supported these changes.*

Weaknesses

- Some managers and staff do not recognize that VPP is adding value at PNNL. VPP is often not recognized for its initiatives.
- *Resources and priority are not allocated to VPP by several R&D organizations.*
- *Management support for safety in terms of funding for participation and recognition is less than other DOE sites*
- *In some cases management support (evidenced by resources) has diminished.*
- Some staff have difficulty finding specific requirements in SBMS.
- Some staff do not believe it is realistic to have a goal of “zero” accidents. *A significant percentage (18%) of staff do not believe that all or almost all injuries are preventable.*
- Some staff and managers continue to have the perception that many of our safety requirements are excessive.
- Some staff perceive a mixed message from management about the priority/value of safety in terms of rewards and resource allocation. *(But, nearly all staff (89%) believe that equipment in their work area is properly/adequately maintained for safe operation.)*

Recent/Expected Changes

- *The DOE VPP On-Site Review draft report said: “Resources for health and safety incentives, while apparently available and adequate, have not been consistently used to reward desired behavior, particularly in the R&D directorates” and “additional actions necessary to further raise worker awareness, implement programs that go above and beyond basic requirements, and ensure a culture that is totally committed to safety are not evident across the organization.”*

Improvement Opportunities

- *Management needs to recognize, use, and support their employee participants involved in safety activities (e.g., safety committees) for feedback for improvement and understanding the reality of what is going on at the bench.*
- Management should show their commitment by becoming even more present in the workplace and talking about safety when things are going well (*not just when we have an incident*).
- R&D organizations should learn from successes achieved by FO&ED's efforts to improve safety culture.

Conclusion

Managers profess a strong commitment to worker safety and health. However, the rating on this element was reduced because concern about resource allocation and management presence in the field is less than what staff and DOE VPP believe are necessary to develop and sustain a strong and improving safety culture. Staff members have not yet universally embraced the idea that all injuries and illnesses are preventable.

Trend: ▼

Rating: Good (10)

Management Leadership – Organization *This element describes the organization used by PNNL to implement worker safety and health programs and processes.*

Strengths

- PNNL's recent reorganization and changes to R2A2s emphasize line management responsibility for safety.
- The matrix approach for providing safety and health services is a strength (although it also presents challenges).
- The EHSS organization provides professional support for operating organizations. Safety & Health (S&H) support in the field has improved in recent years and the S&H Department continues to hire additional qualified staff as necessary.
- The FO&ED organization provides strong management leadership with safety as a core value.
- When safety and health issues are recognized, safety and health functions are engaged in hazard analysis and control.

Weaknesses

- The matrix organization approach can result in confusion about who is responsible for what (e.g., should the S&H representative for the Project Manager, Product Line, line manager of staff or CSM, or the facility be called in to help with a research project issue?).
- After the reorganization, many staff are confused about how they fit in the new organization.
- Line managers are not always fully aware of activities their staff are involved in and the S&H implications of the activities, so opportunities to involve S&H functions are sometimes missed.
- Line manager span of control (i.e. organizational size and complexity) is a significant concern.

Recent/Expected Changes

- Reorganization has created uncertainty and distractions, which can impact safety.

Improvement Opportunities

- The matrix approach to providing S&H support needs continual reinforcement and communication by management to work effectively and efficiently
- Management could better leverage S&H-related functions such as VPP and IOPS CSMs and safety committees.

Conclusion

Trend: →

Rating: Good (10)

The recent reorganization strengthened line management responsibility for safety, yet it has also created uncertainty regarding safety attitudes and priorities. The Safety and Health Division provides excellent programmatic and field-deployed support to the line organization.

Management Leadership – Responsibility *This element describes how responsibilities for worker safety and health are described and implemented at PNNL.*

Strengths

- Clear, effective safety responsibilities have been established in SBMS.
- EPR, IOPS, SBMS, *and other tools* reinforce and communicate roles and responsibilities.
- Managers take their safety responsibilities seriously, as evidenced by measures of safety in SDRs, involvement in IOPS, and greater/better self-assessment.
- Some R&D line managers do a good job of establishing expectations for safety.
- Training has been provided to all immediate managers to improve their knowledge of safety management.
- Staff members understand *and implement* their responsibilities for safety *with good consistency*.
- *FO&ED has done an excellent job of implementing processes that reinforce expectations for safety (e.g., plan of the day [POD], DZAC, STOP, safety meetings).*

Weaknesses

- New managers are sometimes put into a position before they are completely aware of their *full spectrum* of responsibilities. Experience and training is needed for them to be fully effective.
- *Line managers (especially first line managers) have extensive responsibilities that may be approaching or exceeding the limits of what they can reasonably do (including or especially with respect to safety).*
- *Staff report that some R&D line managers do not interact with staff on a frequent basis, especially about safety (30% did not agree with the statement “management visits my workplace on a routine basis”).*
- *R&D line managers do not have a consistent way of demonstrating that all of their safety responsibilities are being met.*

Recent/Expected Changes

- There continues to be a strong emphasis on improving management responsibility for safety.
- *New responsibilities for “Excellence in Conduct of R&D at PNNL” have improved the clarity and communication of responsibility for safety.*

Improvement Opportunities

- Continuing communications emphasizing safety responsibilities is needed.
- Communication of responsibilities needs to be clear and succinct (i.e. reading assignments may be less effective than *managers discussing expectations directly with staff*).
- Mentoring is needed for new staff (including managers) and those with new safety responsibilities.
- *Need to focus on assuring implementation of new responsibilities for “Excellence in Conduct of R&D at PNNL.”*

Conclusion

Trend: →

Rating: Good (10)

Clear and appropriate responsibilities for safety have been documented and communicated. Key roles (e.g., immediate managers, Product Line Managers, and CSMs) are trained to understand their responsibilities for safety and the resources available to help them execute these responsibilities. *Although a very large span of control limits the ability of some line managers to diligently execute their responsibilities.*

Management Leadership – Accountability *This element describes the processes for accountability at PNNL including SDRs, disciplinary action, reward and recognition, etc.*

Strengths

- There are documented processes for discipline *and* reward & recognition (e.g., the *Outstanding Performance Award [OPA] program*).
- Managers are evaluated on their safety performance. (Safety performance accounts for *50%* of the performance evaluation for *FO&ED* managers.)
- Most managers report they have safety goals in their SDR. Some staff with safety responsibilities have *safety* goals reflected in their SDR.
- Accountability for safety incidents *increasingly* focuses on latent organizational weaknesses rather than blaming the person who made an error.
- Training and standardization of the process for critiques has directed the analysis toward root causes and formulating more effective corrective actions.
- *“Excellence in Conduct of R&D at PNNL”* has clearly articulated the responsibility for safety, which is expected to improve accountability for safe performance of R&D projects.

Weaknesses

- There are concerns *from staff and first line managers* about how “zero accident” goals will be implemented at the individual level.
- Many immediate managers don’t have a clear understanding of their employees’ safety performance (since the performance is done in the context of projects that many managers aren’t *directly* associated with).
- *Many managers and staff do not use the OPA process to reward and reinforce safety performance. In some cases staff are not aware of how to use the process, in other cases the process is perceived as being overly cumbersome.*
- Many staff reported that safety performance (except for significant incidents) have little impact on their performance evaluation. Safety is a basic expectation that is often not recognized if there is not a problem.

Recent/Expected Changes

- *The “Excellence in Conduct of R&D at PNNL” clarified line management responsibility for safety and is expected to improve implementation of accountability*
- *The SDR process was recently changed to improve focus on R2A2s during annual performance reviews*

Improvement Opportunities

- *Managers need to have a better and more consistently implemented process to immediately reward staff for safety performance.*
- Accountability for safety needs to continue to focus on improvement in developing a “just culture” (related to Human Performance Improvement principles).

Conclusion

Trend: →

Rating: Good (9)

There is clear accountability for safety in the sense that every manager and staff member understands that they will be held accountable for diligent execution of their safety responsibilities. The SDR and disciplinary action processes provide *the formal context for* evaluating and providing feedback on performance *regularly for all staff*. *The reward and recognition process (e.g., OPA) is not consistently used to specifically reinforce safety and it would benefit from improvement to support prompt reward for minor efforts by staff to improve safety or perform safely.* There needs to be a better balance of negative and positive accountability actions, and the processes of accountability need to be more consistently applied across the Laboratory through just processes founded on the principles of Human Performance Improvement.

Management Leadership – Resources *This element describes the resources available to support worker safety and health programs at PNNL.*

Strengths

- FO&ED has done an excellent job of committing resources to safety priorities.
- Staff believe there is adequate staffing, equipment, training and supplies, and that PNNL is a very safe place to work. *(Almost all staff (89%) believe equipment in their work area “is properly/ adequately maintained for safe operation.”)*
- EHSS and FO&ED management continue to support VPP with adequate funding.
- CSMs are provided with a work package number to perform their responsibilities.
- Management has committed significant resources to safety improvement (e.g., FO&ED DZAC, facilities maintenance, *safety for large projects*).
- The S&H Department has added staff in critical *programmatic* areas (e.g., electrical safety) *and as requested by line management to increase field-deployed support.*

Weaknesses

- Resource constraints and priorities *related to the Central Research Laboratories (CRL)* are impacting safety issues. Space constraints and reluctance to provide ergonomic upgrades in some organizations are examples. Another example is reluctance to involve workers in development of SBMS Subject Areas.
- CSM funding is sometimes small compared to increasing expectations.
- *R&D participation in and funding for VPP is diminishing.*
- *Safety resources for some programs (e.g., VPP) are not increasing in line with growth in the Laboratory.*
- Desired initiatives (e.g., wellness, 24-7, HPI) are not always provided with adequate funding.
- *Resources have not been designated to support VPP-related mentoring of other sites and participation in on-site review of other organizations. (Mentoring is a required part of VPP participation). Mentoring is having an increasing impact on the VPP Steering Committee budget.*

Recent/Expected Changes

- The VPP SafetyDiaLOG is helping identify and resolve issues.
- Continued pressure on overhead budgets is expected to *continue to impact* safety and health resources.
- Some *R&D* staff do not have resources to support their *participation in safety activities (such as assessments, safety committees, etc.).*

Improvement Opportunities

- The Laboratory needs to ensure there is an appropriate balance between business needs (to grow the Laboratory and hold-down overhead costs) and the resources necessary to achieve and maintain an excellent safety culture.
- *PNNL should take a leadership role in mentoring other DOE labs in the pursuit of VPP. Such a role would require resources (funding) to host visits from other labs, travel to other labs, and publish information in support of other labs’ efforts to pursue VPP.*

Conclusion

Trend: ▼

Rating: Good (10)

The VPP Steering Committee continues to perceive a significant negative pressure on resources available for safety performance improvement, *particularly related to employee involvement.* While it is recognized that business realities are putting pressure on PNNL resources, the VPP Steering Committee is concerned that resource constraints related to S&H (in both management systems and line organizations) are impacting the ability of the Laboratory to achieve and maintain an excellent safety culture. The Laboratory needs to ensure there is an appropriate balance between business needs (for growth and to hold-down overhead costs) and the resources necessary to achieve and maintain an excellent and improving safety culture. *While resources for VPP in R&D organizations are diminishing, management generally provides resources for S&H priorities (the implication being that some organizations/managers do not value VPP – see Commitment). The rating was adjusted downward to indicate the VPP Steering Committee’s concern about reduced resources for VPP Steering Committee participation and CSM funding.*

Management Leadership – Planning *This element describes the processes for planning at the strategic and tactical (project and working) levels at PNNL.*

<p>Strengths</p> <ul style="list-style-type: none"> • The business planning process is systematic and comprehensive. • Long term planning related to safety is addressed by the Worker Safety & Health Management System, which works in concert with the business planning process. • The Capital Asset Management Planning (CAMP) process provides an effective means for facility planning. • Directorates and Management Systems work together for continuous safety improvement through Operations Managers and the Deputy Laboratory Director for Operations. • Significant improvements have been made in worker safety and health (notably self-assessment, training compliance, hazard identification and mitigation). Much of this improvement has been driven by automated processes. • R&D staff are more aware of the need for better hazard recognition and procedural adherence. • There is great rigor in the development and deployment of maintenance work plans. • The FO&ED POD process is very good. • Safety needs are addressed in the project/work planning process (e.g., IOPS, 300 Area decontamination and decommissioning [D&D]). • Safety was addressed in Level 1 strategic planning. 	<p>Weaknesses</p> <ul style="list-style-type: none"> • Planning for key safety functions is not consistent across the Laboratory (e.g., resources for CSMs and direct-charging criteria for S&H Representatives).
<p>Recent/Expected Changes</p> <ul style="list-style-type: none"> • Safety planning related to acquisition of goods and services (through subcontract) is improving through new process and tool development. • <i>Start-Clean, Stay-Clean is driving improvements in planning that are positively affecting safety.</i> 	<p>Improvement Opportunities</p> <ul style="list-style-type: none"> • As efforts are made to improve planning processes, consideration needs to be given to keeping the processes simple and understandable by those involved.
<p>Conclusion</p> <p>Work planning at the Laboratory continues to be an evolving and increasingly integrated process. Research and support work is planned based on SBMS requirements for safety, health, and environmental considerations. IOPS provides a formal process for <i>addressing hazards and planning to mitigate potential consequences in</i> facilities where potentially hazardous work is conducted. There continues to be improvement opportunities regarding how results from assessments or lessons learned are captured and used in planning activities.</p>	<p>Trend: → Rating: Good (10)</p>

Management Leadership – Contract Workers *This element describes how contract workers are protected from worker safety and health risks at PNNL.*

Strengths

- Worksite Exposure Assessments are developed for all construction work. The contractor generates a job safety analysis (JSA), which is reviewed and accepted/rejected by PNNL. Construction contractor training is monitored. Documented field inspections are regularly conducted for construction contractor work (the Construction safety engineer is in the field 75% of time and visits jobsites daily).
- There is pre/post performance evaluation of construction contractor safety (experience modifier rating [EMR], Occupational Safety and Health Administration/Washington Department of Occupational Safety and Health [OSHA/WDOSH] violations)
- Subs of construction contractors are also evaluated/monitored
- IOPS provides an effective system to communicate hazards and train contract workers supporting research.
- R&D staff are reporting there is stronger oversight of vendors.
- Construction contractor performance in general has improved dramatically over the past several years. There have been zero recordable/DART cases for construction contractors for the last four years.
- Construction contractors are aggressively mentored by the Construction Managers and Construction Safety Specialist regarding safety expectations. Training and qualification of subcontract workers is closely monitored.
- The acquisition process for non-construction subcontractors has been substantially improved through enhanced hazard identification, strong safety-related contract clauses, Preliminary Hazard Analysis for all on-site hands-on work, and the involvement of Safety and Health Representatives early in the planning process.

Weaknesses

- There were several reports in interviews with FO&ED staff that vendors are not always following all safety requirements.
- Some bargaining unit crafts continue to observe that subcontractors do not follow safety and health requirements that are as stringent as PNNL craft workers.

Recent/Expected Changes

- Construction contractors and some subcontractors clearly understand new, more stringent expectations.
- Some craft/bargaining unit workers reported that contractor work performance has continued to improve (particularly construction).

Improvement Opportunities

- Continue to implement improved processes for non-construction contractor work planning and monitoring – especially triggers for warranty and maintenance work that may not go through a specific contracting process at the point in time when work is needed.

Conclusion

Trend: ↗

Rating: Good (10)

Processes for non-construction contractor work planning and monitoring *have improved in the past year. Construction contractor safety continues to be an area of strong emphasis for FO&ED, and performance continues to be good.*

Management Leadership – Program Evaluation *This element describes the processes for evaluating worker safety and health program performance including VPP.*

Strengths

- The Annual VPP Program Evaluation is a rigorous and continually improving self-assessment of PNNL worker safety and health conducted by employees.
- Other safety program evaluations are conducted by the Worker Safety & Health Management System.
- The Independent Oversight organization performs investigations of special worker safety and health issues when requested by management.
- The participation in the FY 2008 VPP Survey is strong (2,184 staff resonded).
- The DOE VPP On-Site review did a comprehensive evaluation of PNNL’s VPP program, which validated the issues identified in previous PNNL VPP Program Evaluations.
- A comprehensive gap analysis for 10CFR851 was performed.

Weaknesses

- Management has not fully addressed the issues identified in previous VPP Program Evaluations.
- R&D participation in the VPP Program Evaluation is limited by resources (see the Resources datasheet).

Recent/Expected Changes

- The PNNL Executive Committee commissioned an independent evaluation of the DOE VPP On-Site Review findings.

Improvement Opportunities

- Continue to improve the VPP Program Evaluation interview scheduling process by providing pre-interview information before the interview is scheduled. Target specific job categories to be interviewed (e.g., need to include radiological control technicians [RCTs] and CSMs, and consider the mix of scheduled interviews). Consider providing rewards (and funding) to interview participants.

Conclusion

Trend: →

Rating: Good (11)

The high rating primarily acknowledges the *in depth* VPP Program Evaluation *that is performed by the PNNL VPP Steering Committee. The DOE VPP On-Site Review in October, 2007 validated the issues identified last year by the PNNL VPP Steering Committee.* Each year improvements are implemented to improve the process. *Other evaluations of worker safety and health program performance are performed by management systems, Independent Oversight, and line management. A recent example of a major program evaluation was the 10CFR851 gap analysis, which guided PNNL implementation of the new rule.*

Management Leadership – Site Orientation *This element describes how new employees (or employees in new jobs) are oriented to the worker safety and health issues of their work.*

Strengths

- IOPS provides information about the hazards and controls tailored to specific workspaces. This is particularly effective in getting visiting scientists *and new employees* oriented to PNNL work control processes.
- IOPS requires all workspace CSMs to post their Hazard Awareness Summaries, which is of benefit to visitors *and staff who infrequently enter a particular workspace.*
- *10CFR851 has driven improvements in a number of aspects of S&H including training for all staff, vendor/acquisitions, pressure systems, construction/contractor safety.*
- *The acquisition process has been substantially improved to address vendor/contractor hazard identification and control. S&H representatives are engaged in the process early to assure hazards are controlled according to PNNL requirements.*
- Training associated with the badging process provides basic orientation to new employees and visitors. The PNNL formal site orientation training modules are Web-based, and available remotely. They provide a broad range of information including environment, emergency, safety, and health provisions of the Laboratory.
- Some managers conduct one-on-one orientations with new staff members, during which they address applicable safety issues.
- *FO&ED uses POD/prejob planning to verify maintenance and construction workers are oriented to new/changing conditions.*
- *Nearly all staff (increasing from 91% last year to 98% this year) report they are knowledgeable about safety and health requirements.*

Weaknesses

- Reliance on web information may not provide the same hazard communication as face-to-face interaction with a knowledgeable staff member.
- Being current with IOPS training does not necessarily make staff qualified or safe to work in the lab.
- *New managers (both new to Battelle/PNNL and those elevated from an individual contributor role) are often not fully oriented to their responsibilities and related requirements before they begin their new position.*

Recent/Expected Changes

- IOPS Work Practice Documents (WPDs) *have been revised to be fully consistent with SBMS. An improvement is underway to improve delivery of WPDs.*
- Maintenance and RadCon staff no longer have to maintain electronic reading of Hazardous Awareness Summary (HAS) for all IOPS workspaces.
- *The Manager Safety, Operations, and Security refresher for this year is a considerable improvement over past training.*
- *SDR changes focusing on R2A2s reinforces expectations will reinforce management expectations.*

Improvement Opportunities

- *Complete the improvements to the IOPS Work Practice Document delivery tool.*
- *Consider improving processes for mentoring new lab workers.*

Conclusion

PNNL Site Orientation is a well-designed, formalized, and effective process. Unique hazards of work are addressed as appropriate by utilizing hazards-based modules and general information modules. The web-based options are good resources for personnel who visit or work in a given work area. Many staff believe that exclusive reliance on web-based training is not appropriate. *The rating on this element went up because of the improvements in the acquisition and badging process to address vendors and subcontractors and the improvements FO&ED has implemented in the work planning process over the past several years.*

Trend: ↗

Rating: Good (10)

Management Leadership – Employee Notification *This element describes how employees are notified of critical worker safety and health information related to their work.*

Strengths

- PNNL has a good written safety and health program.
- IOPS provides information *to staff and visitors* about the hazards and controls *associated with* specific workspaces.
- PNNL tends to generate timely response to questions *and concerns*.
- New staff in FO&ED and some other organizations get face-to-face orientation from their managers about safety expectations.
- Union Stewards and CSMs typically do a good job of reinforcing safety culture.
- Communications about worker safety and health initiatives *are effective, largely through Porcelain Press and management announcements*.
- S&H representatives and other subject matter experts (SMEs) are often included in pre-job planning *(and they are always involved in FO&ED POD)*.
- *The Porcelain Press provides valuable information about safety to continuously reinforce safety culture and continuous improvement.*
- *The Lessons Learned (LL) program has had a number of improvements to enhance effective and timely delivery of information.*
- *FO&ED work planners are provided with LL for Job Planning Packages with high risk.*
- *The new SDR process requires managers to review R2A2s with all staff on an annual basis.*
- *Activity observations get managers to talk to staff about expectations*

Weaknesses

- SBMS *continues to be a problem in terms of staff not being able to find the requirements they need. It presents a large and complicated set of requirements. Staff report problems getting safety and health information when they need it.*
- *Some informal safety training is complex and not easily understood (too philosophical, too detailed). Improvements to IOPS WPDs are still needed.*
- There are concerns on the part of some staff that much employee notification and program documentation is focused on compliance rather than helping staff get work done.
- Many staff do not read all of the communications (including safety related communications) that are sent to them.
- *Chemical process permits (CPPs) in IOPS do not always provide appropriately detailed and accurate information about critical worker safety and health information for R&D work.*

Recent/Expected Changes

- There has been considerable improvement in safety culture exhibited by senior management.
- Safety communications have become more extensive and integrated (SafetyNet, Porcelain Press, VPP website).
- *The SBMS-HDI initiative will help address long standing concerns about SBMS.*

Improvement Opportunities

- Workers need quicker access to the concise information they need.
- New staff and managers need to be made aware of the value of VPP and other ES&H programs.
- *Continue to improve IOPS WPD.*
- *Provide strong support for HDI.*

Conclusion

Staff members are generally aware of their safety rights, responsibilities, and of PNNL's VPP program. SBMS, IOPS, MIT, and other electronic tools provide a good approach to hazard communication and employee notification. The tools *are undergoing continuous improvement, but* many staff are not familiar enough with the *tools to enable them to* get information when they need it. The safety culture promoted by management has continued to improve; however, some staff members do not yet exhibit the *desired* level of culture and commitment to safety as a value. This indicates that further improvements need to be made in the notification of employees about management leadership of safety.

Trend: ↗

Rating: Good (9)

Tenet: *Employee Involvement*

SUMMARY

TENET/ELEMENT	ASSESSMENT SUMMARY
Employee Involvement	
Degree and Manner of Involvement	Good (9)
Safety Committees	Good (9)

TENET RATING

TENET	ASSESSMENT SUMMARY
Employee Involvement	Good (9)

SYNOPSIS

The Laboratory has experienced excellent safety performance in the recent past, which can be attributed to staff members' focused commitment *on safety*. While there is evidence of reasonably good staff member involvement *in job-related safety activities*, resources and recognition for involvement in the safety program/*culture improvement* continues to be limited. Small R&D work teams practice excellent integration of safety into work processes. Processes such as IOPS and SBMS provide *opportunities* for staff member involvement, *but management support for such involvement appears to be decreasing*. The *barriers that appear to be* associated with staff member involvement at PNNL include the following.

- *The R&D organizations do not have a good funding model for supporting employee involvement in safety program/culture improvement.*
- Many R&D staff members do not see the value in traditional forms of employee involvement such as safety committees, awareness campaigns, etc. They look for value-added, results-oriented programs and activities that benefit science and technology if they are to participate sincerely over the long term.

The VPP Steering Committee has continued to have success in the past year reaching more staff members with the Porcelain Press, *Safety DiaLOG*, *the annual all-staff survey*, SafetyNet, VPP website, wellness activities, and the annual VPP picnic. The Steering Committee continues to promote funding for additional blood pressure monitors and other equipment that enhances health and safety.

Much progress has been made toward better involvement of the bargaining unit staff members *in VPP and DZAC*.

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Employee Involvement – Degree and Manner of Involvement *This element describes how employees are involved in aspects of worker safety and health programs at PNNL.*

Strengths

- Staff are involved in many aspects of the safety and health program (e.g., IOPS and development of Operating Procedures).
- VPP provides numerous opportunities for staff involvement in safety: *Safety DiaLOG, SafetyNet, VPP survey, wellness/fitness challenge, VPP picnic.*
- The 300 Area D&D communications/website *provides employees with timely, valuable safety and health information.*
- R&D work groups are close knit and *have* an inherent level of employee involvement in work planning and worker safety. Many permits and procedures are written by employees.
- A good relationship between workers and their immediate manager is common. *(Almost all staff (94%) said they “feel free to approach management regarding any safety concern.”)*
- FO&ED maintenance workers have the opportunity to provide input to job planning.
- *The FO&ED work team POD meetings are an excellent example of employee involvement*
- *There continues to be a good response to the VPP survey (2,184 responses).*
- *There continues to be good employee involvement in some voluntary safety activities including the wellness challenge.*
- Many staff have contributed personal stories, articles, and photographs to SafetyNet.
- Some organizations have regular meetings with safety as a topic. *The VPP initiative for safety topic “table tents” is getting good response.*
- *FO&ED implemented a Directorate Zero Accident Council (DZAC) process. DZAC enables excellent bargaining unit rank-and-file involvement.*
- *There is typically timely response to staff concerns/suggestions (particularly with DZAC and Safety DiaLOG).*

Weaknesses

- *R&D organizations lack a mechanism (e.g., funding and structure) to gain a high degree of staff involvement – like FO&ED does with DZAC.*
- Staff involvement in SBMS subject area development is lower than in the past.
- *Some managers continue to perceive limited value in employee participation in the VPP Steering Committee.*
- Some organizations do not *support a high level of staff involvement in safety activities outside of their immediate work scope.*

Recent/Expected Changes

- *FO&ED DZAC has matured beyond pilot stage and is very successful in engaging employees and resolving current issues.*
- *NSD recently reinvigorated regular CSM meetings.*

Improvement Opportunities

- *R&D organizations should consider implementing a safety forum comparable in purpose and results to DZAC.*
- Immediate managers need to continue to work on better safety communications.

Conclusion

Trend: →

Rating: Good (9)

The *standard approach to work includes significant involvement of staff for work planning* within most work groups. However, there continue to be *a significant number of staff members who do not feel that safety applies to their job in a significant way (only 54% said they have been involved with hazard analysis and 22% said it was not applicable to their job).* Staff members who want to be involved in safety often can get involved, but *funding for such involvement is limited.* Management is not always supportive of the level of employee involvement that is demanded of an optimal safety culture *(as defined by DOE VPP).*

Employee Involvement – Safety Committees *This element describes how PNNL uses safety committees to obtain employee involvement.*



Strengths

- Some staff have the opportunity to be involved in safety committee activities such as VPP Steering Committee, DZAC, PNNL/HAMTC Laboratory Safety Committee, IOPS facility safety committees, Electrical Safety Committee, and other active safety committees.
- Most safety committees are well institutionalized with a written charter, regular agenda, formal process, and communication venues such as websites on the intranet.
- DZAC meets monthly with representatives from working team Bargaining Unit representatives, management, and support staff (e.g., safety and administrative assistants). DZAC has fulfilled their commitment to quick resolution of problems and open feedback/communication.
- Training on PNNL safety program implementation was provided for VPP Steering Committee members.
- *The communication between DZAC and VPP is strong and DZAC involves communication with other safety committees.*
- *A recent assessment by FO&ED indicates good sharing of information from DZAC down to work groups.*
- *DZAC has created a process to assure a dynamic membership and strong participation in the committee.*

Weaknesses

- *R&D lacks a mechanism (e.g., funding and structure) to gain a high degree of staff involvement – like FO&ED does with DZAC.*
- Participation in safety committees is limited and relatively static. It is sometimes hard to recruit new members for safety committees. The apparent problem is primarily related to resources and lack of process to effect change (although see strength with respect to FO&ED DZAC).
- *Some managers continue to perceive limited value in employee participation in the VPP Steering Committee. Some R&D organizations have cut the budget for participation in VPP by their representatives.*
- IOPS building safety committees have become less active.

Recent/Expected Changes

- *DZAC has had a positive impact on the Laboratory’s safety culture, particularly within FO&ED.*
- *Some R&D organizations have cut the budget for participation in VPP by their representatives.*

Improvement Opportunities

- Provide better recognition and reward for participation on safety committees particularly from immediate managers and senior management.
- *Consider expanding DZAC to other directorates and explore the President’s Zero Accident Council (PZAC) concept.*
- *Consider how to formalize/institutionalize cross-communication between safety committees.*
- *Worker Safety & Health and VPP need to create and communicate an effective value proposition for VPP and safety committee participation in general.*

Conclusion

Trend: →

Rating: Good (9)

PNNL *has a variety of safety committees chartered by management and with active employee involvement*; however, support for participation on some safety committees seems to be decreasing. Focus on reducing overhead cost is hindering participation in safety committees. The VPP Steering Committee *and DZAC are* good examples of how safety committees can positively influence worker safety and health. The perceived value of participation in safety committee activities needs to be improved. Safety committees *need to seek greater integration* with each other and with PNNL management and Management Systems. Management needs to improve how participation in safety committees is recognized and valued, especially by immediate managers. Resources for safety committee participation need to be specifically allocated as a management priority.

Tenet: *Worksite Analysis*

SUMMARY

TENET/ELEMENT	ASSESSMENT SUMMARY
Worksite Analysis	
Pre-Use/Pre-Startup Analysis	Good (10)
Comprehensive Surveys	Good (11)
Self-Inspections	Good (10)
Routine Hazard Analysis	Good (11)
Employee Reporting of Hazards	Good (11)
Accident Investigations	Good (10)
Trend Analysis	Good (10)

TENET RATING

TENET	ASSESSMENT SUMMARY
Worksite Analysis	<i>Good (10.4)</i>

SYNOPSIS

Workplace hazards are *typically* well analyzed both before work begins and periodically thereafter. Recent initiatives to improve workflow process support tools, and staff member/management empowerment and knowledge include improvements to IOPS, integration of EPR with SBMS and IOPS, and improved self-assessment and Lessons Learned/Best Practices processes. *Two recent radiological events identified improvement opportunities related to pre-use/pre-startup analysis, which are being implemented through formal corrective action plans.* Improvements continue to be made in the area of staff member reporting of hazards (particularly DZAC and Safety DiaLOG) and *accident investigation.* *The rating for employee reporting of hazards and accident investigation was increased by one point because of improvements in those areas. The self-assessment and analysis processes continue to improve and are providing much better information on the status of performance and risk areas.*

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Worksite Analysis – Pre-Use/Pre-Startup Analysis *This element describes how equipment, facilities, and systems are analyzed for worker safety and health issues prior to use.*

Strengths

- FO&ED has significantly improved their process for analysis of new equipment.
- The R&D Experimental Authorization process has been piloted with success and is available as part of the IOPS tool.
- SBMS provides comprehensive, consistent requirements for planning, analysis, and control of hazards.
- EPR provides a good tool for hazard identification for R&D projects. EPR provides linkage to SBMS, IOPS, and subject matter experts.
- IOPS provides excellent bench level controls including R2A2s, access control, and training to required practices, permits, and procedures.
- FO&ED work control process provides excellent planning and control for maintenance and construction work.
- The processes for FO&ED POD and pre-job briefings are very good and they are consistently conducted.
- The permitting process (e.g., Chemical Process Permits) has improved in support of pre-startup planning.
- *Offsite project hazard identification and planning has improved.*
- *Acquisition management for flow-down of safety requirements for onsite services continues to improve.*
- *The CRL used a strong design process to assure that construction and operational safety and health issues are addressed.*

Weaknesses

- Hazard identification, procedure selection, and work authorization at the activity level has been identified as needing improvement.
- *Some organizations do not use pre-job briefings (even for higher risk R&D activities), which would help identify hazards and reduce risk.*

Recent/Expected Changes

- *The Research Activity Review and Approval process was institutionalized in SBMS and has IOPS tools that will support initial implementation of the requirements in FY 2008.*
- *Pre-use analysis of sealed sources will change substantially in FY 2008 based on a recent event.*

Improvement Opportunities

- Continue to improve worker involvement in pre-job analysis *and briefings* to enhance ownership and the get the best input from employees who will perform the work.
- Clarify expectations with regard to implementation of the *Research Activity Review and Approval requirements* and other processes for hazard identification, procedure selection, and authorization of experimental activities.

Conclusion

PNNL has implemented very good processes for work planning and control, including pre-use and pre-startup analysis. Given the diversity of hazards, projects, and facilities spanned by PNNL work, excellence in this area is needed. Various assessments have identified several opportunities for improvement, some of which are being addressed by current initiatives at the Laboratory level. Those ongoing initiatives will result in continuous improvement in the identification, analysis, and mitigation of hazards. Additional improvements are needed as expectations for excellence have increased.

Trend: ↗

Rating: Good (10)

Worksite Analysis – Comprehensive Surveys *This element describes how PNNL comprehensively surveys all worksites and activities for worker safety and health hazards.*



Strengths

- A comprehensive survey of hazards related to 300 Area D&D has good PNNL involvement and worker communications (posters, hotline, and website).
- Ergonomic evaluations have been performed for *all staff in caution zone jobs*.
- The EPR system provides a better tool to identify and control hazards associated with projects. Self-assessments of the tool are identifying improvement opportunities and management is being held accountable for the quality of review performed on the project prior to start up.
- IOPS provides a hazard awareness summary that is regularly updated.
- Self-assessment of IOPS spaces is conducted by S&H representatives at least annually.
- The Chemical Management System is used to identify and quantify chemical hazards.
- Baseline hazard surveys have been conducted of all PNNL facilities for significant hazards such as asbestos, beryllium (Be), noise, radiation, radiological contamination, and confined spaces.
- VPP surveys have established a comprehensive baseline of staff safety culture.
- Metrics are being used for key process performance indicators for EPR, IOPS, and other processes.
- Workplace Exposure Assessments are effectively used by FO&ED in pre-job planning.
- IOPS permits provide a process for evaluation of key risks in IOPS workspaces.
- MIT is an efficient and effective tool for locating hazards.
- *Electronic tools for tracking hazards (e.g., IOPS, Chemical Management System [CMS], radiological materials tracking [RMT], Biological Hazard Management System [BioMS], EPR, etc.) continue to improve.*

Weaknesses

- *Many staff who work with computers have not had an ergonomic evaluation.*
- *CSMs have noted there is no formal mechanism to inform them about potential Be contamination in their workspaces.*

Recent/Expected Changes

- *The chemical procurement process has recently improved to better encourage redistribution of chemicals to minimize waste.*

Improvement Opportunities

- Continue to proactively address the potential for ergonomic risks.
- *Improve the communication of Be-program requirements and status.*

Conclusion

Comprehensive surveys have been conducted in areas of S&H, radiological control, and facilities and operations. Communications between ES&H management, the R&D Directorates, and FO&ED is effective. CSMs maintain hazard awareness summaries to reflect current work hazards in individual spaces. The integration of *project information from* Electronic Prep and Risk with IOPS *enables CSMs to do a better job of worksite analysis.*

Trend: ↗

Rating: Good (11)

Worksite Analysis – Self-Inspections *This element describes how PNNL workers and organizational elements perform self-assessments to identify worker safety and health issues.*

Strengths

- There has been considerable improvement in self-assessment programs (e.g., CSM, manager, SME, and activity assessment).
- A variety of roles in R&D organizations perform self-assessments including CSMs, technical group managers (TGMs), SMEs. Field deployed SMEs are well integrated into the organizations' self-assessment program.
- Activity assessments are being performed by managers.
- Tailored self-assessment checklists are developed by qualified teams of staff members and safety professionals and used by staff members for self-assessments.
- There is a strong culture of "find it and fix it" in R&D Directorate self-assessment processes, empowering the staff members involved in self-assessments to take action to eliminate unsafe conditions.
- *All IOPS deficiencies have identified action, even items that are corrected on the spot.*
- FO&ED managers and technical leads (TLs) do frequent walk-around inspections.
- Some support organizations are doing self-assessments.
- Management system self-assessments are performed in accordance with approved procedures.
- An Independent Oversight group performs unbiased assessments.
- Activity Observations have resulted in some valuable lessons learned.
- Effective implementation of the Corrective Action Management process is resulting in fewer repeat findings.
- The IOPS self-assessment process efficiently facilitates corrective action management.
- *Only 4% of workplace conditions that are reviewed identify deficiencies.*
- *Standards for activity observation have been established by the Laboratory Director.*

Weaknesses

- Office spaces are not reviewed by some organizations.
- *Fewer workplace inspections by CSMs mean there will be fewer formal opportunities to find and correct physical hazards in the workspace.*

Recent/Expected Changes

- *The self-inspection portfolio is being rebalanced to direct more attention toward activities and unsafe behaviors rather than potentially unsafe conditions. Workspace inspections are expected to decrease by approximately 50%, while activity observations will be increased.*

Improvement Opportunities

- *Consider having some self-inspections done by individuals outside of the immediate work group (e.g., from other locations).*

Conclusion

Trend: ↗

Rating: Good (10)

PNNL has implemented a *very* good self-assessment program *that is continuously improving*. The program includes assessments by Line Organizations (divisions/directorates) and the Management Systems (programs). IOPS *CSM* self-assessments provide good staff member involvement in the self-assessment process. Results of the self-assessments are analyzed and continuous improvement actions are identified.

Worksite Analysis – Routine Hazard Analysis *This element describes how hazards are identified in the routine planning and performance of work at PNNL.*

Strengths

- Awareness of *the importance of office safety and “life experience” risks continue to be emphasized and* improve.
- CSMs play a key role in routine hazard analysis. They are very knowledgeable of work in their assigned space, responsible for identifying hazards, and taking steps to make sure that hazard controls are implemented.
- *Large* offsite projects (e.g., ARM, Radiation Portal Monitor Project [RPMP]) have very good work planning/hazard analysis.
- S&H professionals are available to assist project managers, line managers, and staff members implement their hazard analysis responsibilities.
- HASs are used to communicate hazards.
- *CSMs typically identify all appropriate hazards on their HAS as part of their routine assessment process. This has been impacted by CSM training and improvements in the self-assessment process.*
- *SMEs validate CSMs’ hazard evaluation documented in a HAS.*
- *Permits provide a way to routinely evaluate hazards of R&D work.*
- *The FO&ED job planning practice (JPP) provides good analysis of routine hazards, including worker involvement and review by SMEs.*
- *The Radiochemical Processing Laboratory (RPL) has implemented a good job for post-job review for maintenance activities.*
- *S&H involvement in contract/vendor work.*
- *All staff in “caution zone” jobs receive an ergonomic evaluation.*
- *HPI has been well implemented within FO&ED, accounting for human error in hazard analysis.*

Weaknesses

- *The maintenance post-job feedback process continues to have improvement opportunities (although see strength related to RPL).*
- *The DOE VPP On-Site Review and internal assessments have identified opportunities to improve hazard analysis with respect to some IOPS permits.*
- *Many staff who routinely work in an office environment with a computer have not had an ergonomic evaluation.*

Recent/Expected Changes

- Significant improvements in automated tools have been made to support this area (*e.g., IOPS, purchasing software*).
- *The new Research Activity Review and Approval subject area is expected to improve analysis hazards of some R&D project activities.*
- *Improvements in hazard analysis have been improved for acquisitions and badged “hands-on” work.*

Improvement Opportunities

- Need to continue to increase the emphasis on ergonomic prevention of soft tissue injuries *and prevention of “life experience” injuries, which are an area of increasing importance.*
- *Continue to improve effective implementation of hazard analysis in IOPS permits.*

Conclusion

The changing nature of R&D presents a challenge for worksite analysis in that environment. There *are processes* to assure that hazards are routinely analyzed and mitigated. SBMS provides the foundation for routine hazard analysis for all PNNL work. EPR *provides a high-level identification of risks* for R&D projects. IOPS is a key part of that process in PNNL-operated facilities. *FO&ED work planning processes provide good identification and analysis of maintenance and construction hazards. There are known issues that are being addressed regarding level of detail in some IOPS permits.*

Trend: ↗

Rating: Good (11)

Worksite Analysis – Employee Reporting of Hazards *This element describes how employees report hazards and the process for resolution of those reports of hazards at PNNL.*



Strengths

- Numerous avenues are available for staff members to report hazards, both formally and informally.
- Communications between staff members and their immediate managers, and with support staff members (i.e. Building Managers, Safety & Health Representatives, etc.), are typically open and effective at identifying and resolving issues.
- Most staff members report they are comfortable bringing up safety issues. There was improvement in this area over past years. *(Nearly all staff (94%) report they feel free to approach management about any safety concern.)*
- The need to report accidents and significant hazards is well established and was a common theme during staff member interviews. Management works to create a climate where reporting of hazards is allowed and encouraged.
- The “Stopping and Restarting Work” Subject Area provides an effective way for employees to address urgent safety risks.
- Employee-reported issues are usually fixed in a timely manner.
- More reporting is occurring now than in the past – on a broader variety of issues.
- Safety DiaLOG has provided staff with an effective means to report issues and safety suggestions.
- DZAC encourages reporting and resolution of issues.

Weaknesses

- *It takes longer than some employees desire to get resolution of some issues.*
- *More in-depth communication to shop level employees about the issues that affect resolution of employee-reported hazards would be desirable.*

Recent/Expected Changes

- Issues reported through PNNL/HAMTC Laboratory Safety Committee are decreasing in number and significance indicating better communication between workers and managers.

Improvement Opportunities

- We still need better feedback on *some* employee reported issues.
- Faster resolution of issues *is needed* (this has been *a problem* in isolated cases).
- *Research and support organizations should consider a process like DZAC to help with employee reporting of hazards.*

Conclusion

Culture and process improvements have been made that *are* positively impacting this element. Management needs to continue to implement efforts to improve safety culture and trust among staff. *This rating was increased because of the significant improvements in the process for handling employee reporting of hazards through DZAC and Safety DiaLOG.*

Trend: ↗

Rating: Good (11)

Worksite Analysis – Accident Investigations *This element describes how accidents are investigated at PNNL so that similar accidents are prevented in the future.*

Strengths

- PNNL has a strong accident investigation process. All injuries and illnesses are investigated and critiques are held for all recordable injury/illness accidents.
- Corrective actions for serious accidents are taken care of with great rigor *including investigation and corrective action. Corrective actions are tracked in ATS.*
- FO&ED has a strong injury and illness reporting culture.
- PNNL has taken a strong position regarding the recent emphasis on safety metrics: more interested in real safety results than immediate reduction in accident rates.
- While TRC & DART improved, first aid rates held steady, indicating that staff are still reporting injuries and illnesses as required.
- Critiques and accident investigations are doing a much better job of clearly focusing on fact finding, not fault-finding. Staff perception of this has improved a little.
- *FO&ED has made significant improvements in the accident investigation process.*
- *Lessons learned from serious accidents are shared with others (including other contractors).*
- *The FO&ED Director reviews EVERY injury, no matter how minor.*
- *Most staff (82%) believe that all or almost all injuries can be prevented (although, see corresponding weakness that 18% of staff do not believe most injuries are preventable).*

Weaknesses

- *There were several instances where a large number of managers accompanied staff to AdvanceMed Hanford (AMH), creating an intimidating atmosphere.*
- *Some managers and staff do not believe the “zero accident” goal is achievable or reasonable (18% do not believe that all or almost all injuries can be prevented).*
- *There is a perception in some parts of the organization (except for most parts of FO&ED) that reporting and investigation of accidents is punitive.*
- *Some staff have commented that reporting minor incidents is perceived to be a hassle and a waste of time (i.e. a large number of managers and support staff get involved with going to AMH with the injured staff member).*

Recent/Expected Changes

- *Human Performance Improvement (HPI) principles are being incorporated into accident investigations.*
- *New requirements for accident investigation, critique, and corrective action are being developed.*

Improvement Opportunities

- *Consider implementing (or piloting) a “self-treat” program for minor injuries.*
- *Consider how to continue to improve communication about injuries to prevent future reoccurrence (e.g., hornet stings, life-experience injuries, etc.)*

Conclusion

The accident investigation process is well defined and incorporates a rigorous reporting, investigating, analysis, tracking, and distribution process. In the presence of strong pressure to reduce accident rates, PNNL has kept the emphasis on improving safety rather than simply reducing injury and illness rates. Incorporation of HPI principles in accident investigation is expected to improve culture and accident prevention.

Trend: ↗

Rating: Good (10)

Worksite Analysis – Trend Analysis *This element describes how various safety-related data streams such as accidents, self-assessments, and employee reports of hazards are analyzed for trends that require action to improve worker safety and health programs at PNNL.*

Strengths

- Safety and Health Information Management System (SHIMS) is used to track injury and illness data including TRC and DART rates. SHIMS has also supported focused trend analysis such as the Craft Resources injury and illness analysis that identified target craft groups and injury types.
- Use of metrics to monitor operational trends related to IOPS, EPR, and other operational processes is increasing and used to good effect.
- PNNL is using the occurrence reporting process to capture and trend near-miss or close-call type events.
- Lessons Learned are being used to communicate issues related to trends, including near-miss and close call events.
- Use of ATS for trending has been a significant improvement and continues to be a focus area for improvement. *Safety-related condition topics are used to identify trends.*
- Website established where staff can get access to current injury and illness information.
- The IOPS “Line Manager Viewpoint” enhances managers’ ability to monitor compliance and safety-related trends in their organization.
- SafetyDiaLOG helps track safety suggestions and issues.
- DZAC tracks areas for improvement within FO&ED.
- The Integrated Planning and Assessment Management System continues to improve tracking and trending of assessment and performance information.

Weaknesses

- SHIMS continues to *need improvement* in terms of support for trend analysis that can focus on emerging or previously unrecognized accident groups or accident causes.
- *Opportunities still exist to improve the sharing of relevant lessons learned information with staff (e-mail may not be the most effective approach).*

Recent/Expected Changes

- The Assurance process is helping senior management keep track of risk issues and trends.
- Trending of self-assessment results (especially activity assessment) is improving.
- *Motor vehicle accident trends were used to support the proposal for implementation of the safe driving course.*

Improvement Opportunities

- Continue to improve delivery of relevant metrics to management.
- *Continue to develop innovative methods to deliver relevant trending information to staff.*
- *Continue to integrate trending data streams to provide a unified performance monitoring process.*

Conclusion

Trend analysis at PNNL continues to improve. *The Integrated Planning and Assessment Management System coordinates Laboratory level trending. Many management systems (e.g., Worker Safety & Health and Radiological Control) do extensive trending of data to improve worker safety and health programs at PNNL.*

Trend: →

Rating: Good (10)

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Tenet: *Hazard Prevention & Control*

SUMMARY

TENET/ELEMENT	ASSESSMENT SUMMARY
Hazard Prevention & Control	
Professional Expertise	Good (11)
Safety & Health Rules	Good (10)
Personal Protective Equipment	Good (10)
Preventive Maintenance	Good (10)
Emergency Preparedness	Good (11)
Radiation Protection Program	Good (10)
Medical Programs	Good (11)
Occupational Safety & Health Programs	Good (11)

TENET RATING

TENET	ASSESSMENT SUMMARY
Hazard Prevention & Control	<i>Good (10.5)</i>

SYNOPSIS

There is very good prevention and control of hazards at PNNL. The availability of excellent workflow support tools (SBMS and IOPS) and highly knowledgeable support staff members assure that significant hazards are properly addressed; however, there is a need to more efficiently and effectively communicate safety and health principles and requirements to staff members and assure that everyone recognizes and implements the common standards to which all staff members must comply at the Laboratory. *Senior management made a significant investment in FY 2008 in the HDI initiative to address this issue.*

There is *also* a need to more consistently implement positive and negative incentives to reinforce expectations for hazard prevention and control. *The recent DOE VPP On-Site Review identified a disappointing number of instances where staff use of required personal protective equipment (PPE) and staff implementation of basic housekeeping standards and compliance with requirements was less than desired. The PPE rating was decreased by one point based on that result.*

Notwithstanding the preceding paragraph, hazard prevention and control at PNNL continues to be very good, as evidenced by the improving safety performance and management's commitment to use self-assessment and minor events for continuous improvement.

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Hazard Prevention & Control – Professional Expertise *This element describes the level of expertise in worker safety and health disciplines available to support work at PNNL.*

Strengths

- Well-qualified safety and health professionals support Hazard Prevention and Control at PNNL.
- Some S&H representatives are considered to be “outstanding” in their support, primarily of R&D organizations. Most staff and managers are very happy with their S&H representatives.
- S&H professionals are field deployed to provide support to all potentially hazardous activities.
- Worker S&H has strengthened technical qualifications through key hires during the last year.
- Immediate managers have been given training in safety leadership.
- S&H representatives are typically co-located with the workers they support whenever possible.
- The increasing workload on S&H representatives is a positive indication of acceptance of their value by staff.
- Most staff know multiple ways to access S&H expertise.
- CSM hazard awareness training leverages professional expertise.
- Training in PNNL safety management processes was provided for VPP Steering Committee.

Weaknesses

- The increasing demand for S&H support (including support for offsite work and subcontractor activities) *and focus on administrative activities and documentation* continues to create a workload issue for S&H representatives.

Recent/Expected Changes

- Worker Safety & Health Management System has placed strong emphasis on the responsibilities and accountabilities of S&H representatives.
- Staff noted that they are more aware of who to contact for S&H support.
- Certain key roles with collateral S&H responsibilities (e.g., immediate managers, Product Line Managers, CSMs) have been provided with safety training appropriate for their role.
- More S&H representatives were hired to support increasing demand.
- PNNL improved the expertise of those with collateral safety responsibilities (e.g., VPP Steering Committee, CSMs, immediate managers).
- Several S&H staff received professional certifications *and advanced degrees* this year.
- *The S&H Department added a Pressure System Engineer and R&D Electrical Safety SME.*

Improvement Opportunities

- *Continue to look* for opportunities to improve efficiency of the S&H representatives work activities (especially documentation *and administrative activities*).

Conclusion

PNNL has a very high degree of professional expertise in the field of worker safety and health. That expertise is well utilized and is available to managers and staff members who need it.

Trend: ↗

Rating: Good (11)

PNNL VPP Program Evaluation Hazard Prevention & Control – Safety & Health Rules <i>This element describes the rules used at PNNL to prevent and control worker safety and health hazards.</i>			FY-2008
Strengths <ul style="list-style-type: none"> • SBMS is an excellent repository for S&H “rules” (required procedures and suggested guidelines). • SBMS Subject Areas are <i>intended to be</i> developed using a team approach, with input from research and other staff members. • SBMS contains <i>the requirements</i> that apply to all staff members. • IOPS provides a vehicle for flow-down of a concise, tailored set of rules to the workbench. • The Worker Safety and Health Management System provides very good stewardship for S&H rules. • There is a clear, consistent process for accountability articulated by the Human Resources Management System and SBMS. This includes the establishment of expectations and goal-setting, annual performance evaluations, and disciplinary action. • <i>There are effective mechanisms for staff to provide feedback regarding the adequacy and usefulness of S&H rules (feedback to IOPS, SMEs).</i> 		Weaknesses <ul style="list-style-type: none"> • The key words used in SBMS are different than what some staff use when searching for requirements. • Investigation of the concern about navigation indicates that <i>many</i> staff members don’t understand the structure and approach (including search/support capabilities) of the tools. • <i>There are examples from incidents and assessments where some staff did not use the appropriate S&H rules (e.g., PPE). In some cases, interpretation of the rules into working documents like CPPs was not adequate.</i> 	
Recent/Expected Changes <ul style="list-style-type: none"> • Improvement of SBMS and IOPS continue to be a priority for the Management Systems responsible for them. • <i>The HDI initiative (next generation SBMS) is expected to improve staff access to safety and health rules.</i> 	Improvement Opportunities <ul style="list-style-type: none"> • <i>Implement HDI to enhance staff access to SBMS requirements.</i> • Continue to work toward improvements in delivery of IOPS work practices <i>and how IOPS enables delivery and use of safety and health rules.</i> • <i>Continue to work toward better staff understanding and adherence to safety and health rules.</i> 		
Conclusion <ul style="list-style-type: none"> • PNNL S&H rules are a model for other laboratories and have been a major factor in Battelle’s selection to manage other national laboratories. The rules are broadly available to staff members and managers and they are consistently implemented. Staff members are involved in the development of new requirements (SBMS subject areas and IOPS). There is room for improvement in both the content and organization of SBMS and IOPS. Accountability after events reinforces staff members’ compliance with S&H rules. Most staff and managers prefer to go to SMEs rather than SBMS to understand applicable S&H rules. Notwithstanding, SBMS and IOPS provide good structure for S&H rules. 	Trend: →	Rating: Good (10)	

Hazard Prevention & Control – Personal Protective

Equipment *This element describes how Personal Protective Equipment (PPE) is used at PNNL to control and mitigate safety and health hazards.*



Strengths

- There is a written program that addresses the elements defined in regulatory requirements for a PPE program.
- *Requirements for availability and use of PPE are defined in SBMS, procedures, pre-job planning, etc..*
- PPE is provided free and readily made available to the users. (Line organizations or projects are responsible for the purchase of PPE.)
- PNNL staff members are aware of the need to inspect PPE and replace it as needed.
- Routine PPE requirements are driven by training, permits, and postings based on analysis of the hazards of the activity.
- Specific PPE training programs (e.g., fall protection, electrical, respiratory, and hearing protection) are provided as required.
- Permits and training identify the correct PPE to be used for potentially hazardous situations. JPPs and the POD emphasize the use of PPE when required.
- PNNL staff members report that use of PPE at work has made them more likely to use appropriate PPE at home.
- Staff report that workers are helping each other recognize PPE issues (e.g., forgetting to put it on or use it correctly).
- Use of PPE by student workers *and contractors* is improving.
- *FO&ED is providing PPE clothing for electrical workers.*

Weaknesses

- Some staff have been observed leaving hazardous material laboratories with gloves on (begging the question about how we know if the gloves are clean).
- While subcontractor performance in general has improved, vendors are sometimes observed not wearing PPE when required.
- *The use of PPE is not consistent across the Laboratory. Several instances of staff and contractors not using appropriate PPE were observed during the On-Site Review.*
- *Requirement for use of PPE (e.g., eye protection) in areas where there is no hazard causes confusion and frustration with staff.*

Recent/Expected Changes

- *The types and availability of PPE has improved and increased in FO&ED in recent years.*

Improvement Opportunities

- *Improve consistency of implementation and enforcement of PPE requirements (e.g., space vs. activity-based requirements for eye protection, analysis of hazards to reduce the level of PPE as in the case of arc flash calculation for electrical work, providing more comfortable/multi-function PPE when it would help encourage use).*

Conclusion

Trend: →

Rating: Good (10)

There are good requirements for use of PPE and staff know and *typically* comply with those requirements. There *was* improvement in the PPE program *in the past, but confusion and failure to follow procedures caused the rating to be reduced. Most cases of non-compliance with PPE use did not present a risk to the worker.*

Hazard Prevention & Control – Preventive Maintenance *This element describes how PNNL uses preventive maintenance to keep tools and equipment operating safely.*



Strengths

- There is a formal process for evaluating equipment and systems for developing Preventive Maintenance [procedures] (PMs) based on risk and regulatory requirements. The equipment and systems are evaluated using criteria defined as Category I, II, or III. All Category I and II equipment and systems have written PMs. *Category III items do not have PMs.*
- Written PMs have been implemented for all equipment and systems that have a regulatory requirement for PMs.
- Craft staff members have an opportunity to provide comments and request changes during the PM development process. Craft staff members are encouraged to provide feedback when performing PMs to improve the PM. *Comments are evaluated by the Building Engineer.*
- *PMs that require lock and tag are flagged in Maximo.*
- *Some PMs have been reviewed and updated to include S&H issues and their resolution (e.g., lock and tag, confined space).*

Weaknesses

- The previous decision to abandon 300 Area facilities, which has recently been reversed for some key facilities, will create challenges for the PM program in terms of identifying and catching up on improvement opportunities in those facilities.
- There are instances where structures and equipment are not being maintained to address issues of concern to staff (both in 300 Area as well as in the Richland North Area).
- *Some comments on PMs provided by craft staff are apparently not acted on when appropriate (e.g., PM says “grease bearings” but comment is noted: “bearings are sealed” – however, the next PM cycle the PM has not been corrected).*

Recent/Expected Changes

- The recent decision to remain in key 300 Area facilities will significantly impact the PM program for those facilities. *Some PMs are now being reactivated.*

Improvement Opportunities

- *FO&ED needs to assure that good risk decisions are being made for preventive maintenance (e.g., actions taken on comments made by staff on PMs, decisions about the need for PM where there is no regulatory driver).*
- *FO&ED needs to verify that Building Engineers are taking appropriate action on PM comments.*
- *Decisions about PMs and their justification (e.g., response to comments, PMs being deactivated) need to be better communicated to affected staff.*

Conclusion

There is a formal PM Program implemented that meets the regulatory requirements. The program is based on sound business principles and has a great deal of documentation and rigor to assure that it is performed as intended. *Feedback processes are available, but could be more effectively utilized.*

Trend: →

Rating: Good (10)

Hazard Prevention & Control – Emergency Preparedness *This element describes emergency preparedness programs at PNNL that help keep workers safe in the event of an off-normal event.*



Strengths

- The Emergency Preparedness subject area serves Laboratory needs
- Building Emergency Plans (BEPs) are delivered by the MIT.
- All Building Emergency Response personnel participate in an annual table top emergency drill and critique or are provided personal training.
- Tabletop emergency preparedness exercises are very good and have improved over past practices.
- All occupied facilities participate in one evacuation drill a year.
- PNNL has established teams that can provide technical assistance involving radiological and chemical hazards in the event of an emergency response.
- PNNL relies on several emergency response providers (primarily City of Richland, Hanford Site, and Clallam County). Their area of coverage is well defined and they participate in emergency response drills.
- Homeland security issues are being incorporated into BEPs.
- PNNL has deployed automated external defibrillators (AEDs) and more are being added as needed.
- Avian flu pandemic planning is a best practice.
- Operations center has added emergency response capability (e.g., AEDs in security vehicles, video surveillance cameras, and emergency call stations).
- *Response to emergencies by PNNL staff is very good.*

Weaknesses

- When staff who are on the emergency team in a facility move to a different facility, there is no *administrative* process to replace them.

Recent/Expected Changes

- Additional AEDs continue to be procured as needed.
- *Consolidated information is being provided on emergency badge cards.*
- *There is planning for a campus-wide telephone notification in case of emergency.*
- *Security provides escort to vehicle after dark upon request.*
- *Emergency route maps are now posted in conference rooms.*

Improvement Opportunities

- *Develop a process to routinely notify building emergency team when members are relocated.*
- *Work to improve consistency of placement of AEDs (preferably near the building entrance).*

Conclusion

Trend: ↗

Rating: Good (11)

PNNL has a formal emergency response program that meets the intent of OSHA and contractual agreements. The program is evaluated on a frequency *that assures the program remains robust*. Staff members understand their responsibility in the event of an emergency in their facility. *Emergency response capabilities (e.g., AEDs, emergency call stations, and video surveillance cameras) have been deployed to facilitate better emergency response.*

Hazard Prevention & Control – Radiation Protection Program *This element describes PNNL's programs for protecting workers from radiological hazards.*



Strengths

- There is a strong, rigorous program based on DOE Radiological Control (RadCon).
- Radiological control staff members are well qualified and well trained.
- Focus groups within the RadCon organization facilitate good staff member involvement, concentrating on continuous improvement (e.g., communications, procedures, etc.). The PNNL As Low As Reasonably Achievable (ALARA) safety committee is proactive and well utilized.
- There is a strong and improving culture of RadCon compliance throughout the Laboratory. Staff members understand the need for radiological safety and work well with SMEs.
- Improvements in the RadCon program related to low-risk work have enhanced the credibility of the radiation protection program.
- The Automated Radiological Access Control System (ARACS) and the computerized radiological worksheet has improved perceptions regarding the consistency and ease of use of RadCon requirements.
- The RMT tool is enhancing inventory control of radioactive materials.
- There has been a significant effort to reduce radioactive material inventory and to improve sealed source control.
- ALARA improvements continue to be made (e.g., waste box stands to facilitate faster/easier survey of waste boxes).
- RadWorkerII competency is *randomly* verified in the field.
- Improvements have been made in the ARACS system in terms of log-on and verification of qualification.

Weaknesses

- The RadCon program is quite complex and reportedly confuses some staff members who work with radiological hazards.
- There is still a known issue that RCT procedures do not always align well with SBMS and radiological control procedure (RCP) requirements for users, resulting in the possibility that requirements may not be met due to confusion/conflicting guidance. The RCTs and RadCon management continue to work this issue as problems are identified. *Improvement in this area has been made, but there is reportedly more to do.*

Recent/Expected Changes

- *Two significant radiological events identified improvement opportunities related to radiological control.*

Improvement Opportunities

- Continue working to improve/integrate user requirements in SBMS/RCP with RCT procedures.

Conclusion

Control of radiological hazards at PNNL is considered to be very good. There have been *continuing efforts* to improve *aspects of* the RadCon program during the past year following *two significant radiological events*. Improved *requirements and* compliance with procedures has resulted. Continue to work to improve RadCon procedures by removing conflicting and confusing information between SBMS and RCT procedures to help staff and RCTs better comply with radiological controls.

Trend: →

Rating: Good (10)

Hazard Prevention & Control – Medical Programs *This element describes how medical programs are used at PNNL to address worker health issues.*



Strengths

- *Use of the* Employee Job Task Analysis (EJTA) program *for medical monitoring is a requirement within the PNNL contract with DOE* administered by the site medical provider.
- The “Return to Work” program continues to improve. Bi-weekly case management meetings are conducted with staff members’ managers, ES&H field representatives, Human Resources, and OSHA record keeping.
- The medical monitoring program is conducted by the site medical provider.
- The online MIT has been enhanced to identify specific locations of trained first aid responders, AEDs, and first aid kits within individual facilities. Most first aid responders have “First Aid” signs posted outside their offices.
- The Voluntary Employee Assistance Program continues to be available to support improvement of staff members’ health and well being on and off the job. Many bargaining unit staff members take advantage of past history physicals.
- The development of a new process for “new-hire” medical examinations has improved. The process is expected to enhance the initiation of the EJTA process to reduce the likelihood that new staff members will work for extended periods of time without the completion of an EJTA or the appropriate medical exam.
- S&H professionals have been very proactive in addressing ergonomic issues.
- PNNL VPP sponsors blood pressure monitors, which are used by numerous staff.
- PNNL VPP has promoted wellness through various initiatives (e.g., Spring Wellness Challenge wellness vendor fair and the procurement of a stretch machine onsite).
- Battelle Staff Association promotes wellness by offering exercise classes (e.g., yoga, tai chi, pilates, etc.) onsite in the Battelle Fitness Center.
- AMH reviews and participates in wellness and health communications and programs at PNNL.

Weaknesses

- *Use of EJTA in many PNNL organizations does not meet expectations for employee involvement (or the stated requirements for review and approval).*
- *Some bargaining unit staff believe there are inconsistencies in how management assigns potentially Be-sensitized individuals.*

Recent/Expected Changes

- An innovative wellness program continued this year by the VPP Steering Committee in partnership with Advanced Med Hanford.

Improvement Opportunities

- Continue to work to strengthen the wellness program with resources and incentives.
- Improve EJTA compliance.

Conclusion

Trend: →

Rating: Good (11)

The medical program continues to be strong under the new medical contractor. *Partnership has been established to promote worker wellness and health. AMH is actively involved in preventing/reducing the impact of on-the-job injuries.*

Hazard Prevention & Control – Occupational Safety & Health Programs

This element provides a detailed description of PNNL occupational safety and health programs (primarily in the context of SBMS).



Strengths

- SBMS continues to deliver strong, well-documented programs and it is undergoing continuous improvement to address usability concerns.
- SMEs and users continue to formally review SBMS subject areas and identify areas of improvement.
- Field deployed SMEs help with the communication and interpretation of S&H programs.
- PNNL continues to seek expert guidance for the assessment of ES&H programs.
- IOPS is enhancing the flow of ES&H requirements down to the bench top. Staff members are not as likely to rely on past experience/ knowledge when requirements are more easily identifiable and accessible.

Weaknesses

- The structure of SBMS is considered by staff to be complex and difficult to navigate.
- *User involvement in SBMS has been decreasing over several years*

Recent/Expected Changes

- Continuing improvement in SBMS structure and navigation.
- Programs continue to be improved including ergonomics, electrical safety, construction safety, subcontractor safety, *pressure systems*.
- *The HDI initiative is expected to enhance the delivery of occupational S&H programs.*

Improvement Opportunities

- Continue to work to make SBMS more accessible and easy to use.
- *Continue to work toward* improvement in delivery of requirements through IOPS WPDs.
- *Work to gain greater involvement by users in the development of SBMS subject areas and the HDI initiative.*

Conclusion

Trend: →

Rating: Good (11)

PNNL occupational S&H programs continue to be a model for other laboratories throughout the DOE community. Benchmarking *by other sites*, self-assessment, expert guidance, SBMS continual improvement, and initiatives *like HDI* continue to reflect PNNL's goal of continuous improvement.

Tenet: *Safety & Health Training*

SUMMARY

TENET/ELEMENT	ASSESSMENT SUMMARY
Safety & Health Training	
Employees	Good (10)
Supervisors Managers	Good (10)

TENET RATING

TENET	ASSESSMENT SUMMARY
Safety & Health Training	Good (10)

SYNOPSIS

Note: PNNL’s management approach makes little distinction between managers and supervisors. For that reason, the evaluation of those two elements is combined.

S&H training is very good in terms of scope, coverage, timeliness, and quality. *Staff overwhelmingly believe they get good training (91%) that is relevant to their job (94%) and they are knowledgeable of S&H requirements (98%).* The training of supervisors and managers in topics related to worker S&H has recently been improved. First-line managers (supervisors), in particular, have benefited from improved knowledge of their responsibilities and technical aspects of safety, as well as the skills necessary to successfully support and empower staff members. The excellent support network provided to managers by professional S&H staff members supplements their ability to implement an effective safety program. *The Enterprise Learning organization (previously known as Training and Qualification) continues to explore new and innovative training delivery and assurance mechanisms. The recent Manager Safety Operations and Security training is a good example of delivering a powerful, focused message.*

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Safety & Health Training – Employees *This element describes how employees are provided with the safety and health training they need for their work.*



Strengths

- A well-established ES&H Enterprise Learning Program is implemented through SBMS subject areas, facilitating the flow of information from ES&H to the worksite and laboratory bench.
- Most staff members feel they receive adequate hazard training.
- The Job Evaluation Training System (JETS) is a useful tool to provide a graded approach to implementation of safety and health training.
- On-line site orientation and room-specific training expedites S&H readiness of visitors, vendors, new hires, and all other non-staff members.
- Informal safety communications like safety meetings and Porcelain Press are helpful in improving staff knowledge and awareness of safety issues.
- The change to eliminate low value required reading for access to IOPS workspaces for maintenance and RadCon staff was a significant improvement.
- Changes in required reading assignments (e.g., IOPS WPDs) are clearly highlighted
- *There is a qualification process for instructors.*
- *Several innovative employee training approaches were implemented, such as the safe driving course, use of Flash and interactive media in web training courses.*
- *Almost all staff (94%) believe the S& training they receive is appropriate for their job.*

Weaknesses

- IOPS reading assignment completion is not verified in any effective way.
- Staff reported that better mentoring is needed after initial training to achieve full qualification to perform some kinds of work.
- More focus is needed on effectiveness of training.

Recent/Expected Changes

- Enterprise Learning continues to improve training delivery in response to staff member comments.
- 10CFR851 *was addressed in training for all* employees.
- Streamlining IOPS required reading process for maintenance workers. Training CSMS related to hazard identification and analysis.
- Changes to electrical safety training are *being implemented*.

Improvement Opportunities

- Continue working to improve the delivery and relevance of safety training. Consider using different/creative approaches (venue, delivery methods, web-based methods, content) for effective and cost-effective training.
- *Consider implementing more mentoring to support staff qualification (e.g., for special lab activities).*

Conclusion

Trend: ↗

Rating: Good (10)

S&H training processes for PNNL staff members and onsite non-staff members are well-established, well-received, and continuously improving. IOPS provides a formal process for identifying staff member training needs based on their interaction with hazards, which is now integrated with the service request system. Delivery of training in a way appropriate for the learning styles of staff and the risk associated with the training material *is a known improvement opportunity that is being addressed.*

Safety & Health Training – Supervisors/Managers *This element describes the safety and health training supervisors and managers receive to help them perform their job and keep their workers safe.*



Strengths

- JETS provides managers with an annual review of required training.
- Supervisors and managers have access to SMEs. SMEs are aligned with core teams and facilities. This has allowed immediate response to S&H issues.
- Managers are knowledgeable, particularly managers of higher risk work.
- The Facility Management qualification card system provides good verification that basic technical skills are learned by key roles.
- Immediate managers receive annual safety, operations, and security refresher training.

Weaknesses

- New managers may not always be well qualified to provide appropriate safety leadership. This applies to safety leadership and/or understanding of safety requirements applicable to an organization’s staff.
- There is considerable variability in the knowledge and skills of managers across the Laboratory regarding *safety leadership*.

Recent/Expected Changes

- *Manager Safety, Operations, and Security refresher was substantially improved this year to increase impact and deliver a clear, succinct message.*
- *STOP training for FO&ED managers and RadCon managers has resulted in improved performance and staff behavior.*
- *All FO&ED managers (and staff) have been trained in HPI.*

Improvement Opportunities

- *Continue to work to improve the knowledge and skills of safety leadership for managers across the Laboratory.*
- *Consider training managers in Human Performance Improvement to help them understand development of safety culture.*

Conclusion

S&H training for managers *is improving*. Most managers *are* well qualified and knowledgeable, and they have excellent operational support services available, including field deployed S&H staff members. *Managers need to continue to develop their safety leadership skills and increase their knowledge of PNNL systems and tools.*

Trend: ↗

Rating: Good (10)

End of Report



Voluntary Protection Program
Pacific Northwest National Laboratory

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EVALUATION**
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