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*Pacific Northwest  
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**Voluntary Protection  
Program**  **Protection**

**Pacific Northwest National Laboratory**  
**PNNL**

**U.S. Department of Energy**  
**Voluntary Protection Program**  
**DOE-VPP**

**FY-2005 Program Evaluation**

January 2005

<http://www.pnl.gov/vpp/documents/vpppe2005.pdf>

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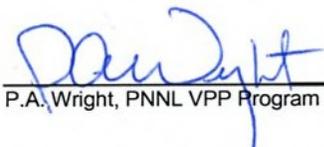
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# Voluntary Protection Program

## FY-2005 PNNL DOE-VPP Program Evaluation

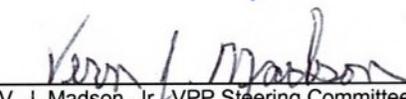
January 2005

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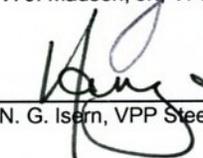


P.A. Wright, PNNL VPP Program Evaluation Team Lead

Approved by:



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

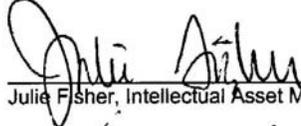
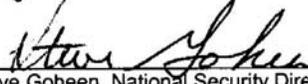
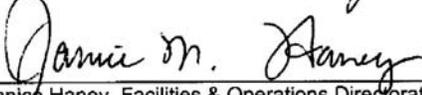
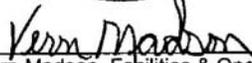
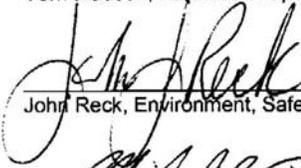
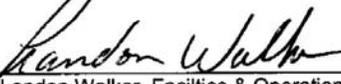


N. G. Isern, VPP Steering Committee R&D Co-Chair

## PNNL VPP Program Evaluation Team Signatures

The FY2005 PNNL VPP Program Evaluation Team is a group of Battelle staff members from across the Laboratory who represent the PNNL VPP Steering Committee. The team 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, site walkthroughs, document reviews, and review of previous issues and actions. A DOE observer also participated in the process and review of this report, but did not influence findings and conclusions.

### Signatures

	1-31-05
Drue Collins, Environment, Safety, Health & Quality Directorate	date
	1-28-05
Julie Fisher, Intellectual Asset Management Directorate	date
	1-31-05
Steve Goheen, National Security Directorate	date
	1-28-05
Sue Gulley, Environmental Technology Directorate	date
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Janice Haney, Facilities & Operations Directorate	date
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Nancy Serr, Fundamental Sciences Directorate	date
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Vern Madson, Facilities & Operations Directorate	date
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John Reck, Environment, Safety, Health & Quality Directorate	date
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Mike Tinker, Environmental Technology Division	date
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Landon Walker, Facilities & Operations Directorate	date
	1/26/05
Pat Wright, Environment, Safety, Health & Quality Directorate	date
	1/26/05
Cliff Wynn, Facilities & Operations Directorate	date

## PNNL FY 2005 DOE-VPP Program Evaluation Table of Contents

Signatures .....	i
Acronyms .....	iv
Executive Summary .....	1
Approach .....	3
Program Evaluation Summary .....	6
Tenet/Element Ratings & Trends .....	8
Injury and Illness Performance .....	9
Outreach .....	11
Status of Issues from Previous VPP Program Evaluations .....	12
The Value of VPP at PNNL .....	14
Issues for Improvement .....	15

### Datasheets

General Information .....	Datasheet - 1
Assurance of Commitment .....	Datasheet - 2
<b><u>Management Leadership</u></b> .....	<b>Datasheet - 3</b>
Commitment .....	Datasheet - 5
Organization .....	Datasheet - 6
Responsibility .....	Datasheet - 7
Accountability .....	Datasheet - 8
Resources .....	Datasheet - 9
Planning .....	Datasheet - 10
Contract Workers .....	Datasheet - 11
Program Evaluation .....	Datasheet - 12
Site Orientation .....	Datasheet - 13
Employee Notification .....	Datasheet - 14
<b><u>Employee Involvement</u></b> .....	<b>Datasheet - 15</b>
Degree and Manner of Involvement .....	Datasheet - 17
Safety Committees .....	Datasheet - 18
<b><u>Worksite Analysis</u></b> .....	<b>Datasheet - 19</b>
Pre-Use/Pre-Startup Analysis .....	Datasheet - 21
Comprehensive Surveys .....	Datasheet - 22
Self-Inspections .....	Datasheet - 23
Routine Hazard Analysis .....	Datasheet - 24
Employee Reporting of Hazards .....	Datasheet - 25
Accident Investigations .....	Datasheet - 26
Trend Analysis .....	Datasheet - 27
<b><u>Hazard Prevention &amp; Control</u></b> .....	<b>Datasheet - 29</b>
Professional Expertise .....	Datasheet - 31
Safety & Health Rules .....	Datasheet - 32
Personal Protective Equipment .....	Datasheet - 33
Preventive Maintenance .....	Datasheet - 34
Emergency Preparedness .....	Datasheet - 35
Radiation Protection Program .....	Datasheet - 36
Medical Programs .....	Datasheet - 37
Occupational Safety & Health Programs .....	Datasheet - 38
<b><u>Safety &amp; Health Training</u></b> .....	<b>Datasheet - 39</b>
Employees .....	Datasheet - 41
Managers & Supervisors .....	Datasheet - 42

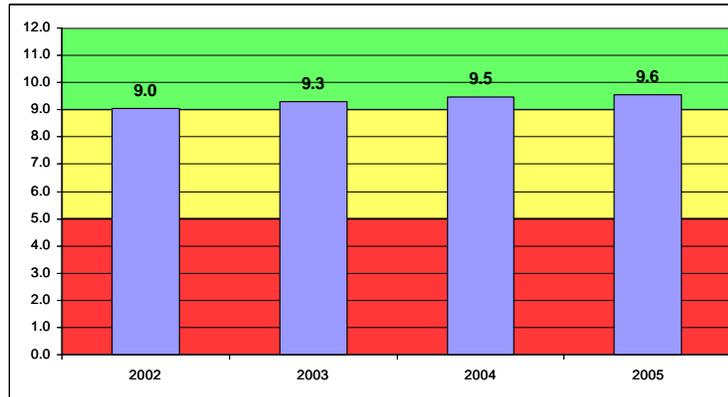
**ACRONYMS**

AED	Automated External Defibrillators
ALARA	As Low As Reasonably Achievable
ARACS	Automated Radiological Access Control System
ATS	Assessment Tracking System
BEP	Building Emergency Plan
BLS	Bureau of Labor Statistics
CAMP	Capital Asset Management Program
CMS	Chemical Management System
CSM	Cognizant Space Managers
CSP	Certified Safety Professional
CY	Calendar Year
DART	Days Away and Restricted Time
DEAR	Department of Energy Acquisition Regulation
DOE	Department of Energy
DOE-HQ	DOE - Headquarters
DOE-OA	DOE - Office of Independent Oversight and Performance Assurance
EJTA	Employee Job Task Analysis
EMSL	Environmental and Molecular Sciences Laboratory
EPR	Electronic Preparation and Risk System
ES&H	Environmental Safety and Health
ESH&Q	Environment, Safety, Health and Quality
F&O	Facilities and Operations
FY	Fiscal Year
HAMTC	Hanford Atomic & Metal Trades Council
IO	Independent Oversight
IOPS	Integrated Operation System
ISM	Integrated Safety Management
ISO	International Standards Organization
JETS	Job Evaluation Training System
MIT	Map Information Tool
NRC	Nuclear Regulatory Commission
OSHA	Occupational Safety and Health Administration
PE	Professional Engineer
PNNL	Pacific Northwest National Laboratory
PNSO	Pacific Northwest Site Office (DOE)
POC	Point of Contact
PPE	Personal Protective Equipment
R&D	Research and Development
R2A2	Roles, Responsibilities, Accountabilities, and Authorities
RPL	Radiochemical Processing Laboratory
S&H	Safety and Health
SC	Office of Science (DOE)
SBMS	Standards Based Management System
SDR	Staff Development Review
SHIMS	Safety and Health Information Management System
SIC	Standard Industrial Classification
SME	Subject Matter Expert
SOPs	Standard Operating Procedure
T&Q	Training and Qualification
VPP	Voluntary Protection Program
VPPPA	VPP Participants Association
WET	Worker Eligibility & Training system
WISHA	Washington Industrial Safety and Health Administration
WS&H	Worker Safety & Health

## PNNL FY 2005 DOE-VPP Program Evaluation

### Executive Summary

The Pacific Northwest National Laboratory (PNNL) Voluntary Protection Program (VPP) Steering Committee completed the FY 2005 VPP Program Evaluation in January 2005. The evaluation indicates ongoing improvement in the already excellent worker safety and health programs at PNNL. The overall VPP Program Evaluation rating this year was 9.6 on a scale of 0-12, an improvement of 0.1 over last year. The trend of ratings over the past four years is indicated in the chart below.



**TREND IN OVERALL VPP PROGRAM EVALUATION RATING**

The VPP quest for continuous improvement means that past successes build the foundation for future efforts. Although there continue to be improvement opportunities in the development and implementation of some program elements, all of the basic tenets of VPP are firmly in place at PNNL, and the elements under each tenet are, in general, well developed and implemented.

Progress is being made on opportunities for improvement identified in previous VPP Program Evaluations; however, as our safety systems and processes mature, PNNL is seeking further improvements that will advance us toward a world-class safety culture. The issues identified by the VPP Program Evaluation this year are consistent with and build upon previously identified issues. The primary areas of improvement indicated by this Program Evaluation relate to the following topical areas:

- Management Leadership
- Safety Culture
- Communication of Requirements
- Safety Committee Participation
- Contract Workers.

The VPP Steering Committee will work with PNNL senior management to incorporate actions into PNNL's Safety Performance Improvement Plan to further address these issues.

**FY04 DOE-VPP 3-year On-Site Review  
and Recertification of PNNL VPP STAR Status**

The DOE-EH Office of Corporate Assurance led a review of PNNL’s VPP program during the summer of 2004 to determine whether PNNL should retain DOE-VPP STAR status. The following are excerpts from the final report of that evaluation.

*“The DOE-VPP onsite review of the Pacific Northwest National Laboratory (PNNL) for recertification was conducted from August 16-19, 2004 at Richland, WA. Noteworthy during the past year was a congressionally directed OSHA inspection. From September 18-29, 2003, twenty-one OSHA inspectors conducted a compliance inspection at PNNL. In addition to the 490 initial issues that were identified, this inspection praised PNNL for its exceptional biological laboratories, and their excellent Medical, Radiological Control, Personnel Protective Equipment, Respiratory Protection, and Lock-Out-Tag-Out programs.*

*The Review team (Team) found these OSHA-related issues and associated corrective measures taken by PNNL demonstrate the STAR quality of performance resident at PNNL.”*

In addition, the DOE review team reported:

- *“The Team found high degree management commitment to safety and health (S&H).”*
- *“Employees are passionate about work, their company, and their coworkers. They are mature, well seasoned, well-qualified and competent. They are aware of their job hazards and how these hazards are mitigated.”*
- *“The worksite analysis processes are structured and implemented to control hazards to the workers, the environment, and the public.”*
- *“PNNL continues to satisfy the safety and health training requirements. Training is comprehensive. It addresses all types of managers, workers and subcontractors.”*

***“The Team concludes that PNNL has satisfied the requirements for participation in DOE-VPP, and recommends that DOE approve the recertification to STAR.”***

The seven improvement opportunities identified in the DOE-VPP On-Site Review report are being addressed and will be tracked to closure using the PNNL Assessment Tracking System (ATS).

The PNNL VPP Program Evaluation team utilized the DOE-VPP On-Site Review report to provide significant input to this FY05 Program Evaluation. The conclusions of this report verify and support the results of the DOE-VPP On-Site Review.

**Comparison of results: DOE-VPP On-Site Review & PNNL Program Evaluation**

PNNL VPP Program Evaluation Issues:	Management Leadership	Safety Culture	Communication of Requirements	Safety Committee Participation	Contract Workers
<b>DOE-VPP Areas for Improvement</b>					
1. Continuous improvement in delivery of requirements and work performance	x	x	x		
2. Workload on Safety & Health staff	x		x		
3. Streamline electronic tools (SBMS and IOPS)			x		
4. Streamline RadCon procedures			x		
5. Improve communications particularly those related to VPP			x	x	
6. Evaluate use of "green" chemicals with regard to impact on other hazards (e.g., ergonomics)	x	x			
7. Assess PPE for specialized work (such as field work)	x	x	x		

### PNNL VPP Program Evaluation Approach

A team of evaluators representing staff members involved with PNNL's VPP Steering Committee, including safety professionals from the Environment, Safety, Health, and Quality (ESH&Q) Directorate, assessed PNNL's programs and performance with respect to DOE-VPP criteria.

The overall performance of PNNL's program implementation for each element and its trend (e.g.; improving, declining) was rated using the scales in the tables below and to the right. The "rating" (below) describes the current status of the program, and the "trend" (right) describes whether the program element is judged to be going the "right direction" (↗), stable (→), or not going the right direction (↘).

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:

RATING
Good
Adequate
Improvement Required (IR)

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%			

Criteria have been developed based on work done by the Hanford VPP Champions group to define characteristics for each rating range and each VPP element.

The FY05 PNNL VPP Program Evaluation team included the following members who represented the PNNL VPP Steering Committee:

**Team Members**

Drue Collins  
Julie Fisher  
Steve Goheen  
Sue Gulley  
Janice Haney  
Nancy Isern

Vern Madson  
Ted Pietrok (DOE-PNSO observer)  
John Reck  
Mike Tinker  
Landon Walker  
Pat Wright, Team Lead  
Cliff Wynn

This Program Evaluation report contains a summary of results and a data sheet for each element of each VPP tenet. The data sheets contain the

strengths, weaknesses, recent/anticipated changes that will affect each element, and a rating for each element as described above. Recommendations for continuous improvement are provided in the data sheets of each element. The results of the employee survey conducted from late December 2004 through January 2005 were used to validate the conclusions of the self-assessment. The survey results can be found at <http://www.pnl.gov/vpp/survey.htm>.

Evaluation of the tenets and elements was based on a review of VPP documentation including the “VPP Program Description,” previous Program Evaluations, interviews with staff members using questions based on the DOE-VPP “On-Site Review Guidelines,” walkthroughs of PNNL-controlled work locations, and a review of PNNL documentation. Interviews were conducted with a significant number of PNNL workers, including individual staff members (scientists/engineers, crafts/bargaining unit staff members, technical support staff members, administrative staff members), managers, safety and health support staff members, and subcontractor workers. A table is provided below indicating the number of interviews and facility walkthroughs conducted as part of the VPP Program Evaluation this year.

<b>Bargaining Unit</b>	<b>30</b>		
<b>Scientists</b>	<b>22</b>		
<b>Administrative Support Staff</b>	<b>5</b>		
<b>Managers</b>	<b>13</b>		
<b>Safety &amp; Health Reps</b>	<b>6</b>		
<b>TOTAL Staff Interviewed</b>	<b>76</b>		
<hr/>			
<b>Facilities Toured</b>	<b>15</b>	318	EMSL
		320	ETB
		326	LSB
		329	LSL
		336	PSL
		2400STV	ROB
		350 shops	RPL
			RTL

An electronic survey of all PNNL staff members (more than 3900) was conducted and responses from more than 1574 respondents (39%) also provided insight into the status of PNNL’s safety program with respect to VPP criteria. This response was one of the best among recent PNNL all-staff surveys, and higher than previous VPP program evaluation surveys. The survey was also used this year as a vehicle to solicit safety improvement suggestions from staff. All suggestions that meet the pre-determined criteria will be entered into a drawing for valuable prizes. Results of the survey and the suggestion contest can be viewed at <http://www.pnl.gov/vpp/survey.htm> (specific staff suggestions are posted on an internal webpage, behind PNNL’s firewall).

A number of other significant assessment results were received by PNNL in the past year, including:

- The final report from DOE OA-50 for the Integrated Safety Management Evaluation (ISME)
- The 3-year On-Site Review of PNNL's Voluntary Protection Program by DOE-VPP to recertify STAR status
- An annual review of PNNL's Environmental Management System by an independent ISO 14001 registrar
- The Class B investigation of a serious injury resulting from use of a utility cart by a PNNL craft worker.
- A special on-site evaluation by Bruce Madsen of High Tech Sports Therapy Associates, Inc. targeted craft groups with high incidence of soft tissue injuries, providing recommendations for staff, workflow, and management issues related to those groups.

Staff members performing this VPP Program Evaluation studied the results of those assessments and incorporated them into the evaluation. The conclusions of this VPP Program Evaluation are generally consistent with those assessments.

The Program Evaluation was intended to identify the current status of PNNL's programs with respect to the tenets/elements of VPP; changes that are needed to keep the "VPP Program Description" current and descriptive; and the strengths, weaknesses, and improvement opportunities that exist in PNNL's program.

A "report card" showing the rating of each element and tenet along with the trend of each is given in Exhibit 1. An additional requirement to maintain VPP STAR status is to have three-year injury and illness rates better than industry averages. The current injury and illness rates for PNNL are given in Exhibit 2 and described in more detail in the section that follows it.

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 DOE-VPP Program Evaluation Rating and Summary for FY 2005 (see following pages). Five issues identified by this Program Evaluation have been judged to have the potential for significant impact on PNNL's DOE-VPP status and safety culture and will be entered as conditions into the Assessment Tracking System (ATS) for action.

This report is based on previous VPP Program Evaluation reports. Although there have been changes in some PNNL safety-related programs, many aspects of operations remain similar to previous VPP Program Evaluations. For that reason, there are strong similarities between this report and previous reports.

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**PROGRAM EVALUATION  
SUMMARY**

<b>RATING</b>	<b>TREND</b>
<b>Good (9.6)</b>	<b>↗</b>

PNNL has excellent safety programs and is continuously improving implementation of programs that conform to VPP safety and health criteria. PNNL consistently gets high marks from DOE for operational performance, which is a major contributor to PNNL’s string of “Outstanding” ratings. DOE-VPP’s recognition of PNNL as a STAR site is another indication that PNNL has very good worker safety and health performance. In FY2004 DOE OA-50 conducted an Integrated Safety Management (ISM) Evaluation that confirmed PNNL’s continuing adherence to the guiding principles and effective implementation of core functions of ISM. Although most staff members may not be able to speak to the specifics of VPP, they are aware of the impact of the tenets and elements of VPP in their day-to-day work.

There continue to be improvement opportunities related to the maturity and implementation of certain safety program elements. DOE-PNSO’s performance evaluations of PNNL have identified that continuous improvement in safety and health performance is needed and the DOE OA-50 report identified several findings related to corrective actions needed to improve ES&H programs. 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 that is focused on continuous improvement.

The general health of each of the VPP Tenets is indicated in the scores below:

<b>TENET/ELEMENT (Weight)</b>	<b>FY05 RATING (Score)</b>
<b>Management Leadership (18%)</b>	<b>Good (9.6)</b>
<b>Employee Involvement (18%)</b>	<b>Adequate (8)</b>
<b>Worksite Analysis (18%)</b>	<b>Good (9.6)</b>
<b>Hazard Prevention &amp; Control (18%)</b>	<b>Good (10.5)</b>
<b>Safety &amp; Health Training (18%)</b>	<b>Good (9)</b>

While PNNL generally has excellent worker safety and health programs and while implementation of those programs by PNNL managers and staff is typically very good, improvement is still needed to to enable PNNL to advance toward a world class safety culture. The FY05 VPP Program Evaluation again highlighted issues associated with safety culture among both staff and managers. This is consistent with the issues identified in the FY04 VPP Program Evaluation. PNNL continues to work toward a culture that consistently promotes rigorous hazard identification, high quality risk analysis, and diligent prevention/control/mitigation of hazards. A research organization by its very nature is constantly pushing the boundaries of science, which means that researchers must constantly assess and mitigate

new types of risk. Many of our staff and managers are scientists, so they are pragmatic and skeptical in their interpretation of concepts like "all," "never," and "zero." PNNL needs to continue to work with staff and managers (particularly middle and first-line managers) to recognize that all hazards and risks in their work need to be clearly and consistently controlled in accordance with Lab-level requirements. Similarly, some immediate managers have not been consistent and credible in their communication/ education/ reinforcement of the safety principles that PNNL senior managers have adopted. Management response to negative events is sometimes extreme, and has at times been perceived by staff and their immediate managers at the working level to be excessive and of low value. More importantly, we do not always react positively and visibly to successes, and our middle and senior managers are rarely out in the field talking about safety when things are going well.

In summary, our culture is not yet at the level of world-class safety, even though we have strong senior management commitment and excellent safety processes and systems. Our efforts to communicate safety have been punctuated by negative-events, and many of our staff and managers continue to rely on "common sense" rather than diligent implementation of systematic safety processes. We need to focus on a positive, consistent, believable message from the top of the organization to all staff; diligent and effective use of our excellent safety processes and systems; and appropriate responses to events in order to avoid impacting our staff and first-level managers with over-reaction to minor events, which damages the credibility of our safety approach (even though we cannot control the reaction of outsiders).

Improvement in these areas will allow PNNL to achieve the goal of world class safety performance, with a dynamic commitment to continuously bettering our safety culture.

Exhibit 1

**PNNL DOE-VPP PROGRAM EVALUATION  
TENET/ELEMENT RATINGS & TRENDS – FY 2005**

TENET/ELEMENT (Weight)	FY05 RATING (Score)	2004	2003	2002	FY05 Trend	2004	2003	2002
<b>General Information (3%)</b>	<b>Good (12)</b>	12	12	12	→	→	↗	↗
<b>Assurance of Commitment (7%)</b>	<b>Good (11)</b>	11	10	10	→	→	→	→
<b>Management Leadership (18%)</b>	<b>Good (9.6)</b>	9.6	9.6	9.4	→	→	↗	↗
Commitment	Good (11)	11	11	11	→	→	↗	↗
Organization	Good (10)	10	10	10	→	→	→	→
Responsibility	Good (10)	10	10	10	→	→	↗	↗
Accountability	Good (9)	9	9	9	→	→	→	→
Resources	Good (10)	10	10	10	↗	→	→	→
Planning	Good (10)	10	10	10	→	→	↗	↗
Contract Workers	Adequate (8)	8	8	7	→	→	↗	→
Program Evaluation	Good (11)	11	11	11	→	→	↗	↗
Site Orientation	Good (9)	9	9	9	→	→	↗	↗
Employee Notification	Adequate (8)	8	8	7	↗	→	↗	↗
<b>Employee Involvement (18%)</b>	<b>Adequate (8)</b>	8	7.5	6.5	↗	↗	↗	→
Degree and Manner of Involvement	Adequate (8)	8	8	7	↗	↗	↗	→
Safety Committees	Adequate (8)	8	7	6	↗	↗	↗	→
<b>Worksite Analysis (18%)</b>	<b>Good (9.6)</b>	9.4	9.3	9	↗	↗	↗	↗
Pre-Use/Pre-Startup Analysis	Good (10)	10	10	10	→	↗	↗	↗
Comprehensive Surveys	Good (10)	10	10	10	→	↗	↗	↗
Self-Inspections	Good (10)	10	10	10	→	→	→	→
Routine Hazard Analysis	Good (10)	10	10	10	↗	↗	↗	↗
Employee Reporting of Hazards	Good (9)	9	8	7	→	↗	↗	↗
Accident Investigations	Good (9)	9	9	9	↗	↗	↗	→
Trend Analysis <sup>improved!</sup>	Good (9)	8	8	7	↗	↗	↗	→
<b>Hazard Prevention &amp; Control (18%)</b>	<b>Good (10.5)</b>	10.4	10.4	10.4	→	↗	↗	↗
Professional Expertise	Good (10)	10	10	10	→	→	↗	→
Safety & Health Rules	Good (10)	10	10	10	→	→	↗	↗
<b>Personal Protective Equipment</b> <sup>improved!</sup>	Good (10)	9	9	9	↗	↗	↗	→
Preventive Maintenance	Good (10)	10	10	10	→	↗	→	→
Emergency Preparedness	Good (11)	11	11	11	→	→	→	→
Radiation Protection Program	Good (10)	10	10	10	→	→	↗	↗
Medical Programs	Good (11)	11	11	11	→	→	↗	↗
Occupational Safety & Health Programs	Good (12)	12	12	12	→	→	↗	↗
<b>Safety &amp; Health Training (18%)</b>	<b>Good (9)</b>	9	9	9	↗	↗	↗	↗
Employees	Good (10)	10	10	10	→	→	→	→
Supervisors	Adequate (8)	8	8	8	↗	↗	↗	↗
Managers								

Exhibit 2

<b>Three-year Occupational Injury and Illness Data</b>					
<b>PNNL Employees (Only)</b>					
Calendar Year	Hours Worked	Total # Recordable Cases	Total Recordable Case Incidence Rate	# of Cases w/ Days Away or Restricted Time	Days Away & Restricted Time (DART) rate
2002	6,619,796	64	1.9	33	1.0
2003	6,720,830	57	1.7	38	1.1
2004	6,908,727	34	1.0	15	0.4
<b>2002-2004</b>	<b>20,249,353</b> <i>Total hours</i>	<b>155</b> <i>Total cases</i>	<b>1.5</b> <i>3-yr Average</i>	<b>86</b> <i>Total cases</i>	<b>0.8</b> <i>3-yr Average</i>
<b>PNNL Subcontractors (Only)</b>					
Calendar Year	Hours Worked	Total # Recordable Cases	Total Recordable Case Incidence Rate	# of Cases w/ Days Away or Restricted Time	Days Away & Restricted Time (DART) rate
2002	106,204	6	11.3	5	9.4
2003	82,969	2	4.8	0	0.0
2004	48,491	0	0	0	0
<b>2002-2004</b>	<b>237,664</b> <i>Total hours</i>	<b>8</b> <i>Total cases</i>	<b>6.7</b> <i>3-yr Average</i>	<b>5</b> <i>Total cases</i>	<b>4.2</b> <i>3-yr Average</i>
<b>PNNL TOTAL (including subcontractors)</b>					
Calendar Year	Hours Worked	Total # Recordable Cases	Total Recordable Case Incidence Rate	# of Cases w/ Days Away or Restricted Time	Days Away & Restricted Time (DART) rate
2002	6,726,000	70	2.1	38	1.1
2003	6,803,799	59	1.7	38	1.1
2004	6,957,218	34	1.0	15	0.4
<b>2002-2004</b>	<b>20,487,017</b> <i>Total hours</i>	<b>163</b> <i>Total cases</i>	<b>1.6</b> <i>3-yr Average</i>	<b>91</b> <i>Total cases</i>	<b>0.9</b> <i>3-yr Average</i>
CY2003 BLS rates for NAICS 5417 "Scientific research and development services"*			1.5	0.6	
CY2002 BLS rates for SIC 873 "Research development and testing"*			2.3	1.0	

## INJURY AND ILLNESS PERFORMANCE

PNNL injury and illness performance in 2004 continued to be very good compared to industry averages. PNNL and PNNL’s VPP encourage reporting of all injuries and illnesses, no matter how minor. It is important to note that, while PNNL is seeing a decrease Total Recordable Case (TRC) rate and Days Away, Restricted, or Transferred (DART) rate, the total number of first aid cases is holding steady, indicating that 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 and trends, and prevent recurrence.

In the past, PNNL compared its safety and health performance to others in the industry known as Standard Industrial Code (SIC) #873 “Research development and testing services” for large employers (greater than 1000 staff members). This year (CY-2004) the BLS converted to using a different classification scheme known as North American Industry Classification System (NAICS). The new designation for the industry PNNL best fits into is NAICS 5417 “Scientific research and development services.” That industry classification has considerably better performance than the old SIC 873, as indicated in the table below.

<u>CY</u>	<u>SIC</u>		<u>TRC</u>	<u>DART</u>	
2002	873	Research development and testing	2.3	1.6	>1000 employees
2003	5417	Scientific research and development services	1.5	0.6	>1000 employees

PNNL three-year average rates are 1.6 for TRC and 0.9 for DART.

Another change that occurred recently involved a modification of the criteria that VPP uses to evaluate STAR sites injury and illness performance. On December 8, 2003 in 68 Federal Register 68475-68479 OSHA approved the following changes to the Star Rate Requirement – “the experience of the most recent three calendar years must be below at least 1 of the 3 most recent years of specific industry national averages for nonfatal injuries and illnesses (at the most precise level available, either three or four digits) published by the Bureau of Labor Statistics (BLS).” Those rates must include all staff members covered by the program, as well as subcontractors.

PNNL safety and health performance in 2004 was better than the new industry classification (NAICS 5417) published by BLS for 2003. While PNNL three year average safety and health performance is not yet better than this new standard, the rates show considerable improvement in the past year. To meet VPP Star Rate Requirements the three year average safety and health performance needs to be below “at least 1 of the 3 most recent years of specific industry national averages.” PNNL three year average safety and health performance is better than the rates for the research and development industry (SIC 873) published by BLS in 2002. Thus, PNNL safety and health performance continues to exceed the DOE-VPP STAR performance requirements.

## OUTREACH

The VPP Steering Committee at PNNL continued to have strong outreach activities this year.

### **Webstats**

The PNNL VPP website has become a source of significant outreach activity. Some highlights of CY2004 outreach (the performance period for this FY05 Program Evaluation) include:

- PREVENT <http://prevent.pnl.gov/> site (internal) launched July 28, 2004 with 1,038 "unique visits" for the month (all staff message from Len Peters, second from Don Boyd)
- PNSO staff granted access to PREVENT site
- PREVENT articles featured within Best Practices/Lessons Learned section of SBMS <https://sbms.pnl.gov/lessons/1100t050.htm> and at year-end have released 16 articles
- Some non-PNNL domains hosting a significant number of visits to PNNL VPP website site:
  - Hanford
  - Fernald Federal Services
  - Monsanto
  - Conoco/ConocoPhillips
- Many countries visit our site throughout year:
  - Hong Kong
  - Great Britain
  - Switzerland
  - Australia
  - Italy
  - Taiwan
  - Germany
- VPP minutes and Porcelain Press - consistently in top 10 pages on the site each month
- 98% response rate from staff when putting payroll numbers in the Porcelain Press - staff contact VPP Porcelain Press editor for recognition award and often give feedback on newsletter
- AED page <http://www.pnl.gov/vpp/aed.htm> was among top 10 pages for several months - people watching video, reading manual, reading about program
- Special feature on Dr. Patrinos' visit to PNNL featured in May issue of Porcelain Press <http://www.pnl.gov/vpp/pp/pp0504.pdf>. Signed by Len Peters and Paul Kruger, framed, and presented to Dr. Patrinos during his visit.
- Program Description online <http://sbms.pnl.gov/program/pd27d010.htm>.

### Webstat metrics:

VPP site for CY04 are located at [http://www.pnl.gov/vpp/webstats/04\\_12/vpp.htm](http://www.pnl.gov/vpp/webstats/04_12/vpp.htm)

- Total unique visitors: 6,393
- Total visits: 8,014
- Total hits: 60,919

PREVENT site for CY04 are located at [http://www.pnl.gov/vpp/preventstats/04\\_12/prevent.htm](http://www.pnl.gov/vpp/preventstats/04_12/prevent.htm)

- Total unique visitors: 1,372
- Total visits: 1,597
- Total hits: 23,712

### **Other Outreach**

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 CY2004.

Exhibit 3

 <b>PNNL VPP Steering Committee Outreach Activities</b>			
Date of the Outreach	Organization or Person Receiving the Outreach	Description of Outreach	Follow-up action/commitments/comments
1/27/2004	VPPPA	PNNL submitted an abstract to present a workshop at the VPPPA National Conference related to our Program Evaluation process.	The offer to conduct a workshop was declined
2/13/2004	Office of Science, Chicago Office	PNSO was asked to demonstrate a "good" VPP application to one of its contractors.	PNNL's on-line application was provided.
3/16/2004	Chevron Phillips Chemical Co.	Phillips was interested in obtaining information about the morale of the employees when VPP was obtained. Due to the history at their company, there is reportedly a lot of distrust between labor and management. They were looking for testimonials from people that may have a positive impact on the employees of the plant. They were also interested in feedback from our bargaining unit.	PNNL responded with an email stating that the VPP program has enhanced the openness and trust in that relationship - both from the worker perspective as well as management perspective and listed some benefits from VPP. The HAMTC Health & Safety Rep for PNNL was referred to for the bargaining unit perspective. PNNL also provided them the VPPPA website and recommended that they also pursue their questions with through the VPPPA and attend the National and Regional conferences.
3/24/2004	Sandia National Laboratory	The DOE-RL VPP representative was contacted by Sandia about VPP. He recommended that they consider aligning themselves with a VPP Mentoring partner such as PNNL.	PNNL responded with an email that addressed some specific questions in regard to PNNL's efforts in achieving VPP recognition and offered to help in any way we can.
3/25/2004	DOE	DOE-RL requested that PNNL staff members trained in "OSHA 245" participate in the 3-year Recertification of FFS and FFTF.	Two PNNL staff members participated in the recertification reviews.
5/4/2004	Hanford Safety & Health Expo	PNNL Received the "Best-in-Show" award for the Electrical Safety booth at the 2004 Safety Expo and was also informed by the crowd that PNNL's VPP booth had the best safety prizes.	Award Certificates were presented to the many volunteers who contributed to the Safety Expo.
5/13/2004	Communications Specialist for Pacific Northwest Site Office, Dept. of Energy	Dr. Ari Patrinos' (DOE-SC) message to PNSO and SC staff	PNSO and PNNL used the Porcelain Press special addition about the Ari Patrinos message to create a 'thank you' to Dr. Patrinos that was signed by Paul Kruger and Len Peters.
5/25/2004	VPPPA	Region X Conference	Representatives of PNNL and PNSO attended the Region X Conference.
7/28/2004	Parsons Fabrication	Parsons Fabrication has been encouraged to work toward VPP.	We may be contacted to assist (They will primarily be working with Fluor).
8/25/2004	PNNL VPP 3-yr On-Site Review	The VPP On-site Review provided an opportunity to interface with FH, CHG, and ANL as well as HQ (EH and SC). DOE-VPP HQ representatives encouraged us to publish our successes.	A document on the value of VPP has been drafted and will be shared with DOE-VPP at Headquarters.
8/29-9/2 2004	VPPPA	VPPPA National Conference	PNNL sent a contingent of 10 representatives to the National conference. One PNNL Steering Committee member participated in presenting a workshop on the Health & Safety Expo.
9/29/2004	DOE-VPP	DOE-VPP was favorably impressed with some of the communication tools used by PNNL.	Communications information (hard copies of August PP, hardcopies of September PP, and Staying S@fe bookmarks) related to PNNL's VPP activities were provided to DOE-VPP at Headquarters.
10/28/2004	Office of Science personnel	Class B accident investigation	The VPP Bargaining Unit Co-Chair met with Office of Science personnel who were here for an accident investigation. The accident investigators were informed about our VPP activities and provided with last year's VPP Program Evaluation/Self-Assessment and the URL to our VPP website
10/28/2004	Hanford Safety & Health Expo	Planning for the 2005 S&H Expo	The VPP booth has been approved for the 2005 Hanford Safety & Health Expo which will be held May 3 & 4, 2005.
11/16/2004	Battelle Memorial Institute	The ESH&Q Director has been discussing the value of VPP with Battelle Memorial Institute's ESH&Q Director.	Battelle Memorial Institute has expressed an interest in VPP and may be in contact with us to help create a VPP program in Columbus.
11/16/2004	VPPPA	Planning for the 2005 VPPPA National Conference	A PNNL VPP Steering Committee member submitted his application to speak at next year's annual VPPPA conference as a breakout speaker on Safety & Health Expos. He expects to hear back from the committee by January 7, 2005.
12/1/2004	AdvancedMed Hanford	AdvancedMed Hanford wants to partner on some health promotions/classes in FY05. The promotions would be offered to all Hanford employees and their spouses.	PNNL VPP Steering Committee will coordinate this initiative as part of the PREVENT program.
12/14/2004	Hanford Technical Library	The Hanford Technical Library would like to have the VPP Steering Committee sponsor a class in February for an internal and external audience on PubMed and MEDLINEplus which allows users to search for "medical/health information."	PNNL VPP Steering Committee will coordinate this initiative as part of the PREVENT program.
12/16/2004	Presidents Zero Accident Council	PNNL representatives spoke at the Hanford "Presidents Zero Accident Council" (a monthly meeting with Hanford contractors) in December to discuss the utility vehicle accident on October 8, 2004, in which a teamster broke his leg at PNNL.	PNNL is working with other contractors to help them address risks similar to those identified with the utility vehicle involved in the accident.
12/21/2004	BSTI Safety	BSTI asked for benchmarking information on slips, trips, and falls.	Porcelain Press articles were provided and the corporate office plans to feature the concept in communications to others in the Battelle complex.

## STATUS OF ISSUES FROM PREVIOUS VPP PROGRAM EVALUATIONS

Issues (conditions) and actions from PNNL VPP Program Evaluations are tracked in the Assessment Tracking System (ATS). All actions and conditions from previous VPP Program Evaluations have been closed, but some actions remain ongoing because they have been transferred to other ATS items, including the Safety Performance Improvement Plan and the IOPS Improvement Plan. Those items are summarized below.

### Improve management accountability for safety

Previous VPP Program Evaluations identified the need for manager training to improve safety leadership skills. The FY04 VPP Program Evaluation was a major source of input and impetus for the PNNL Safety Performance Improvement Plan. A variety of initiatives are underway within the Safety Performance Improvement Plan to improve management performance and accountability for safety. Those actions include:

- [5660.1](#) - Reinforce & Revitalize Line Mgmt Accountability
- [5660.1.1](#) - Reaffirm BMI Leadership & PNNL Senior Mgmt. Comm.(SPIP 1.1) **Status:** Closed
- [5660.1.2](#) - Promulgate PNNL Mgmt Behavior Expectations (SPIP 1.2.1) **Status:** Closed
- [5660.1.3](#) - Establish PNNL Targets (SPIP 1.2.2) **Status:** Closed
- [5660.1.4](#) - Estab. & Deploy Safety/Security-Related Trng Prog (SPIP 1.3) **Status:** Closed
- [5660.1.5](#) - Enhance the Operations Management Forum **Status:** Closed

### Improve employee involvement and accountability

Employee involvement continues to be an improvement area at PNNL. While employee involvement occurs in many ways, the VPP Steering Committee continues to see problematic issues related to employee safety culture. The Safety Performance Improvement Plan is attempting to address these issues through management accountability (described above) and the tasks related to employee involvement and accountability described below.

- [5660.2](#) - Reinforce & Revitalize Employee Involvement & Acct. **Due:** 10/1/2005
- [5660.2.1](#) - Communicate General Need for Employee Commitment/Involvement **Due:** 12/31/2004
- [5660.2.2](#) - Enhance Safety/Security Trng Prog - CSMs (SPIP 2.2.1) **Status:** Closed
- [5660.2.3](#) - Enhance Safety/Security-Related Trng Prog- PLMs (SPIP 2.3.1) **Due:** 9/30/2005
- [5660.2.4](#) - Enhance Safety/Security Trng Prog-Staff IOPS (SPIP 2.4.1) **Due:** 9/30/2005
- [5660.2.5](#) - Evaluate the Use of Safety Committees (SPIP 2.5.1) **Status:** Closed

### Improve IOPS Work Practice Documents

Plans and actions are underway to improve IOPS Work Practice Documents so they are more succinct and valuable, and less redundant between buildings. Content for the new concept is being developed and progress has been made toward designing the new delivery tool. Several actions are being tracked in ATS:

- [5113.4](#) - Improvement of IOPS Work Practice Documents **Due:** 4/1/2005
- [5113.4.3](#) - Plan Development of WPD-delivery Tool **Due:** 2/28/2005
- [5113.4.5](#) - Initiate Implementation of Funded Plan to Upgrade IOPS WPDs **Due:** 3/31/2005

## THE VALUE OF VPP AT PNNL

The primary value of the Pacific Northwest National Laboratory (PNNL) Voluntary Protection Program (VPP) is the partnering of management and staff to change Laboratory safety culture one step at a time. Not only does VPP enable PNNL's safety and health program to transcend a top-down, by-the-book approach to safety, but also VPP raises grassroots safety consciousness to promote a commitment to safety and health 24 hours a day, 7 days-a-week. PNNL VPP is a dynamic, evolving program that fosters innovative approaches to improving safety and health performance at the Laboratory.

PNNL had good safety programs in place before VPP. However, the worker perspective provided by the VPP Steering Committee has resulted in the identification of a variety of improvement opportunities that will catalyze the cultural changes necessary to progress to the next level of safety performance. Most of those improvements center on greater employee involvement and utilization of workers' knowledge and expertise to improve safety and health at the Laboratory and beyond.

A key tool in PNNL's efforts to improve safety is the Annual VPP Program Evaluation. The VPP Steering Committee performs an annual assessment of PNNL's safety programs, with senior management as the primary customer. The assessment is a critical, hard-hitting evaluation of safety from employees' perspective. The leadership of PNNL has demonstrated that they value and respond to the results. Furthermore, the VPP Steering Committee itself is empowered by management to act as a strong independent voice representing employees' safety interests and perspectives.

It is difficult to quantify "the accidents that didn't happen." It is also difficult to attribute safety improvements to a single source when there are many simultaneous improvement initiatives underway. Many initiatives in PNNL's safety improvement agenda are related to VPP, but others are sponsored independently by management systems and line managers. As VPP assumes an ever more prominent role in laboratory safety, interactions and interdependencies between such initiatives are substantial.

Some of the benefits of recent safety improvements at PNNL include:

- Fewer injuries and illnesses. In addition to the ethical and quality of life issues associated with preventing employee injuries and illnesses, reduction of injuries and illnesses can result in substantial savings.
- Increase in output, productivity, completed work on schedule. Occupational injuries, illnesses, and other accidents can cost a substantial amount in terms of down-time, and staff/management hours spent on investigation and corrective action that could have been put to more productive uses.
- Better safety performance results in greater client satisfaction, which can bring more business to support the Laboratory's growth agenda.
- Greater safety for workers is one of the factors making Battelle the employer-of-choice in our community, improving worker satisfaction and retention. This improves Battelle's productivity and ability to meet client needs.

VPP is not another layer of requirements or new tasks, it is an approach by which safety and health-related activities can be more efficiently promoted through the joint support of workers and management. VPP has helped PNNL achieve a creative and innovative environment and it is helping change the way we view safety and health – as something in which we believe in unreservedly and to which we commit wholeheartedly.

**ISSUES FOR IMPROVEMENT***(FY2005 PNNL VPP Program Evaluation)*

The FY05 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 a world-class safety culture. As with any healthy organization, there are opportunities for improvement to advance toward even higher performance. Although some of these issues address key elements of VPP and Integrated Safety Management principles, the conclusion of this Program Evaluation is that PNNL is well along the road toward world-class safety. Most of the remaining improvements needed to achieve our goals focus on the more subtle cultural aspects of leading and implementing our excellent safety programs and processes.

The following key issues for improvement have been determined by the VPP Program Evaluation team to have the biggest impact on safety culture and greatest potential for substantial safety improvement at PNNL based on observations and evaluation of PNNL's implementation of DOE-VPP tenets and elements.

*The "Issue" below identifies the topic to be improved. The "Primary Tenet/Element" referenced for each issue identifies the VPP tenet that needs to be addressed to resolve the issue, resulting in a performance rating that better meets PNNL VPP expectations. While formal root cause analyses were not performed, the identified weaknesses in the implementation of the primary VPP tenet/element are believed to be a significant factor in the low rating. The "Other Related VPP Tenets/ Elements" provide additional insights into the full nature of the issue and are indicative of the need to address the primary issue. The datasheets often provide recommended improvement opportunities to be considered when addressing the issue. Incorporating these other aspects in the resolution of the issue will improve the overall robustness of the PNNL safety program.*

1. **ISSUE: Management Leadership** – Although senior management has made significant expressions of commitment to safety and health, including a recent initiative to train immediate managers in basic safety management skills, the safety leadership skills of some PNNL managers still need improvement. Only with the full support and consistent engagement of all managers (especially project managers and immediate managers) can PNNL's safety culture advance to the next level. PNNL needs to develop a process to verify that managers have internalized the safety expectations presented in the new and proposed training processes and that they are strong leaders in developing the appropriate safety culture in their staff.

**PRIMARY VPP TENET/ELEMENT:**

Safety & Health Training – Supervisors/Managers *(see Datasheet - 42)*

**OTHER RELATED VPP TENETS/ELEMENTS:**

- *Management Leadership* – all *(see Datasheets 3-14)*
- *Employee Involvement – Degree and Manner of Involvement* *(see Datasheet – 17)*

2. **ISSUE: Safety Culture** – There continue to be improvement opportunities regarding the safety culture of some PNNL staff members. While most staff assume personal responsibility for safety, a few do not yet subscribe to the core value that safety in the workplace and, particularly, safety of coworkers is of paramount importance. Indicators of a PNNL safety culture that is not yet mature include the following:

- There continue to be a few instances when staff intentionally or without due consideration fail to follow procedures or other requirements.
- Staff do not always fully or consistently appreciate and implement the processes of the Laboratory (such as SBMS, IOPS, ATS, and self-assessment) that contribute to governance of PNNL and provide assurance of safety and operational excellence.
- Although the safety performance of most staff is excellent, some staff (including managers and support staff) still fail to identify all hazards associated with their work, resulting in incidents that impact safety performance.
- A few staff still do not feel motivated to take (or even comfortable with taking) action to improve safety for their fellow workers.
- Management's commitment to safety is not always fully understood or appreciated by all staff. Some staff are not yet aware of strong management commitment to safety and others are not confident that it is sincere or enduring.

Efforts will need to continue over the long term to continuously educate and motivate staff members, and reinforce the concepts of safety as a core value.

PRIMARY VPP TENET/ELEMENT:

Employee Involvement – Degree and Manner of Involvement (*see Datasheet - 17*)

OTHER RELATED VPP TENETS/ELEMENTS:

- *Management Leadership – all (see Datasheet – 3 through 14)*

3. **ISSUE: Communication of Requirements** – The diversity and complexity of PNNL's research and development-oriented work environment demand a high degree of operational excellence from our staff. SBMS does an excellent job of requirements management. Given that a relatively small subset of the requirements in SBMS are applicable to any given task or activity, the vast number of specific requirements that exist in SBMS can make it difficult for some staff to find the requirements they need. Continuing efforts are being made to understand staff difficulties using SBMS and to help staff members easily get to what they need when they need it.

At the "bench" (working) level IOPS is configured to provide tailored requirements applicable to a workspace and to the staff members who work in that space. However, IOPS is not fully mature in terms of how it delivers requirements to staff. Many reading assignments are considered by some staff to be excessively detailed and redundant, obfuscating the core safety messages staff require to do their work safely.

Development of better ways to navigate information and summarize critical information in an easily understandable format is an opportunity for improvement of both SBMS and IOPS. In addition, the sheer volume of reading assignments

(which is driven by IOPS and by management reaction to recent events) needs to be evaluated to verify whether the reading assignments are effective – or whether other training approaches would be more effective. Finally, ongoing continuous improvement efforts for SBMS and IOPS should be augmented by more worker and management feedback regarding the focus and priority of improvements.

PRIMARY VPP TENET/ELEMENT:

Management Leadership – Employee Notification (*see Datasheet - 14*)

OTHER RELATED VPP TENETS/ELEMENTS:

- *Management Leadership – Commitment (see Datasheet - 5)*
- *Management Leadership – Responsibility (see Datasheet - 7)*
- *Hazard Prevention & Control – Professional Expertise (see Datasheet - 31)*
- *Hazard Prevention & Control – Safety & Health Rules (see Datasheet - 32)*

4. **ISSUE: Safety Committee Participation** – Safety committees are playing an ever more valuable role in the improvement and implementation of PNNL worker safety and health programs. Several structural improvements have recently been made that enhance the value of safety committees, including the development of guiding principles for the chartering of safety committees and for defining their role in PNNL's management structure. An observation of this year's VPP Program Evaluation is that many participants in safety committees (excluding some experts who participate on the committees) have not had formal training or mentoring in relevant safety topics or management leadership skills that would help them perform their safety committee responsibilities more effectively. Safety committee members should be provided with training and mentoring to optimize their ability to contribute to the objectives of their safety committee(s). Such training might include a commercial safety management course or seminars provided by PNNL ESH&Q staff.

PRIMARY VPP TENET/ELEMENT:

Employee Involvement – Safety Committees (*see Datasheet - 18*)

OTHER RELATED VPP TENETS/ELEMENTS:

- *Hazard Prevention & Control – Professional Expertise (see Datasheet - 31)*

5. **ISSUE: Contract Workers** – Contract workers at PNNL are referred to as subcontractors and this is construed to mean contractors, subcontractors, and vendors. PNNL has made progress in improving subcontractor safety performance through use of better tools to support the contracting process, including communicating safety requirements and expectations to subcontractors, and oversight of construction subcontract work by a dedicated construction safety and health professional. The implementation of construction subcontractor safety is a noteworthy example of the progress that is being made. Recent improvements in subcontractor injury and illness performance demonstrate the effectiveness of PNNL's approach to subcontractor safety. However, several PNNL staff members have voiced concerns that subcontractors are not required to follow the same requirements as PNNL workers (i.e., SBMS Subject Areas); and subcontractors are still observed not following basic safety requirements. There is confusion about what standards apply to subcontractor work. The standards applied to subcontractor work can be different in different situations (e.g., OSHA/WISHA, construction/general industry, SBMS/IOPS/industry standards). Differences in requirements for subcontractors need to be communicated to staff so that a

common understanding is achieved. In addition, PNNL needs to continue to improve the safety performance of subcontractors through better monitoring and other contract enforcement mechanisms (progress made by the construction subcontractor safety process is a good example). Finally, as improvements in subcontractor safety are made, PNNL needs to communicate those changes to both staff and subcontractor workers, and encourage staff members to report any safety issues appropriately, to protect the safety of all workers.

PRIMARY VPP TENET/ELEMENT:

Management Leadership – Contract Workers (*see Datasheet - 11*)

OTHER RELATED VPP TENETS/ELEMENTS:

- *Management Leadership – Commitment (see Datasheet - 5)*
- *Management Leadership – Accountability (see Datasheet - 8)*
- *Employee Involvement – Degree and Manner of Involvement (see Datasheet - 17)*
- *Hazard Prevention & Control – Safety & Health Rules (see Datasheet - 32)*
- *Hazard Prevention & Control – Personal Protective Equipment (see Datasheet - 33)*

These five issues will be entered into the Assessment Tracking System (ATS) as conditions under the FY2005 PNNL VPP Program Evaluation. The VPP Steering Committee will work with PNNL senior management to incorporate these issues into the PNNL Safety Performance Improvement Plan.

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**PNNL DOE-VPP  
Annual Program Evaluation  
FY-2005**

**DATASHEETS**

**ORGANIZED BY:**

**VPP  
TENET & 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 in a new format this year to simplify the documentation and reflect the team approach to generating the information that was used.

The format of the data sheets is indicated below:

PNNL VPP Program Evaluation <Tenet> - <element>		FY-2005 Voluntary Protection Program VPP	
<u>Strengths</u> •		<u>Weaknesses</u> •	
<u>Recent/Expected Changes</u> •		<u>Improvement Opportunities</u> •	
<u>Conclusion</u>		<u>Trend:</u>	<u>Rating:</u>

For VPP elements where performance is not meeting our expectations (a rating of at least “9”) an additional section is added below “Conclusion” called “Needed Changes.” This section captures the changes that need to be observed to achieve a rating of “9” or greater.

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

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

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 (Total Recordable Case (TRC) rate and Days Away, Restricted, or Transferred (DART) rate) has improved dramatically over the past year.
- An on-line VPP Program Description was written and published in 2004, which describes the VPP Tenets and elements and how they are met at PNNL. It is a valuable tool to aid in the understanding PNNL worker safety and health programs.
- PNNL continues to be involved in many outreach activities as described in the Outreach section.

**Weaknesses**

- There are no weaknesses to report under General Information.

**Recent/Expected Changes**

- The VPP Application was retired and converted into a living document that replaces the previous VPP Program Description in SBMS.

**Improvement Opportunities**

- There were no improvement opportunities for General Information identified during the FY05 VPP Program Evaluation.

**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 DOE-VPP requirements and provide valuable insight and information for continued improvement to PNNL.

**Assurance of Commitment** *This section evaluates how PNNL management and HAMTC support VPP at PNNL.*

<p><b><u>Strengths</u></b></p> <ul style="list-style-type: none"> <li>The VPP Steering Committee Charter documents and demonstrates the commitment to VPP from PNNL management and HAMTC leadership.</li> </ul>	<p><b><u>Weaknesses</u></b></p> <ul style="list-style-type: none"> <li>There are no weaknesses to report under Assurance of Commitment.</li> </ul>
<p><b><u>Recent/Expected Changes</u></b></p> <ul style="list-style-type: none"> <li>There are no recent or expected changes in the Assurance of Commitment from either PNNL management or HAMTC leadership.</li> </ul>	<p><b><u>Improvement Opportunities</u></b></p> <ul style="list-style-type: none"> <li>No improvement opportunities were identified for PNNL's VPP Assurance of Commitment.</li> </ul>

<p><b><u>Conclusion</u></b></p>	<p><b>Trend:</b> →</p>	<p><b>Rating: Good (11)</b></p>
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The PNNL VPP Steering Committee Charter clearly and strongly demonstrates PNNL management and HAMTC commitment to VPP.

## Tenet: *Management Leadership*

### SUMMARY

TENET/ELEMENT	ASSESSMENT SUMMARY	TREND
<b>Management Leadership</b>		
Commitment	Good (11)	→
Organization	Good (10)	→
Responsibility	Good (10)	→
Accountability	Good (9)	→
Resources	Good (10)	↗
Planning	Good (10)	→
Contract Workers	Adequate (8)	→
Program Evaluation	Good (11)	→
Site Orientation	Good (9)	→
Employee Notification	Adequate (8)	↗

### TENET RATING

TENET	ASSESSMENT SUMMARY	TREND
<b>Management Leadership</b>	<b>Good (9.6)</b>	<b>→</b>

### SYNOPSIS

Management leadership at PNNL is strong. PNNL's VPP program has a strong element of staff member ownership and it is clearly a partnering of management, labor and other staff members. The Laboratory continues to have issues with less-than-adequate accountability in some regards. PNNL needs to continue working to improve staff members' understanding of and involvement in worker safety and health processes, including VPP. PNNL also needs to continue the improvement of the excellent tools that have been created to help manage operations (e.g., SBMS, IOPS, MIT, EPR) and to reinforce the execution of PNNL manager and staff member R<sup>2</sup>A<sup>2</sup> through those tools and other processes (e.g., performance evaluation, reinforcement, etc.). Other areas of potential improvement are the implementation of safety requirements by subcontract workers, particularly the implementation of appropriate safety practices by some working level subcontract workers.

Ratings for certain elements under this tenet ("Contract Workers" and "Employee Notification") need to be improved to accomplish the following:

- While the processes to address contract worker safety issues have improved dramatically over the past several years, PNNL employees still report that contractor employees do not follow safety requirements with the same rigor as required of PNNL employees. Furthermore, the fact that all PNNL (SBMS) requirements do not apply to all contractors creates issues regarding what level of safety is required for certain kinds of work.

- The primary issue related to IOPS and SBMS from a VPP perspective is the inefficient, redundant, and potentially confusing delivery of electronic reading assignments to staff members. Other improvement opportunities have been identified related to the content and integration of information related to bench-level control of hazards.

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



- Strengths**
- PNNL has a well constructed business model (the Customer Service Model) and process for requirements management (Standards Based Management System – SBMS), which clearly describe how the Lab intends to achieve operational excellence, including worker safety and health.
  - Managers and staff understand that SBMS is the set of requirements they must work to.
  - SBMS was recently recognized by the DOE Laboratory Operations Board as one of 13 best practices and one of 9 recommended for integration into the DOE Lab complex.
  - Most managers clearly articulate and demonstrate their commitment to the safety and health of their workers. Senior managers do an especially good job of expressing this commitment.
  - There has been a significant increase in the emphasis on safety over the past several years, particularly in FY2004.

- Weaknesses**
- While top management is clearly committed, management commitment at lower levels of the organization is variable.
  - Staff are concerned that the recent emphasis on safety could be “lip service” in response to recent incidents and external influences. There is concern that the emphasis may not be enduring.
  - Many of the recent safety initiatives are reactive responses to incidents, indicating a lack of proactive commitment.
  - Some staff have difficulty finding the specific applicable requirements in SBMS and IOPS that they need amidst the volume of information.
  - Competing priorities have sometimes resulted in safety issues being on the back burner in the past.
  - We often do not take sufficient credit for the good safety performance that is typical in most parts of PNNL.
  - Managers are rarely in the workplace reinforcing safety when things are going well.

- Recent/Expected Changes**
- The Safety Performance Improvement Plan has a number of initiatives to improve commitment to safety including WorkS@fe and PREVENT.
  - Several new investments have been made to improve safety (e.g., F&O “Top 10,” Bruce Madsen’s visit to assist craft workers and their management prevent soft tissue injuries and illnesses).
  - F&O’s reorganization seems to be having a positive impact on safety.

- Improvement Opportunities**
- Management needs to “hold the course” in their current emphasis on safety and avoid “knee jerk” response to incidents.
  - Management should show their commitment by being present in the field and talking about safety when things are going well.
  - Safety needs to be more than a top priority – it needs to become a value for all managers and staff (including contract workers).

**Conclusion**

**Trend:** →

**Rating: Good (11)**

PNNL has a strong worker safety and health management system that is founded on an excellent business model. Most managers are clearly committed to safety. The recent increased emphasis on safety has strengthened staff members’ perception of managers’ commitment to safety. Many staff are watching to see if this increased emphasis on safety will endure.

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

**Strengths**

- PNNL’s organization provides strong support for the principles of line management responsibility for safety.
- The ESH&Q organization provides good support for operating organizations (particularly the research organizations).
- The F&O reorganization has resulted in much better management leadership. The new F&O director established strong line accountability for safety and eliminated the conflict between Core Teams production focus and the Resource Managers responsibility for the safety of workers whose work they did not directly control.
- R&D organizations feel that the matrix organization approach of the Customer Service Model is a strength.

**Weaknesses**

- F&O has had many reorganizations in the past few years.
- The matrix organization approach sometimes creates confusion about who is responsible for what.
- The safety & health organization is overtaxed and sometimes can’t provide timely support.
- New safety & health staff seem to “sit in LSB” rather than being out in the field.

**Recent/Expected Changes**

- The F&O reorganization was a substantial change. While this change is viewed as positive, many reorganizations have occurred in the past causing disruptions and apparently little real progress from the workers’ point of view.

**Improvement Opportunities**

- The VPP Steering Committee felt that the performance of the new F&O organization needs to be monitored. Future reorganizations should be discouraged to provide more stability and consistency of management (and the apparent commitment to safety).

**Conclusion**

**Trend:** →

**Rating: Good (10)**

PNNL has a strong organization that supports worker safety and health. Line organizations are responsible for safety and the ESH&Q organization provides good support. R&D and the ESH&Q organizations have been relatively stable over the recent past, but F&O has seen numerous reorganizations that the VPP Steering Committee feels have had a negative impact on a consistent safety culture. The new F&O organization seems to have a strong commitment to safety.

**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 for most roles.
- Electronic Prep & Risk (EPR), Integrated Operations System (IOPS), and SBMS clearly and effectively reinforce and communicate roles and responsibilities.
- Many managers are taking their safety responsibilities more seriously, as evidenced by measures of safety in SDRs, involvement in IOPS, and greater/better self-assessment.
- Training and reading assignments have been provided to all immediate managers to improve their knowledge of safety management.
- All staff members interviewed knew their responsibilities when it came to safety. Staff members stated safety starts with them, it is important for them to be aware of their surroundings and potential hazards, and it is also important to share what you learn at home and work with fellow staff members regarding health and safety.

**Weaknesses**

- Reinforcement of safety responsibilities at PNNL sometimes involves massive reading assignments (e.g., IOPS reading assignments, and F&O corrective action in response to LSL-II incident, IOPS reading assignments).
- There appears to be variability in the level of acceptance of responsibilities among some staff and managers (e.g., CSMs and first line managers/supervisors). Some feel that the scope of responsibilities is not well defined and/or too extensive.

**Recent/Expected Changes**

- The F&O reorganization provided a strong emphasis on manager and staff safety responsibilities.
- Senior management has provided a strong emphasis on safety responsibilities.

**Improvement Opportunities**

- Continuing communications emphasizing safety responsibilities is needed.
- Communication of responsibilities needs to be clear and succinct (i.e., less reliance on massive reading assignments).

**Conclusion**

Clear and appropriate responsibilities for safety have been documented and communicated at PNNL. Not all staff and managers understand and/or accept their safety responsibilities to the extent desired. Key roles (e.g., immediate managers and CSMs) are being trained to understand their responsibilities for safety and the resources available to help them execute these responsibilities.

**Trend:** →

**Rating: Good (10)**

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

**Strengths**

- The process for implementing accountabilities is clearly established at PNNL.
- There is a reward and recognition process in addition to an incentive compensation process to promote accountability.
- Human Resources Managers are assigned to each organization to help and support immediate managers’ implementation of actions that implement accountability for safety.
- Managers are evaluated on their safety performance (safety performance accounts for 30% of the performance evaluation for F&O managers).
- One manager interviewed said “you have to be strong in operations to be a good scientist.”

**Weaknesses**

- Accountability for safety at PNNL tends to be negative (punishment for negative events) rather than positive (reward for exceptional or sustained performance).
- The reward and recognition process has been eroded by DOE contract restrictions as well as staff confusion about the process.
- The administration of rewards for safety is not consistent across the Laboratory.
- Many immediate managers don’t have a clear understanding of their staff’s safety performance (since the performance is done in the context of projects that many managers aren’t associated with).
- There has historically been a lack of accountability for contract workers’ implementation of safety requirements.

**Recent/Expected Changes**

- Changes in the reward and recognition process have limited options and its use by many staff members (e.g., the F&O “Thumbs Up” has been suspended and F&O staff are not certain what other reward options are available at their level).

**Improvement Opportunities**

- There needs to be better communication about the new/current rewards and recognition process.
- Rewards and recognition need to be consistently applied to safety performance.
- Accountability for safety needs to consistently be implemented.

**Conclusion**

<b>Trend:</b> →	<b>Rating: Good (9)</b>
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There is clear accountability for safety in the sense that every manager and staff understand that they will be held accountable for diligent execution of their safety responsibilities. The SDR and disciplinary action processes provide an effective means of evaluating and providing feedback on performance. However, accountability for safety tends to be negative and related to unwanted events, rather than positive and related to exceptional or sustained performance. 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. There needs to be a better process to hold contractors and contract workers accountable for consistently implementing safety requirements.

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

**Strengths**

- The vast majority of interviews indicate adequate staffing, equipment, training and supplies.
- More budget funds are being devoted to correct borderline safety concerns, which were previously ignored.
- Because of the resources PNNL has committed to the safety and health program, there is a feeling by all those interviewed that PNNL is a very safe place to work.
- Resources for S&H upgrades are readily available in the majority of organizations. F&O has even more aggressively addressed safety issues recently.
- Management continues to support VPP with adequate funding.
- VPP (e.g., PREVENT and the annual Program Evaluation) has helped management focus resources on important safety initiatives.

**Weaknesses**

- Some of those interviewed reported that Safety & Health Representatives seem overloaded and less accessible than desired.
- Some safety issues still don't get fixed as fast as would be desirable.

**Recent/Expected Changes**

- The VPP safety suggestion program and S@fetyDiaLOG will help identify and resolve issues.
- The changes in cell-phone policy have made some safety support staff (e.g., Safety & Health Reps) less accessible.

**Improvement Opportunities**

- Promote the use of the cell-phone stipend for Safety & Health Reps.
- Continue to hire and qualify safety and health staff to provide high quality services to the research, maintenance, and support organizations.

**Conclusion**

**Trend:** ↗

**Rating: Good (10)**

Resources devoted to safety and health are of sufficient quantity and quality to support an excellent worker safety and health program. Resources to address special safety-related issues are consistently made available by management. The increasing demand for Safety & Health Rep support is straining the ability of Safety & Health Reps to provide all of the requested/desired services.

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

**Strengths**

- 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.
- Divisions 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.
- The DOE-OA ISM Evaluation identified strengths in PNNL's planning processes and a noteworthy practice in the use of Operational Improvement Initiatives to address ES&H issues.
- There is great rigor in the development and deployment of maintenance work plans.
- The F&O Plan of the Day process is very good.

**Weaknesses**

- The maintenance post-job feedback process has not been improved as expected as discussed in last year's VPP Program Evaluation.
- F&O planning processes (e.g., JPP) are getting more complex, making it difficult to efficiently and effectively implement the activities.
- Not all staff know about or understand some of the changes that have been or are being made to automated tools such as IOPS, EPR, ATS, etc.

**Recent/Expected Changes**

- Continued increase in rigor of the Job Planning Package (JPP) process is expected based on recent events.

**Improvement Opportunities**

- As efforts are made to improve planning processes, consideration needs to be given to keeping the processes simple and understandable by those involved.

**Conclusion**

**Trend:** →

**Rating: Good (10)**

Work planning at the Laboratory continues to be an evolving, increasingly integrated and consistent process. Research and support work is planned with SBMS requirements for safety, health, and environmental considerations. IOPS provides a formal process for facilities where potentially hazardous work is conducted to addressing hazards and planning out potential consequences. However, there continue to be improvement opportunities regarding how results from assessments or lessons learned are captured and used in planning activities.

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

**Strengths**

- We have done an excellent job of strengthening our documented processes to manage subcontractor work.
- The Safety & Health Representative assigned to overview subcontractor construction work is doing a good job and is pleased with the performance of subcontractors.
- One R&D CSM felt that a subcontractor construction job in his workspace was well run.
- The Construction Contractor Forum appears to be a good initiative by F&O to emphasize safety to construction subcontractors.

**Weaknesses**

- Some staff (notably bargaining unit maintenance workers) continue to describe ongoing concerns with subcontractor workers violating requirements unless they are continuously monitored.
- Subcontractors do not follow some of the same rules (e.g., SBMS) as PNNL.
- Subcontractors feel strong production pressures, which negatively impacts their emphasis on safety. "Time is money."
- Many crafts and a R&D TGM expressed strong concern about the lack of safety culture and implementation of safety requirements by construction subcontractor workers. Most subcontractors don't understand or experience the impact of a work shutdown at the Laboratory if a subcontractor creates an incident.
- The authority of PNNL staff to challenge subcontractor workers over safety violations appears to be limited according to many staff. An interview identified a PNNL staff member who felt negative repercussions after raising a subcontractor issue.

**Recent/Expected Changes**

- The change from FFS as our primary construction subcontractor took us from a position where we could do minimal oversight to achieve acceptable safety performance to one where considerable oversight is needed.

**Improvement Opportunities**

- There needs to be more oversight of construction and other subcontractors to counter subcontractors' incentives to cut corners related to safety in favor of production.

**Conclusion**

**Trend:** →

**Rating: Adequate (8)**

While PNNL processes related to subcontractor work continue to improve, the performance of construction subcontractors is not as good as it should be. Recent events and reports by PNNL workers of concerns and violations associated with subcontractor construction work indicate that we have not yet been successful in impressing on subcontractor managers and workers the need for diligence in their implementation of safety requirements.

**Needed Changes**

PNNL employees need to see evidence that subcontractors and PNNL staff are consistently held to the same safety standards.

**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.
- PNNL senior management greatly values the annual VPP Program Evaluation and uses the results and recommendations to guide safety performance improvement initiatives.
- 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.
- When improvement opportunities are identified by worker safety and health-related program evaluations, they are promptly acted on by PNNL management.

**Weaknesses**

- As identified by the ISM evaluation, corrective action management at PNNL needs improvement. This is evidenced by the perception of employees that ATS items are sometimes closed without verifying that comprehensive and effective actions have been completed.

**Recent/Expected Changes**

- The Integrated Planning & Assessment Management System is undertaking wholesale improvement of the assessment, corrective action management, and assurance processes at PNNL.
- The IOPS self-assessment process is being improved.
- The Operations Management Forum is beginning to provide a better perspective on program evaluation issues.
- The S@fetyDiaLOG will provide additional employee inputs to the program evaluation process.

**Improvement Opportunities**

- Continue with current Safety Performance Improvement Plan efforts to improve self-assessment, corrective action management, and assurance processes.

**Conclusion**

**Trend: →**

**Rating: Good (11)**

The high rating primarily acknowledges the very good VPP Program Evaluation (as endorsed by PNNL management and DOE-VPP). The trend is steady even though a number of significant improvement initiatives are underway. With completion of those initiatives and verification of their effectiveness, the trend can likely be moved up.

**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.
- IOPS now requires all workspace CSMs to post their Hazard Awareness Summaries, which is of benefit to occasional visitors to the workspace.
- Training & Qualification processes associated with the badging process provide basic orientation to new employees and visitors. The PNNL formal site orientation training modules are Web-based, 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.

**Weaknesses**

- Some IOPS training (reading assignments) is redundant, unnecessary and complicated.
- Because of continual “refresher notices” for IOPS, some staff members feel overloaded with reading assignments.
- Some staff members may be circumventing the Web-based training by simply visiting web pages without conscientiously reading them.
- 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 you qualified or safe to work in the lab.
- Both R&D and Bargaining Unit staff members reported that Web-based training is not sufficient for some staff members (e.g., new hires, summer students) and more hands-on training/mentoring is needed.

**Recent/Expected Changes**

- IOPS now requires that Hazard Awareness Summaries be posted in an accessible location near the entrance to every workspace.
- IOPS Work Practice Documents are being revised to be less redundant and more useful.

**Improvement Opportunities**

- Continue to improve IOPS Work Practice Documents so staff are more succinct and less redundant.
- Improve the use and usefulness of Hazard Awareness Summaries by summarizing the hazards at the top and by communicating the new requirement that they be posted.

**Conclusion**

**Trend:** →

**Rating: Good (9)**

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. However, the value of some (e.g., IOPS reading assignment) training is not universally accepted. Some staff members are frustrated with the volume and redundancy of information sent to them through IOPS and expressed the feeling that the system may be transferring liability to them rather than trying to provide them with useful information in a timely manner.

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

**Strengths**

- IOPS provides information about the hazards and controls tailored to specific workspaces.
- Management and VPP tend to be good at generating timely response to questions.
- New staff in F&O and some other organizations get a good face-to-face orientation about safety expectations from their managers.
- Some Union Stewards and CSMs reinforce safety culture.
- Communications about worker safety and health initiatives have improved this year through programs such as PREVENT and WorkS@fe.
- There have been improvements in the Stop Work process.

**Weaknesses**

- SBMS and IOPS present a large and complicated set of requirements. Staff report problems getting needed safety and health information when they need it.
- Many communications about safety are complex and not easily understood (too philosophical, too detailed). Improvements to IOPS Hazard Awareness Summaries and Work Practice Documents are still needed.
- Lab level safety initiatives are often not recognized by staff. When they are promoted they may be perceived as “flavor of the day.”
- PNNL has not yet been successful at institutionalizing the concept that safety is a value and a condition of employment. Many staff do not believe that safety requirements will be applied equally to all staff.

**Recent/Expected Changes**

- There has been considerable improvement in safety culture exhibited by senior management.
- PREVENT and WorkS@fe (parts of the Safety Performance Improvement Plan) have been implemented.

**Improvement Opportunities**

- The improvements in safety culture exhibited by senior management need to penetrate the ranks of first level managers and working staff members.

**Conclusion**

**Trend:** ↗

**Rating: Adequate (8)**

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 could be improved and many staff are not familiar enough with them so they can get the information when they need it. The safety culture, particularly of senior management, has made a quantum leap this year. However, many staff members (and reportedly some immediate managers) do not yet exhibit the same 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.

**Needed Changes**

Tools such as SBMS and IOPS need to continuously improve to help staff get to the safety information they need. Safety-related employee notifications need to be succinct and focused on key safety issues (and not diluted by excessive detail and indirect language). Managers need to consistently emphasize and implement the proper use of safety requirements and the tools that deliver them.

## Tenet: *Employee Involvement*

### SUMMARY

TENET/ELEMENT	ASSESSMENT SUMMARY	TREND
<b>Employee Involvement</b>		
Degree and Manner of Involvement	Adequate (8)	↗
Safety Committees	Adequate (8)	↗

### TENET RATING

TENET	ASSESSMENT SUMMARY	TREND
<b>Employee Involvement</b>	Adequate (8)	↗

### SYNOPSIS

The Laboratory has experienced an exceptional level of performance in the recent past, which can be attributed to staff members' involvement and focused commitment to attaining high standards. DOE has recognized PNNL staff member's performance by awarding the Laboratory the VPP STAR status in 2001, and recertifying STAR status in 2004. The FY04 Integrated Safety Management Evaluation by DOE Office of Oversight and Assessment noted PNNL's staff member involvement as a noteworthy strength. While there is evidence of a significant level of staff member involvement and empowerment, there is a perception that there could and needs to be much more. Processes such as IOPS and SBMS provide excellent vehicles for staff member involvement, and small R&D work teams practice excellent integration of safety into work processes. However, there are issues associated with staff member involvement at PNNL:

- Many R&D staff members resist participation 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 and leading the initiatives for blood pressure monitors and automated external defibrillators (AEDs), and soliciting input from staff to improve safety at PNNL through a year-end safety suggestion campaign.
- There continues to be concern that too few bargaining unit staff members feel involved or empowered to address safety issues. Much progress has been made toward better involvement of the bargaining unit staff members and the great majority of staff members believe PNNL has an excellent safety and health program and feel safe at work.

- Some staff members do not feel they have enough input, they are not listened to, the systems do not work fast enough, or feedback is not prompt or adequate.

Ratings for both elements under this tenet need to be improved to accomplish the following:

- Clearly demonstrate that staff are empowered, and feel responsible to take safety into their own hands. This will be demonstrated by staff members having confidence in management's commitment to safety and by their individual outreach efforts to identify and correct unsafe conditions and actions.
- The use of safety committees continues to need improvement by training safety committee members in relevant safety topics related to their assignments (such as training the VPP Steering Committee members in safety management); and by recognizing their efforts to improve safety, which go above and beyond their normal job responsibilities.

**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**

- Many staff feel empowered to address safety issues.
- R&D work groups are close knit and involve an inherent level of employee involvement in work planning and worker safety.
- A good relationship between workers and their immediate manager is common.
- F&O and VPP teamed to have Bruce Madsen evaluate soft-tissue injury risk for high-risk maintenance groups.
- Many permits and procedures are written by employees.
- F&O maintenance workers have the opportunity to provide input to job planning.
- PNNL employees participate in the Safety & Health Expo each year.

**Weaknesses**

- Some staff exhibit a passive approach to safety, believing it should be done for them – they don't put out the necessary effort to take charge of safety.
- Many staff (office workers in particular) don't think the focus on safety applies to them.
- There is no mechanism to test new maintenance procedures before they are finalized and approved. Once procedures are approved, it is more difficult to get them changed.
- Some staff feel they cannot/should not interfere with other workers if safety issues are observed. This is of special concern related to PNNL staff observations of contract workers.

**Recent/Expected Changes**

- The S@fetyDiaLOG suggestions and issues management application was funded for development. It should be implemented in FY05.
- Bruce Madsen formal report including actions and recommendations are expected in FY05.

**Improvement Opportunities**

- All immediate managers need to work with their employees to instill safety as a cultural value.
- The bargaining unit needs to consider how to gain better involvement of rank-and-file bargaining unit workers.

**Conclusion**

**Trend:** ↗

**Rating: Adequate (8)**

The Laboratory has developed excellent participation and involvement within most work groups. However, there continue to be many staff members who do not feel that safety applies to their job in a significant way. Staff members who want to be involved in safety often can get involved, but opportunities for meaningful involvement are limited in some groups. The lack of a positive safety culture on the part of some staff is of significant concern and managers (especially first line managers) all need to focus on this.

**Needed Changes**

All staff who want to be involved in safety should have the opportunity to become involved in a way that is meaningful to them and to the work of the Lab. All managers need to consistently and clearly promote safety as a value, and all employees need to accept and exhibit safety as a core value of their work culture.

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

**Strengths**

- Many staff have the opportunity to be involved in safety committee activities such as VPP Steering Committee, 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.
- The VPP Steering Committee has become a very strong safety committee central to promoting an improving safety culture.
- Management is increasingly relying on the VPP Steering Committee as a sounding board and vehicle for safety improvements.

**Weaknesses**

- The safety and leadership skills of some safety committee leaders and members could be improved with formal training and mentoring.
- Training for safety committee members is rarely provided.
- Participation in safety committees is limited and relatively static. It is sometimes hard to recruit new members for safety committees.
- Safety committees don't communicate between themselves as much as desired.
- Participation in safety committees isn't always recognized as valuable by immediate managers.

**Recent/Expected Changes**

- Formal guidelines for safety committees have recently been published on the VPP Website at the direction of the Director, ESH&Q.

**Improvement Opportunities**

- The current emphasis on and interest in ergonomics indicates that the Lab may benefit from an Ergonomics committee.
- Consider how the VPP Steering Committee can lead integration between other safety committees.
- Provide better recognition and reward for participation on safety committees.
- Train leaders and prospective leaders of safety committees.

**Conclusion**

**Trend:** ↗

**Rating: Adequate (8)**

The value of safety committees at PNNL is increasing. The VPP Steering Committee is a good example of how safety committees can positively influence worker safety and health. Safety committees at PNNL need to improve the opportunities for participation, the perceived value of participation in safety committee activities, and the skills of safety committee members. Safety committees can become even more valuable as they integrate with each other and with PNNL management and Management Systems.

**Needed Changes**

Management needs to improve how participation in safety committees is recognized and valued, especially by immediate managers. Opportunities for building leadership skills need to be offered to safety committee members.

## Tenet: *Worksite Analysis*

### SUMMARY

TENET/ELEMENT	ASSESSMENT SUMMARY	TREND
<b>Worksite Analysis</b>		
Pre-Use/Pre-Startup Analysis	Good (10)	→
Comprehensive Surveys	Good (10)	→
Self-Inspections	Good (10)	→
<b>Routine Hazard Analysis</b> <sup>improved!</sup>	Good (11)	↗
Employee Reporting of Hazards	Good (9)	→
Accident Investigations	Good (9)	↗
<b>Trend Analysis</b> <sup>improved!</sup>	Good (9)	↗

### TENET RATING

TENET	ASSESSMENT SUMMARY	TREND
<b>Worksite Analysis</b>	Good (9.7)	↗

### SYNOPSIS

Workplace hazards are generally 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 the Integrated Operations System (IOPS), integration of Electronic Prep & Risk with SBMS and IOPS, and improved self-assessment and Lessons Learned/Best Practices processes. Improvements have been made in the area of staff member reporting of hazards (particularly the process for stopping and restarting work, including employee involvement and feedback) and trend analysis (using results of data that is collected). Further efforts need to be expended toward better implementation and integration of self-assessment processes (particularly IOPS) to achieve the highest level of excellence in self-assessment. Such efforts are underway and the prognosis is good.

Although worksite analysis is improving, there continue to be opportunities to improve the identification and analysis of hazards, and the way issues are identified and responded to. An example of poor identification of hazards included the recent utility vehicle accident, which highlighted that better pre-use/pre-startup analysis was needed in that case.

Significant improvements were realized in two aspects of Worksite Analysis this year: “Routine Hazard Analysis” and “Trend Analysis.” Both of those VPP elements enjoyed improvements as a result of the WorkS@fe initiative of the Worker Safety & Health Management System, which was a major part of the Safety Performance Improvement Plan.

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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**
- SBMS provides comprehensive, consistent requirements for planning, analysis, and control of hazards.
  - The new EPR provides a good tool for hazard identification for R&D projects. The upgraded tool provides strong links to SBMS, IOPS, and subject matter experts.
  - IOPS provides excellent bench level controls including R2A2, access control, and training to required practices, permits, and procedures.
  - IOPS allows staff members to modify the work controls to meet their needs, within established bounds, using a flexible system of tools and information.
  - F&O work control process provides excellent planning and control for maintenance and construction work.
  - There is a good process for ensuring that safety is considered in the specifications for procurement of goods and services.
  - The processes for F&O Plan Of the Day and pre-job briefings are very good and they are consistently conducted.

- Weaknesses**
- A recent incident involving a utility cart highlighted gaps in requirements and implementation for pre-use evaluations. The criteria for all aspects of safety related to the procurement, modification, and use of the utility carts was not well documented or understood.
  - Suppliers don't always provide what is ordered.
  - The spike in procurement at the end of the fiscal year creates stressors that can lead to gaps in safety analysis.

- Recent/Expected Changes**
- All JPPs are being reviewed based on a Timely Order that was initiated after recent safety-related incidents.

- Improvement Opportunities**
- Clarify expectations and criteria for pre-use evaluation of new equipment.
  - Mediate the end-of-Fiscal Year procurement spike to give managers/technical contacts the time to do good pre-procurement evaluation for safety.

**Conclusion**

**Trend:** →

**Rating: Good (10)**

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 Lab 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.

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

**Strengths**

- The introduction of the new 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 periodically updated.
- 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, noise, radiation, radiological contamination, and confined spaces.
- WorkS@fe has led to significant improvements in comprehensive analysis for the Be+Pb programs and IH monitoring.
- VPP surveys have established a comprehensive baseline of staff safety culture.
- Metrics are being developed for key process performance indicators for EPR, IOPS, and other processes.

**Weaknesses**

- Improvement opportunities exist in the implementation of all processes that support comprehensive surveys. Examples include:
  - Quality of Hazard Awareness Summary information
  - Maturity of baseline hazard (IH) surveys
  - Maturity of process metrics
  - F&O procurement of chemicals through CMS

**Recent/Expected Changes**

- WorkS@fe initiatives for worksite analysis have been completed and are being communicated to staff.
- Procurement and deployment of the Ergonomic tool.

**Improvement Opportunities**

- Continue to implement initiatives that are underway.

**Conclusion**

**Trend:** →

**Rating: Good (10)**

Comprehensive surveys have been conducted and are continuously being performed in areas of safety and health, radiological control, and facilities and operations. Communications between ES&H management, the R&D Directorate Operations Offices, and F&O is improving. CSMs maintain hazard awareness summaries to reflect current work hazards in individual spaces. The integration of the Electronic Prep and Risk with the hazard awareness summaries generated by IOPS has strengthened the process to analyze worksite hazards.

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



**Strengths**

- A variety of roles in R&D organizations perform self-assessments including CSMs, TGMs, SMEs. Field deployed subject matter experts are well integrated into the organizations' self-assessment program.
- “Activity-based” self-assessments of R&D work are also being performed by managers or SMEs.
- 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.
- F&O WCMs and 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.

**Weaknesses**

- F&O workers are not involved in shop inspections.
- Some CSMs don't identify hazards accurately, which impacts the ability of IOPS to support good self-assessments.
- Results of self-inspections are often not communicated widely (i.e., to workers).
- Office housekeeping was noted as needing attention in some areas.

**Recent/Expected Changes**

- The Integrated Planning & Assessment Management System is improving the Corrective Action Management process including rebuilding ATS and integrating an enhanced IOPS self-assessment process.

**Improvement Opportunities**

- Consider how to get workers more involved in self-inspection. CSMs are good worker representatives, but Bargaining Unit and support staff are often not involved in inspections of their spaces.
- Provide feedback to workers regarding the results of self-inspection of their workspaces.

**Conclusion**

PNNL has implemented a good self-assessment program. The program includes assessments by Line Organizations (divisions/directorates) and the Management Systems (programs). IOPS 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. Results of assessments could be better integrated and results communicated to affected workers. Initiatives are underway to better integrate assessment results within the context of the Assurance process.

**Trend:** →

**Rating: Good (10)**

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

**Strengths**

- EPR identifies hazards for projects and provides links to SBMS and IOPS requirements associated with the project’s hazards.
- IOPS provides a process to identify and control hazards.
- Cognizant Space Managers 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.
- Project managers, line managers, and staff member responsibilities for hazard analysis are clearly identified.
- Safety and health professionals are available to assist project managers, line managers, and staff members implement their hazard analysis responsibilities.
- Hazard Awareness Summaries are used to communicate hazards.
- Permits, procedures, and practices are used to train/qualify staff members to perform work safely.
- Formal training is driven by analysis of the hazards a staff member will be exposed to through the Job Evaluation and Training System.

**Weaknesses**

- CSMs sometimes fail to identify all appropriate hazards on their Hazard Awareness Summaries as part of their hazard evaluation.
- Not all staff have adopted a vigilant attitude to routine hazard analysis.
- We generally do a good job of routine hazard analysis in lab/shop spaces – we don’t always do as good a job for office spaces.

**Recent/Expected Changes**

- Significant improvements in automated tools have been made to support this area.

**Improvement Opportunities**

- SMEs need to validate CSMs’ hazard evaluation documented in HAS.
- Emphasize “keep your space customer ready.”

**Conclusion**

**Trend:** ↗

**Rating:** Good (10)

There is a strong process to assure that hazards are routinely analyzed and mitigated. IOPS is a key part of that process in PNNL-operated facilities. EPR is a key part of that process for R&D projects. SBMS provides the foundation for routine hazard analysis for all PNNL work.

**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.
- Some staff members report that they comfortable bringing up safety issues.
- 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 was recently revised and the process was significantly improved and clarified.
- Employee-reported issues are usually fixed in a timely manner.

**Weaknesses**

- Some staff say they won’t stop work unless it involves their own safety.
- A staff member who reported a subcontractor problem felt like it was turned against them.
- There is frequently not good feedback on employee-reported issues.
- Fixes are sometimes not as timely as needed.
- Scientists responsible for research with a fixed budget have an incentive to not highlight hazards recognized late in the life of their project.
- Some staff believe that managers may be reluctant to act on hazards related to high-profile/highly-valued scientific staff.
- Some staff report that they are still apprehensive about reporting safety issues.

**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 need better tracking and feedback on employee reported issues.
- Focus a communication campaign on reporting hazards “because you care about people.” Recipients of reports of such hazards should say “Thank you!”

**Conclusion**

**Trend:** →

**Rating: Good (9)**

Culture and process improvements have been made that should be positively impacting this element. However, we continue to have employees who report reluctance and/or apprehension regarding the reporting of safety issues. Management needs to continue to implement efforts to improve safety culture and trust among staff.

**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.
- F&O has a strong injury and illness reporting culture.
- PNNL has taken a strong position regarding the recent emphasis on safety metrics: we are more interested in real safety results than immediate reduction in accident rates.
- While TRC & DART improved, first aid rates held steady, indicating that our staff are still reporting injuries and illnesses as required.
- Critiques and accident investigations clearly focus on fact finding, not fault-finding. Staff perception of this has improved a little.

**Weaknesses**

- The emphasis on safety metrics has created an incentive to not report (although this has not had an apparent effect on first aid case rates).
- Corrective action management for causes of minor injuries and illnesses is not as strong as other parts of the corrective action management system. There is no direct link between SHIMS and ATS.
- R&D and support organizations do not have as strong an accident reporting culture as F&O does.

**Recent/Expected Changes**

- The VPP subcommittee to ameliorate the impact on staff of critiques has not been active recently.

**Improvement Opportunities**

- Connect SHIMS corrective actions to ATS.

**Conclusion**

**Trend:** ↗

**Rating: Good (9)**

Accident investigations are well defined and incorporate a rigorous reporting, investigating, analysis, tracking, and distribution process. General knowledge regarding staff members' reporting requirements could be enhanced. In the presence of strong "negative" pressure to reduce accident rates, PNNL has kept the emphasis on improving safety rather than simply reducing injury and illness rates.

**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**

- 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.
- The Porcelain Press and Safety Communication Boards depict injury and illness trends for all staff to monitor.
- Use of metrics to monitor operational trends related to IOPS, EPR, and other operational processes is increasing and used to good effect.

**Weaknesses**

- SHIMS still doesn't easily support the kind of trend analysis that would help the Lab focus on emerging or previously unrecognized accident groups or accident causes.
- The focus on trends is to a large extent on numbers rather than (real indicators of) performance.
- PNNL does not have a good process to capture and trend near-miss or close-call type events.

**Recent/Expected Changes**

- Injury and illness trends in the Porcelain Press and Safety Communication Boards.
- IOPS and EPR metrics. The new IOPS "Line Manager Viewpoint" will enhance managers' ability to monitor safety trends in their org.
- S@fetyDiaLOG will help track and trend safety suggestions and issues.
- The Assurance process and Operations Management Forum are helping senior management keep track of risk issues and trends.

**Improvement Opportunities**

- Continue to improve delivery of relevant metrics to management.
- Determine how to improve SHIMS to deliver better accident cause and other trend information.

**Conclusion**

**Trend:** ↗

**Rating: Good (9)**

Trend analysis at PNNL has improved recently with the Operations Management Forum being established and the entire Lab learning to focus on metrics for key safety performance indicators. Improvements are still needed to make trend information more relevant and accessible, and to make the metrics better indicators of the real state of operations.

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## Tenet: *Hazard Prevention & Control*

### SUMMARY

TENET/ELEMENT	ASSESSMENT SUMMARY	TREND
<b>Hazard Prevention &amp; Control</b>		
Professional Expertise	Good (10)	→
Safety & Health Rules	Good (10)	→
<b>Personal Protective Equipment</b> <sup>improved!</sup>	Good (10)	↗
Preventive Maintenance	Good (10)	↗
Emergency Preparedness	Good (11)	→
Radiation Protection Program	Good (10)	→
Medical Programs	Good (11)	→
Occupational Safety & Health Programs	Good (12)	→

### TENET RATING

TENET	ASSESSMENT SUMMARY	TREND
<b>Hazard Prevention &amp; Control</b>	Good (10.5)	→

### 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 to assure that everyone recognizes and implements the common standards that all staff members must comply with at the Laboratory. There is a need to more consistently implement positive and negative incentives to reinforce expectations for hazard prevention and control. This is not so much a deficiency as it is a reflection of the complexity of the hazards and the business environment that PNNL operates under.

Although there continue to be opportunities for improvement in various aspects of hazard prevention and control, improvements were noted in the “Personal Protective Equipment” program and the implementation of “Radiation Protection” requirements by employees.

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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**

- Management believe there are an adequate number of well-qualified safety and health professionals supporting Hazard Prevention and Control at PNNL.
- Some safety and health reps are considered to be “outstanding” in their support, primarily of R&D orgs. Most staff and managers are very happy with their safety and health reps.
- Safety and health professionals are field deployed to provide support to all potentially hazardous activities.
- Worker Safety & Health has strengthened technical qualifications through key hires during the last year.
- Immediate managers are being given training in safety leadership.

**Weaknesses**

- PNNL typically does not provide special training for safety committee members.
- The plethora of safety-related disciplines sometimes makes it difficult for staff to know who to call to get help with a particular matter.
- Some staff believe that safety and health reps are overloaded and appear to be spread too thin.
- Some safety and health reps reported that they don’t feel empowered to address certain issues.
- F&O safety and health reps have been centralized in LSB (away from craft workers and supervisors).

**Recent/Expected Changes**

- Worker Safety & Health Management System has placed strong emphasis on the responsibilities and accountabilities of safety and health reps this year.

**Improvement Opportunities**

- Provide VPP Steering Committee members with training in safety management.
- Make sure safety and health reps are co-located with the workers they support whenever possible.

**Conclusion**

**Trend:** →

**Rating: Good (10)**

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. Improvements could be made in the training of those with ancillary safety responsibilities and in communication of the availability of safety and health expertise. Many staff and managers prefer to consult with known and trusted safety experts rather than utilizing the relatively complex safety requirements delivery tools (e.g., SBMS and IOPS).

**Hazard Prevention & Control – Safety & Health Rules** *This element describes the rules used at PNNL to prevent and control worker safety and health hazards.*

**Strengths**

- SBMS is an excellent repository and vehicle for safety and health “rules” (required procedures and suggested guidelines).
- SBMS Subject Areas are developed using a team approach, with input from the research and other staff members. This makes the system more responsive to R&D and other staff concerns.
- SBMS contains standards and applicability statements that make it clear that safety and health rules apply to all staff members, including managers.
- 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 excellent stewardship for safety and health rules.
- There are clear Roles, Responsibilities, Accountabilities and Authorities for most important safety and health-related roles contained in SBMS (however, see Management Leadership/Accountability).
- 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.

**Weaknesses**

- During interviews with VPP Steering Committee members a few staff reported that SBMS and IOPS are “too complicated” and “difficult to navigate or find what I need.”
- Investigation of the concern about navigation above indicates that most staff members don’t understand the structure and approach (including search/support capabilities) of the tools.
- Most staff and managers prefer to go to SMEs rather than SBMS to understand applicable safety and health rules.
- There are concerns that contract workers don’t have to follow the same safety rules (e.g., SBMS) as PNNL staff.

**Recent/Expected Changes**

- Continuous improvement of SBMS and IOPS are priorities for the Management Systems responsible for them.

**Improvement Opportunities**

- Continue to work to make SBMS “more user friendly and streamlined.”
- Consider whether we “oversell” SBMS as a place users can go for information.

**Conclusion**

**Trend:** →

**Rating: Good (10)**

PNNL Safety & Health 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 certainly room for improvement in both the content and organization of SBMS and IOPS. Accountability after events reinforces staff members’ compliance with safety and health rules.

**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.
- PPE is required when hazards are present and the hazards cannot be controlled by other means. PPE is to be used only when engineering and administrative controls cannot feasibly be used to mitigate a given hazard.
- PPE is provided free and readily made available to the users. (Line organizations or projects are responsible for 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. Job Planning Packages and the plan-of-the-day 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.

**Weaknesses**

- Some staff had opinions that indicated they want better analysis and communication about analysis of hazards for PPE use.
- Some staff feel that PNNL requires too much PPE for some jobs.
- Some staff have been observed leaving labs with gloves on (begging the question about how we know if the gloves are clean).
- Subcontractors are sometimes observed not wearing PPE when required.

**Recent/Expected Changes**

- The VPP Program Evaluation assessors noted a dramatic decrease in concerns about PPE this year.

**Improvement Opportunities**

- Continue to emphasize that the minimum PPE requirements for PNNL work are based on hazards (as opposed to requirements based on location or management edict, which may be applied above and beyond the minimums).

**Conclusion**

There are good requirements for use of PPE and staff know and comply with those requirements. There has been considerable improvement in the PPE program over the past several years.

**Trend:** ↗

**Rating: Good (10)**

**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 Project Managers (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.
- 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.
- All completed PMs are reviewed by the Facility Engineer to make corrections to the PM process and to verify that any discrepancies noted on the PMs are corrected.

**Weaknesses**

- The transition out of the 300 Area continues to produce issues related to maintenance of 300 Area facilities and periodic maintenance of equipment in the 300 Area.

**Recent/Expected Changes**

- Transition out of the 300 Area and construction of new replacement facilities.

**Improvement Opportunities**

- No specific improvement opportunities were identified. Maintenance related to 300 Area facilities is expected to continue to be an issue until the transition is complete.

**Conclusion**

**Trend:** →

**Rating: Good (10)**

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 with feedback processes to obtain continuous improvement.

**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 addressed by the Map Information Tool.
- All Building Emergency Response personnel receive an annual table top emergency drill evaluation or are provided personal training.
- All occupied facilities participate in one evacuation drill a year.
- All table top and evacuation drills are critiqued to correct any identified deficiencies.
- PNNL has established teams that can provide technical assistance involving radiological and chemical hazards in the event of an emergency response.
- PNNL relies on two emergency response providers. Their area of coverage is well defined and they participate in emergency response drills.
- There has been a great deal of emergency preparedness information provided to staff members after the September 11 tragedy.
- Homeland security issues are being incorporated into building emergency plans.
- PNNL has deployed AEDs and more are being added as needed.

**Weaknesses**

- It is difficult to tell who is qualified as first aid/CPR/AED providers.
- Many staff do not understand the Good Samaritan laws in such a way that they might act in a medical emergency if they are able.

**Recent/Expected Changes**

- Signs were recently posted at the doors of qualified first aid/CPR/AED providers.
- Additional AEDs are being procured as needed.

**Improvement Opportunities**

- Do a better job of communicating the Good Samaritan laws and encouraging staff to consider preparing themselves to help in the event of a medical emergency.

**Conclusion**

PNNL has a formal emergency response program that meets the intent of OSHA and contractual agreements with clients. The program is evaluated on a frequency that will identify deficiencies and make corrections to maintain an effective emergency response capability for anticipated emergencies. Staff members understand their responsibility in the event of an emergency in their Facility.

**Trend:** →

**Rating: Good (11)**

**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 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 ALARA safety committee is proactive and well utilized.
- There is a strong culture of RadCon compliance throughout the Lab. 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 rad worksheet has improved perceptions regarding the consistency and ease of use of RadCon requirements.

**Weaknesses**

- The RadCon program is quite complex and reportedly confuses some staff members who work with radiological hazards.
- Some RCTs have noted that RCT procedures do not correspond well with SBMS/RCP requirements for users, resulting in the possibility that requirements may not be met due to confusion/conflicting guidance.

**Recent/Expected Changes**

- The Radioactive Material Tracking tool will enhance inventory control of radioactive materials.
- There has been a great deal of retraining and emphasis on improved RadCon procedures during the past year.

**Improvement Opportunities**

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

**Conclusion**

**Trend:** →

**Rating: Good (10)**

Control of radiological hazards at PNNL is considered to be very good. There has been improvement in the RadCon program during the past year following a critical external surveillance report. Improved compliance with procedures has resulted. Improve Radiological Control procedures by removing conflicting and confusing information between SBMS and RCT procedures to help staff and RCTs better comply with radiological controls.

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

**Strengths**

- The Employee Job Task Analysis (EJTA) program is strong.
- The “Return to Work” program continues to improve. Bi-weekly Case Management meetings are conducted with staff members management, ES&H field representatives, Human Resources, and OSHA record keeping.
- The Medical monitoring program has been maintained under the new medical provider.
- The online Map Information Tool (MIT) has been enhanced to identify specific locations of trained first aid responders 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. A high percentage of bargaining unit staff members took 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.

**Weaknesses**

- The new medical contractor was somewhat slow getting up to speed.
- The AMH location is not well known by staff (and is reported to be “hard to find”).
- Some staff don’t know about the availability of voluntary health maintenance exams.

**Recent/Expected Changes**

- The transition to a new medical contractor (AMH) was made this year.

**Improvement Opportunities**

- PNNL and AMH need to work to continue to strengthen their new partnership in providing medical support and surveillance for PNNL staff members.

**Conclusion**

**Trend:** →

**Rating: Good (11)**

The medical program continues to be strong under the new medical contractor. More work is needed to solidify the partnership and clarify roles and expectations. Most aspects of the medical program transferred over with little disruption. There needs to be better communication of available services to staff members

## 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.
- Subject Matter Experts and users continue to formally review SBMS subject areas and identify areas of improvement.
- Field deployed subject matter experts help with the communication and interpretation of safety and health 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.
- The VPP Program Description was recently enhanced to incorporate the old/updated Application material.

### Weaknesses

- The structure of SBMS is considered by staff to be complex and difficult to navigate.
- Staff members often rely on past experience/ knowledge rather than current information/ requirements.

### Recent/Expected Changes

- The “old VPP Application” was converted into an updated VPP Program Description in SBMS, which will be maintained as a living document describing how PNNL meets the Tenets of VPP.

### Improvement Opportunities

- No specific improvement opportunities were identified.

### Conclusion

PNNL occupational safety and health programs continue to be a model for other laboratories throughout the DOE community. Benchmarking, self-assessment, expert guidance, SBMS continual improvement, and other initiatives continue to reflect PNNL’s goal of continuous improvement.

**Trend:** →

**Rating: Good (12)**

## Tenet: *Safety & Health Training*

### SUMMARY

TENET/ELEMENT	ASSESSMENT SUMMARY	TREND
<b>Safety &amp; Health Training</b>		
Employees	Good (10)	→
Supervisors Managers	Adequate (8)	↗

### TENET RATING

TENET	ASSESSMENT SUMMARY	TREND
<b>Safety &amp; Health Training</b>	Good (9)	↗

### SYNOPSIS

Safety and health training is very good in terms of scope, coverage, timeliness, and quality. The training of supervisors and managers in topics related to worker safety and health has been less comprehensive and timely, and represented an improvement opportunity. First line managers (supervisors), in particular, will benefit from improved knowledge of their responsibilities and technical aspects of safety, as well as the skills necessary to successfully support and empower staff members. This Fiscal Year a new set of training modules for all immediate managers will help them understand their safety responsibilities and the resources available to execute their responsibilities. It needs to be noted that the excellent support network provided to managers by professional safety and health staff members compensates to some extent for their limited training in those areas.

*Note: PNNL's management approach makes little distinction between Managers and Supervisors. For that reason, the evaluation of those two elements is combined.*

The improvements needed to raise the rating for the elements "Manager & Supervisor Safety & Health Training" to the desired level (i.e., "9" or above) include:

- Completing the Phase 1 immediate manager safety training ("SOS") that is currently being implemented.
- Completing the proposed Phase 2 immediate manager safety training will introduce the immediate managers to specific resources to help them execute their responsibilities.
- Verifying that the immediate manager safety training has been effective in helping immediate managers improve the safety culture in their organizations.

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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 T&Q Program is implemented through SBMS Subject Areas, facilitating the flow of information from ES&H to the worksite and lab bench.
- Most staff members feel they receive adequate hazard training.
- 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 safety and health readiness of visitors, vendors, new hires, and all other non-staff members.

**Weaknesses**

- Some staff members feel that so much generalized material is presented in training that it is difficult to assimilate precisely what is needed for a given situation.
- Some staff members feel that there is considerable redundancy in training material.
- IOPS is still perceived as a problem. Staff members feel that it is hard to stay current and that the value of the system is being lost.
- Many staff members are circumventing IOPS Web-based training by simply visiting web pages without conscientiously reading them. This is related to a sense that too much material is presented to be useful in an appropriate time frame to the individual staff member.
- IOPS reading assignment completion is not verified in any effective way.
- Some staff members report that web based training is less effective for them and that they would appreciate more personal training.

**Recent/Expected Changes**

- PNNL won the “Training Top 100 Award” from Training Magazine for placing in the top 100 organizations for training excellence across the country.

**Improvement Opportunities**

- Continue working to improve the delivery and relevance of safety training materials.

**Conclusion**

**Trend:** →

**Rating: Good (10)**

Safety & health training processes for PNNL staff members and on-site non-staff members are well-established, well-received, and continuously improving. Integrated Operations 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. Improvements to the IOPS tool to provide useful information in a timely manner still remains an improvement opportunity.

**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**

- The Job Evaluation Training System (JETS) provides an annual review of required training based on staff member input.
- Supervisors and managers have access to Subject Matter Experts (SME). SMEs are aligned with core teams and facilities. This has allowed immediate response to health and safety issues.
- Worker Eligibility Training (WET) software has been implemented. This new software program shows an individual's training certifications. These are reviewed prior to the jobs, to make sure that staff members have correct and appropriate training for the job task.
- The Facility Management qualification card system provides good verification that basic technical skills are learned by key roles.
- Immediate manager safety training was initiated in September, 2004 and phase 1 is scheduled to be complete by the end of December.

**Weaknesses**

- Much manager training consists of reading assignments composed of SBMS Subject Areas.
- Many managers still do not exhibit the management leadership skills necessary to develop and maintain an excellent safety culture among their staff.
- Management response to incidents tends to be extreme and reactive rather than balanced and proactive.

**Recent/Expected Changes**

- Immediate manager training is being implemented.
- Worker Eligibility Training tool was rolled out last year.

**Improvement Opportunities**

- Continue working toward full implementation of immediate manager training, especially Phase 2.

**Conclusion**

**Trend:** ↗

**Rating:** Adequate (8)

Management Safety & Health training is in its nascent stages. Most managers appear to be adequately qualified and perform adequately, and they have excellent operational support services available, including field deployed safety and health staff members.

**Needed Changes**

PNNL needs to continue to work toward training managers to have a high degree of skill in safety management and leadership. The planned immediate manager training (especially Phase 2) is a good start.

***End of Report***

