PNNL DOE-VPP Program Evaluation

FY-2001
March 2001

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PNNL FY 2001 DOE-VPP Program Evaluation

A team of qualified DOE-VPP evaluators from PNNL assessed PNNL's programs and performance with respect to DOE-VPP criteria. The overall adequacy of PNNL's program implementation for each element and its trend (e.g. improving, declining) was rated using the criteria in the table to the right. The "Rating describes the current status of the program, and the "Trend" describes how the program has changed over the recent past. Information to support the evaluation was collected through documentation reviews and interviews with managers and staff members.

RATING	TREND
Good	→
Adequate	↘
Improvement Required	↗

Team Members

Chub Bowers, Team Lead

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The report contains a data sheet for each element of each VPP Tenet. The data sheet contains a listing of strengths, weaknesses, recent/anticipated changes that will affect the element, and a rating for the element as described above. Recommendations are also offered for continuous improvement of the element.

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 Program Evaluation rating and summary. Top-level recommendations from this Program Evaluation have been judged to have the potential for significant impact on PNNL's implementation of DOE-VPP and will be entered into the ATS for action.

PNNL DOE-VPP PROGRAM EVALUATION SUMMARY – FY 2001

TENET/ELEMENT	ASSESSMENT SUMMARY	TREND
Management Leadership		
Commitment	**Good**	↗
Organization	**Good**	↗
Responsibility	**Adequate**	→
Accountability	**Adequate**	→
Resources	**Good**	→
Planning	**Good**	↗
Contract Workers	**Adequate**	→
Program Evaluation	**Good**	↗
Site Orientation	**Good**	↗
Employee Notification	**Adequate**	↗
Employee Involvement		
Degree and Manner of Involvement	**Adequate**	→
Safety Committees	**Adequate**	→
Worksite Analysis		
Pre-Use/Pre-Startup Analysis	**Good**	↗
Comprehensive Surveys	**Good**	↗
Self-Inspections	**Good**	→
Routine Hazard Analysis	**Good**	↗
Employee Reporting of Hazards	**Adequate**	↗
Accident Investigations	**Good**	→
Trend Analysis	**Adequate**	→
Hazard Prevention & Control		
Professional Expertise	**Good**	→
Safety & Health Rules	**Good**	↗
Personal Protective Equipment	**Good**	→
Preventive Maintenance	**Good**	↗
Emergency Preparedness	**Good**	→
Radiation Protection Program	**Good**	↗
Medical Programs	**Good**	↗
Occupational Safety & Health Programs	**Good**	↗
Safety & Health Training		
Employees	**Good**	↗
Supervisors	**Adequate**	→
Managers	**Adequate**	→

SUMMARY OF EVALUATION OF TENETS

TENET	ASSESSMENT SUMMARY	TREND
Management Leadership	**Good**	↗
Employee Involvement	**Adequate**	→
Worksite Analysis	**Good**	↗
Hazard Prevention & Control	**Good**	↗
Safety & Health Training	**Good**	→

PROGRAM EVALUATION SUMMARY

RATING	TREND
Good	↗

PNNL has strong safety programs and continuously improving implementation of programs in support of VPP safety and health criteria. There are improvement opportunities related to employee involvement and the institutionalization of VPP at the Laboratory. In particular, employees' confidence in their empowerment in several areas including their safety and health responsibilities and authorities needs to be strengthened. That is coupled with an improvement opportunity for management in terms of manager skills and management system structure and implementation related to safety committees. However, these improvement opportunities reflect a healthy, growing program in a dynamic environment that is focused on continuous improvement.

ISSUES AND RECOMMENDATIONS FOR IMPROVEMENT

1. ISSUE: Not all workers feel empowered to address safety concerns and there have been isolated cases where management has failed to properly respond to employee concerns and the use of stop-work authority.

   RECOMMENDATIONS:
   - F&O management should take strong and immediate steps to ensure that all managers understand their accountability for safety and their responsibilities to properly support and respond to employee concerns (especially stop-work).
   - F&O management and union stewards should reinforce with bargaining unit workers that all workers are empowered to address safety issues (especially stop-work).
   - All levels of management and other leaders across the Laboratory (including union stewards, Project Managers, Facility Project Managers, etc.) need to reinforce implementation of existing processes for timely recognition of and response to concerns, insuring that managers and staff members are accountable for their actions related to safety and health.
   - Conduct periodic surveys to monitor the knowledge and satisfaction of staff members with respect to their safety rights and responsibilities.
   - Actions taken to address this issue need to be positively communicated across the Laboratory.

2. ISSUE: The Voluntary Protection Program is not formally recognized as a part of the Laboratory operations, the Laboratory Hierarchy, or in the Standards Based Management System.

   RECOMMENDATIONS:
   - Develop SBMS documentation describing the Voluntary Protection Program as an integral part of the Laboratory operation. This could be accomplished by developing a Program Description for VPP and place it in the SBMS Program Descriptions category.

3. ISSUE: Not all managers have adequate knowledge and skills to properly execute their safety and health responsibilities. There is no systematic process ensuring managers and supervisors are formally trained in safety and health R^2A^2's, hazard recognition/mitigation, or utilization of safety and health professionals to assist in the workplace.

   RECOMMENDATION:
   - Develop and implement a process to ensure that managers and supervisors are knowledgeable of their safety and health responsibilities and the requirements, processes, and skills that apply to their work.

4. ISSUES: ES&H goals and objectives are not consistently a formal part of PNNL staff and managers' performance expectations and evaluation.

   RECOMMENDATION:
   - Resume ES&H goals/objectives inside all individual staff performance evaluations to ensure Safety and Health R^2A^2s are reinforced at every level. This provision would lead to even more deeply embedded evaluations of staff-level safety and health activities, and stimulate waste minimization, recycling, housekeeping, and safe work performance under the direct accountability of the individual staff member.

5. ISSUE: The Self-Assessment and Lessons Learned processes should continue to be improved in terms of process and the development and communication of trend analysis.

   RECOMMENDATIONS:
   - Consider options to improve the effectiveness of self-assessments such as a means to better communicate assessment results between similar divisions and/or implementing a process to rotate subject matter experts between divisions on self-assessments as a way of getting "fresh eyes" to look at spaces.
   - Consider improving the process for sharing lessons learned from critiques with staff.
   - Consider how to improve trend analysis processes across the Lab, particularly related to self-assessment results and hazard analysis information.

6. ISSUE: The effective utilization of safety and health expertise could be improved.

   RECOMMENDATION:
   - Continue efforts to broadly communicate the availability of safety and health expertise to managers and staff who may need to use it.
   - Develop and implement a process to provide staff members having ancillary safety and health responsibilities with training to support their safety and health responsibilities and the requirements that apply to their work.

Other Recommendations

The following recommendations are offered for consideration by the responsible organizations. They were identified as potential improvement opportunities as the VPP Program Evaluation team considered how PNNL meets the Tenets and Elements of VPP, but they were not considered significant enough to be tracked as part of the VPP Program Evaluation.

All *(Led by VPP Steering committee and Worker Safety & Health Management System)*

- Continue the offensive on commitment to preventing injuries and illnesses at all levels of the organization.
- Continue efforts to reinforce staff responsibilities related to safety.
- Continue programs and efforts to ensure that immediate managers encourage employee reporting of hazards and respond properly to such reports.
- Provide staff with a brief reminder of Occurrence reporting responsibilities.

VPP Steering Committee

- Continue efforts to expand awareness of the benefits of the VPP to the staff and management of the Laboratory. The benefits should be related to the normal process of doing business, demonstrating how value is being added to the primary mission of the Laboratory and personal interests of workers.
- The Organization section of the VPP Application needs to discuss how the VPP Steering Committee and the VPP is a part of the overall Laboratory Organization.
- Formally incorporate the annual VPP Evaluation as a critical task for process owners and provide guidance for accomplishing the review(s) as they respectively apply.
- Gain more worker involvement in safety program activities such as safety committees, SBMS, and IOPS. This worker involvement should include R&D workers as well as bargaining unit workers who are directly affected by the scope of the activity.
- Continue with actions to address FY 2000 VPP Program Evaluation conditions related to subcontractor communications and oversight.
- Add more detail about safety and health-related recognition programs (e.g. the F&O “Thumbs Up” award) to the application.
- Consider training all safety committee members in VPP tenets and processes.

Facilities and Operations

- Consistently conduct integrated Post-Job reviews (including contract workers) and communicate the details to maximize utilization of lessons learned and promote employee involvement.
- Consider a more in-depth evaluation of the adequacy of the process of developing Letters of Instruction for subcontractors (notably Fluor Federal Services, which expressed that there is room for improvement during their VPP On-Site Review). {From Worksite Analysis: Pre-Use/Pre-Startup Analysis}

- Ensure the improvements listed below are implemented and communicated to all affected users.
  - Formally implement a process for craft participation in reviews of PMs, standard maintenance, and SOPs.
  - Establish a process for pre-screening and prioritizing field requested changes to PMs, standard maintenance, and/or SOPs and communicating the results to the field.
  - Implement the use of Change Notices to improve responsiveness to field requested changes to PMs, standard maintenance, and/or SOPs.

Worker Safety & Health

- Carry out planned changes (e.g., CMS, Beryllium initiatives) and continue active interface with all personnel, encouraging problem-solving and increased commitment to careful focus/planning for safety and health at all levels.
- Re-evaluate the need for Lab-level requirements for construction safety.
- Consider ways to improve how employee reports of hazards are captured, and use the results for trend analysis.
- A method should be implemented to assure that users of PPE not associated with a specific PPE training program understand the use and limitations of PPE they are expected to wear for hazards they could encounter.
- Provide timely new-hire medical examinations.
- Continue current improvement initiatives for the Radiation Protection Program such as the Focus Groups. Ensure that they are properly chartered.
- Consider how to get more independent technical expertise in the assessment of Occupational Safety & Health Programs.

Integrated ES&H Management

- Continue efforts to improve alignment and allocation of resources associated with the 2nd Generation Management System and the 2010 planning process.
- Continue supporting Operational Improvement Initiatives, including the 2nd Generation Management System, Hazard Analysis Initiative, SDTP/EJTA/JETS, and the IOPS roll-out, which will integrate tools for routine worksite analysis. Seek even more worker involvement in the improvement initiatives.
- Continue efforts to improve work planning and how concerns are addressed (across the Lab, but particularly with bargaining unit staff)
- Cognizant Space Mangers need better training for the recently rolled-out IOPS.

Training and Qualification

- Continue to accomplish the currently planned and scheduled training improvement activities, as identified in various sources, reports, and documents produced in the past few months.
- Continue to formalize and incorporate VPP information into training events; minimize any perspective that VPP is passing as another level of effort initiative in safety & health.

PNNL DOE-VPP
Annual Program Evaluation
FY-2001

DATASHEETS

ORGANIZED BY:

VPP
TENET & ELEMENT

Tenet: *Management Leadership*

SUMMARY

TENET/ELEMENT	ASSESSMENT SUMMARY	TREND
Management Leadership		
Commitment	**Good**	↗
Organization	**Good**	↗
Responsibility	**Adequate**	→
Accountability	**Adequate**	→
Resources	**Good**	→
Planning	**Good**	↗
Contract Workers	**Adequate**	→
Program Evaluation	**Good**	↗
Site Orientation	**Good**	↗
Employee Notification	**Adequate**	↗

TENET RATING

TENET	ASSESSMENT SUMMARY	TREND
Management Leadership	**Good**	↗

SYNOPSIS

Management leadership at PNNL is relatively strong. One noticeable weak area is that the VPP program has not yet been institutionalized into the operational structure of the Laboratory. Although VPP has a strong element of employee ownership, it is a partnering of management, labor and other employees and it needs to be formally recognized in the structure of the Laboratory. Other areas of potential improvement are the communication of hazards, requirements and expectations to contract workers and uniformly across the Laboratory.

ISSUES AND RECOMMENDATIONS

ISSUES: In isolated cases managers have failed to properly respond to employee concerns and use of stop-work authority.

RECOMMENDATION:

- Take strong and immediate steps to ensure that all managers understand their accountability for safety and their responsibilities to properly support and respond to employee concerns (especially stop-work).

ISSUES: The VPP Steering Committee is not formally recognized as a part of PNNL's operations.

RECOMMENDATION:

- Incorporate a formal description of how VPP fits into PNNL's operations into the Lab's formal system of documentation (e.g. SBMS Program Description).

ISSUES: ES&H goals and objectives are not always a significant part of every staff member and manager's performance evaluation.

RECOMMENDATION:

- Resume ES&H goals/objectives inside all individual staff SDR's to ensure Safety and Health R^2A^2s are reinforced at every level. This provision would lead to even more deeply imbedded evaluations of staff-level safety and health activities, and stimulate waste minimization, recycling, housekeeping, and safe work awareness under the direct control of the individual staff member.

ISSUES: Not all staff members and managers are aware of how VPP is related to PNNL's integrated ES&H program and understand the benefits of VPP recognition.

RECOMMENDATION:

- Continue efforts (as a normal process of doing business) to expand awareness of the benefits of the VPP to the staff of the Laboratory.

Tenet: ***Management Leadership***
Element: ***Commitment***

Evaluator: Chub Bowers, Vern Madson

ASSESSMENT

Strengths

- PNNL has been recognized as a leader in implementing systematic Integrated Environmental, Safety, and Health Management Systems over the last six years. Those systems have produced outstanding performance metrics as they have matured and the staff's commitment to those systems is high.
- Overall commitment of the Laboratory to high performance in worker safety and health is excellent. The managers, researchers, staff, union, and subcontractors are intent on preventing worker injuries and illnesses.
- The commitment of the researchers is to preventing injuries and illnesses through the use of the PNNL systems and their R & D processes and not necessarily to the Voluntary Protection Program.

Weaknesses

- The PNNL managers, researchers, staff, union, and subcontractors may not be able to answer specific questions on VPP commitment but will be able to respond successfully on almost any question concerning the PNNL system to prevent injuries and illnesses.
- The ability of the researchers to grasp, value, and articulate the advantages of the VPP program to them and the benefits to the Laboratory may not be high.

Recent/Expected Changes

- Recent presentations by the Laboratory Director and Associate Laboratory Directors have included the VPP expectations of the Laboratory and have been highly effective.
- The VPP questionnaire, the reward of the insulated cup, the Porcelain Press, badge cards, Safety & Health Expo, and IOPS presentations were highly effective in gaining awareness of the program.

Conclusion

RATING	TREND
Good	↗

PNNL has a work force culture that is highly committed to the prevention of injuries and illnesses but many improvements are still possible.

Recommendations for Improvement

- Continue the offensive on commitment to preventing injuries and illnesses at all levels of the organization.
- Continue efforts to expand awareness of the benefits of the VPP to the staff and management of the Laboratory. The benefits should be related to the normal process of doing business to demonstrate how value is being added to the primary mission of the Laboratory and personal interests of workers.
- Consistently conduct integrated Post-Job reviews (including contract workers) and communicate the details to maximize utilization of lessons learned and promote employee involvement.

Tenet: ***Management Leadership***
Element: ***Organization***

Evaluator: Chub Bowers, Vern Madson

ASSESSMENT

Strengths

- The Laboratory Organization chart and how the safety and health functions fit into the overall management organization are clear and logical.
- The VPP-Employee Involvement is set out in the ES&H Directorate Strategic Plan for FY2000-2003.
- The Voluntary Protection Program Program Management Plan is the controlling document for the implementation of the VPP.

Weaknesses

- The VPP Steering Committee is not formally recognized as a part of PNNL's operations.

Recent/Expected Changes

- A program description is being drafted to address how VPP is part of PNNL's operations.

Conclusion

RATING	TREND
Good	↗

The management statement of assurance states that PNNL is committed to the achievement and maintenance of VPP Star Program requirements. To ensure that the program is enduring, the Voluntary Protection Program at PNNL should be formalized into the Lab's existing structure (e.g. SMBS Program Descriptions).

Recommendations for Improvement

- The Organization section of the VPP Application needs to discuss how the VPP Steering Committee and the VPP is a part of the overall Laboratory Organization.
- Incorporate a formal description of how VPP fits into PNNL's operations into the Lab's formal system of documentation (e.g. SBMS Program Description).

Tenet: ***Management Leadership***
Element: ***Responsibility***

Evaluator: Chub Bowers, Vern Madson

ASSESSMENT

Strengths

- The overall Roles, Responsibilities, Accountabilities, and Authorities (R^2A^2) for the Laboratory are excellent. The staff is able to see immediately what their responsibilities are in the area of safety and health. When a staff member is promoted or accepts another position the R^2A^2's are also defined and available for review. This creates consistency throughout the Laboratory.
- Staff have documented stop-work authority.
- The annual Staff Development Review process is an excellent process to review progress toward performance and growth of staff. Most of the SDRs include goals concerning safety and health.
- Staff demonstrates a strong responsibility for the safety and health of their fellow workers to include subcontractors.

Weaknesses

- There are reports that not all staff are convinced that it is their responsibility to take action related to safety issues that don't directly affect them.
- There is evidence that management and supervisory staff have not consistently met their responsibilities for correctly responding to:
  - Employee(s) reporting of safety & health concerns,
  - Employee(s) exercising stop-work authority

Recent/Expected Changes

- The 2nd Generation Management System intends to improve the definition and communication of R^2A^2.

Conclusion

RATING	TREND
Adequate	➔

The Laboratory has a system of Roles, Responsibilities, Accountabilities, and Authorities that is mature and well tested. The planned 2nd Generation Management System will strengthen Lab-wide processes that define and communicate expectations, including those related to environment, safety & health. IOPS is effectively engaging previously isolated and unilaterally managed safety and health issues into the larger safety and health program infrastructure and establishing clearly defined and implemented R^2A^2's.

Recommendations for Improvement

- Take strong and immediate steps to ensure that all managers understand their accountability for safety and their responsibilities to properly support and respond to employee concerns (especially stop-work).
- Continue efforts to reinforce staff responsibilities related to safety.

Tenet: ***Management Leadership***
Element: ***Accountability***

Evaluator: Chub Bowers, Vern Madson

ASSESSMENT

Strengths

- The Laboratory R^2A^2's are an excellent tool in establishing accountability.
- The annual Staff Development Review is an excellent tool to establish staff accountability.
- The Critical Outcomes are excellent tools for the Laboratory to be held accountable.
- The Laboratory Integrated Assessment System establishes accountability.
- The Laboratory Event Reporting, Injury or Illness and Critiques system establishes accountability
- The Assessment Tracking System promotes accountability.
- The Laboratory has a well-developed system of disciplinary action in the Subject areas of Disciplinary Actions and Administrative Reviews and Labor Relations.

Weaknesses

- Although the Laboratory has excellent systems implemented to establish accountability and much improvement has taken place, it is the perception of some staff that this is the weakest element in Management Leadership.
- "Corporate memory" indicates that staff (all levels) are not/have not been consistently held accountable for safety & health expectations of the Lab. Consequences for unsafe acts, failure to report/correct unsafe conditions, and improper response to known safety hazards are not universally rendered.

Recent/Expected Changes

- The 2nd Generation Management System will inherently enhance definitive expectations related to R^2A^2's.

Conclusion

RATING	TREND
Adequate	➔

The Laboratory has a mature accountability system, which has improved and continues to improve.

Recommendations for Improvement

- Take strong and immediate steps to ensure that all managers understand their accountability for safety and their responsibilities to properly support and respond to employee concerns (especially stop-work).

- Consider whether information about safety and health accountability (e.g. disciplinary action as well as positive lessons learned) could be more frequently/widely distributed without compromising Human Resources principles of confidentiality.

Tenet: ***Management Leadership***
Element: ***Resources***

Evaluator: Chub Bowers, Vern Madson

ASSESSMENT

Strengths

- All interviews and reviews indicate adequate staffing, equipment and supplies.
- All interviews and reviews indicate an adequate budget for safety and health.
- Safety and Health technical resources are highly qualified and adequate numbers exist.

Weaknesses

- Operational resources (including safety) are not as well aligned with the business processes of the Laboratory as is desired.

Recent/Expected Changes

- The 2nd Generation Management System intends to address the alignment of operational resources via the business process.

Conclusion

RATING	TREND
Good	➔

The Laboratory resources dedicated to safety and health are of sufficient quantity and quality to support an excellent worker safety and health program, which qualifies for star status.

Recommendations for Improvement

- Continue efforts to improve alignment and allocation of resources associated with the 2nd Generation Management System and the 2010 planning process.

Tenet: *Management Leadership*
Element: *Planning*

Evaluator: Chub Bowers, Vern Madson

ASSESSMENT

Strengths

- The Laboratory planning process is systematic, comprehensive and it stimulates accountability on the research side.
- The F&O Job Planning Package (JPP) process is a comprehensive, integrated process providing task safety & health input from craft staff, facility/discipline SME's, supervisory, and safety & health professionals.
- A comment sheet completed after the job indicates problems encountered or special information that can serve as lessons learned.

Weaknesses

- The Laboratory Integrated Business Planning Framework and the SBMS are highly effective, however they are complex and hard to explain to the outside visitor or evaluator.
- Safety requirements are not always well communicated between planners and doers (e.g., PPE requirements, High Voltage Work).
- Lack of consistent, formalized Post-Job reviews for corrective measures provides little feedback for future similar jobs.
- The best/most appropriate equipment is not always available to perform jobs (e.g., providing PPE instead of engineered controls).

Recent/Expected Changes

- The 2nd Generation Management System Operational Improvement Initiative will map and describe the Expert Delivery work process and help ensure the implementation of a consistent process for work planning and control across organizations, Product Lines, and Management Systems.
- Formalizing a process for consistent Post-Job reviews will replace the Comment Sheet currently added by the Planning & Scheduling groups.
- A new planning and process tool will integrate and enhance the efficiency and effectiveness of R&D work planning and control. By merging the EPR, SBMS, and IOPS tools to formulate a more efficient process and tool, reduced planning labor will provide cost savings as well as improve focus on identification, evaluation, and mitigation of ES&H Hazards. Resulting in fewer accidents, injuries, illnesses, and near misses, the planning tool will avoid project and overhead costs and continue to improve marketability at the Lab.

Conclusion

RATING	TREND
Good	↗

Work planning at the Laboratory is a constantly evolving, increasingly integrated and consistent process. Research and support work is planned with SBMS requirements for safety, health, and environmental considerations and lessons learned are increasingly incorporated in subsequent experimental and maintenance work. IOPS provides renewed consistency to affected facilities in addressing hazards and planning out potential consequences.

Recommendations for Improvement

- Carry out planned changes (e.g., CMS, Beryllium initiatives) and continue active interface with all personnel, encouraging problem-solving and increased commitment to careful focus/planning for safety and health at all levels.
- Consider using formal "Post Job Reviews" to capture lessons learned and feed future job planning.

Tenet: ***Management Leadership***
Element: ***Contract Workers***

Evaluator: Chub Bowers, Vern Madson

ASSESSMENT

Strengths

- Job planning packages are well-defined and completed with multiple inputs from stakeholders and respective workforce.
- Past health & safety statistics are used to help determine contract awards.
- Sub-contractors work to PNNL requirements and/or job planning packages with SOPs reviewed by PNNL.
- Sub-contractor employees take the PNNL site orientation.

Weaknesses

- Hours worked by sub-contractors compared to injuries experienced are not well documented.
- Safety requirements not always well communicated between organizations (e.g. PPE requirements for high voltage work).
- There is a lack of formal Post-Job reviews for corrective measures/lessons learned.
- The best/correct equipment is not always used to perform a job (e.g. use of PPE instead of engineered controls).
- Process to communicate hazards to subcontractors and ensure they work safely needs additional improvement. {From Worksite Analysis: Pre-Use/Pre-Startup Analysis}

Recent/Expected Changes

- ES&H is preparing a method of tracking actual sub-contractor work hours in order to gain statistical accuracy/comparisons.
- Integrated Post-Job reviews are increasing to replace prior package comment sheets.

Conclusion

RATING	TREND
Adequate	➔

Work planning includes solid means of identifying and mitigating hazards. Continuous improvement measures and recognized needs for improvement are formally scheduled and tracked to completion on ATS. Communication of safety requirements is generally good but warrants continuous improvement.

Recommendations for Improvement

- Consistently conduct integrated Post-Job reviews and communicate the details to maximize utilization of lessons learned and promote employee involvement.
- Consider a more in-depth evaluation of the adequacy of the process of developing Letters of Instruction for subcontractors (notably Fluor Federal Services, which expressed that there is room for improvement during their VPP On-Site Review). {From Worksite Analysis: Pre-Use/Pre-Startup Analysis}

Tenet: ***Management Leadership***
Element: ***Program Evaluation***

Evaluator: Chub Bowers, Vern Madson

ASSESSMENT

Strengths

- A comprehensive, integrated assessment process is well established in the Laboratory and documented as implementation requirements in SBMS, Integrated Assessment Subject Area.
- Critical outcomes resulting from self-assessments, audits and oversight assessments (internal/external) effectively capture and track proposed corrective actions.
- Process owners clearly understand their R^2A^2's in self-examination and improvement plans; planning/scheduling of process elements are a critical part of the continued success for the Laboratory and include safety and health records, reviews, and goals.
- Line organizations are well-engaged in self-assessment activities and track corrective actions also to maintain consistent operations-level self improvements.

Weaknesses

- Over time, ES&H related objectives have become inconsistently applied to individual SDR's, while remaining critically important to the Laboratory and its primary client.

Recent/Expected Changes

- Corrective actions identified in all evaluations (rather than individually mentioned here) continuously change and improve Laboratory processes as they are completed.

Conclusion

RATING	TREND
Good	↗

PNNL has long established itself as a leader in progressive, continuous improved processes to serve its mission. The Integrated Assessment Management System provides a three-pronged approach to continually review, test, and evaluate management control systems at PNNL. These elements are: Self-Assessment, Internal audit, and Independent Oversight activities. Integrated

assessment results are comprehensive and well-utilized throughout the Lab to gain information that continues to mature the Lab as a leader in VPP readiness among all the national laboratories.

Diligent safety & health program evaluation has evolved over time and has provided strong bases for PNNL to become a premier R&D facility; repeatedly earning the highest ratings from the primary client. Performance improvements over the past few years are largely attributed to the use of a well-designed self-assessment program. Self-assessment activities provide sustained, reasonable assurance that Laboratory work is conducted in a manner that protects the environment and the health and safety of workers and the public.

Recommendations for Improvement

- Resume ES&H goals/objectives inside all individual staff SDR's to ensure Safety and Health R^2A^2's are reinforced at every level. This provision would lead to even more deeply imbedded evaluations of staff-level safety and health activities, and stimulate waste minimization, recycling, housekeeping, and safe work awareness under the direct control of the individual staff member.
- Formally incorporate the annual VPP Evaluation as a critical task for process owners and provide guidance for accomplishing the review(s) as they respectively apply.

Tenet: ***Management Leadership***
Element: ***Site Orientation***

Evaluator: Chub Bowers, Vern Madson

ASSESSMENT

Strengths

- The PNNL Orientation modules are Web-based (available remotely even prior to arrival, if need be) and provide a broad range of information including environment, emergency, safety, and health provisions of the Laboratory.
- Access badging is incorporated as a control point to ensure appropriately completed site orientation for all personnel at the PNNL complex.
- Site Orientation modules undergo regularly scheduled reviews and up-dates the same as all other approved training to ensure accurate, current information.
- IOPS provides job-specific orientation and appropriate safety and health training to all personnel in designated facilities.
- Hosts of non-staff/visiting staff, and all others are responsible for communicating training/orientation needs to those individuals and ensuring completion of that training/orientation.

Weaknesses

- None

Recent/Expected Changes

- SBMS now includes a Recruiting and Hiring Subject Area, *PNNL Orientation* that provides consistent, needs-specific training module requirements for new hires, visitors, visiting staff with projected tasks, students, vendors, and contractors.
- IOPS now includes a personnel training matrix that designates specific hazard-based training for affected individuals.

Conclusion

RATING	TREND
Good	↗

Site Orientation at the Laboratory is a well-designed, formalized, and effective process. Unique hazards of both research and support work at the PNNL complex are addressed as appropriate by utilizing hazards-based modules and general information modules. The Web-based options are excellent resources for personnel planning to visit or work at this site; platform orientation and training has been significantly decreased with this progressive and expedient means of providing needed training and orientation. New hire orientation is well-received due to its appropriate scale and timeliness; getting properly prepared staff to work in a comparatively short time as needed. This orientation process is continuously improving as a target of integrated inputs.

Recommendations for Improvement

- None

Tenet: ***Management Leadership***
Element: ***Employee Notification***

Evaluator: Chub Bowers, Vern Madson

ASSESSMENT

Strengths

- Critical safety and health rights, responsibilities, and information is delivered to PNNL employees by numerous techniques; designed to appeal to divergent audiences throughout the Laboratory (meetings, training, posters, orientations, briefings, Web-pages, etc.).
- The Laboratory is exemplary in finding Web-based applications to impart information to staff, non-staff, and stakeholders.
- Newsletters are regularly and frequently produced by dozens of working groups, special interest groups, Divisions, and Product Lines; all communicating an integrated approach to ensure employee awareness of useful and current information.
- SBMS provides comprehensive, cross-cutting requirements and proceduralizes activities and systems that support on-going employee clarity on ES&H expectations (eg. medical exams, right to review safety-related monitoring, investigations, etc.)

Weaknesses

- Interpretations, utilization, and understanding of Laboratory initiatives (e.g., VPP, R^2A^2, Stop Work, etc.) appear to fall from one end of the scale to the other, indicating that "Roll-Out" of meaningful information (e.g. the VPP path forward) is not always strategically planned and executed.
- Navigation through Web-based information is sometimes unclear to the wide-spectrum of computer users on the PNNL site.
- Safety & health communications to staff do not include relaying incidents of R^2A^2 mis-steps that would strengthen lessons learned through-out the Lab. For example: safety issue corrections, disciplinary actions, or program accountabilities resulting from safety & health issues are not shared across the Lab.

Recent/Expected Changes

- The PNNL VPP Web-site is continuously improving to maintain a consistent communication with employees.

Conclusion

RATING	TREND
Adequate	↗

Employees are generally aware of their safety rights and responsibilities and of PNNL's VPP program. Continuous improvement in this area is needed to address employee involvement issues.

Recommendations for Improvement

- Continue efforts to improve employee awareness of their safety rights and responsibilities, and of the VPP program.

Tenet: *Employee Involvement*

SUMMARY

TENET/ELEMENT	ASSESSMENT SUMMARY	TREND
Employee Involvement		
Degree and Manner of Involvement	**Adequate**	➔
Safety Committees	**Adequate**	➔

TENET RATING

TENET	ASSESSMENT SUMMARY	TREND
Employee Involvement	**Adequate**	➔

SYNOPSIS

There is good worker involvement in safety in R&D projects and in general across the Lab (i.e. workers feel empowered to address safety issues and feel that they work in a safe environment). Processes such as IOPS and SBMS provide excellent vehicles for employee involvement, and small R&D work teams practice excellent integration of safety into work processes. However, there are issues associated with employee involvement at PNNL:

- R&D workers are relatively apathetic toward traditional forms of employee involvement such as safety committees.
- Not all bargaining unit workers feel involved or empowered to address safety issues.

There is a need for employee involvement in safety committees to be better institutionalized and more formalized (in terms of process, responsibilities, and authorities).

ISSUES AND RECOMMENDATIONS

ISSUE: Not all bargaining unit workers feel involved or empowered to address safety issues and some R&D workers are relatively apathetic toward traditional forms of employee involvement such as safety committees.

RECOMMENDATION:

- Take strong and immediate steps to ensure that all workers are empowered to address safety issues (especially stop-work).

ISSUE: Some safety-related committees do not have formalized processes for membership or decision-making, and are not directly associated with the operating structure of the Laboratory.

RECOMMENDATION:

- Institutionalize and formalize safety committees (role, responsibilities, accountabilities, authorities, establishment of agenda, minutes, quorum rules, decision-making, training, membership selection).

Tenet: ***Employee Involvement***
Element: ***Degree And Manner of Involvement***

Evaluators: Rich Garretson, Todd Hart

ASSESSMENT

Strengths

- Researchers have safety so integrated into their work it has become a way of life & doing business.
- A typical R&D worker said "Safety is a part of everything I do and therefore integral to the performance of my job."
- Close-knit R&D workgroups
- Strong worker participation in safety committees, SBMS and IOPS.
- Good relationship with immediate manager is common.
- Bargaining unit workers are involved in pre-job walkthroughs, safety committees, SBMS, IOPS, and critiques.
- Workers have documented stop-work authority.

Weaknesses

- There is a sense of apathy from the R&D scientists for activities (e.g. VPP) that do not appear to be related to their science.
- There is a legacy of concerns from the past with some workers.
- Feedback on concerns is not always provided from management to staff (bargaining unit and R&D staff)
- There are examples that stop-work authority is not perceived to be universally supported by some managers.
- Individual bargaining unit workers may not always be involved in pre-job walkthroughs (although they are represented by other bargaining unit workers).
- Pre-job walkthroughs are sometimes conducted on work when it is perceived as redundant or unnecessary.
- Bargaining unit worker input not always incorporated into work plans.

Recent/Expected Changes

- F&O management has been working to improve processes for work planning and addressing concerns (through organization changes, better communication).

Conclusion

RATING	TREND
Adequate	➔

There is inconsistent employee involvement across the Lab. Most R&D staff who perform potentially hazardous work are very involved in safety because it is integral to their work. However, most R&D staff are not usually involved in traditional "employee involvement" activities, such as safety committees. Involvement in SBMS and IOPS activities by R&D staff is strong and increasing.

Continuing efforts are needed to improve F&O work planning processes and the mechanism for dealing with concerns.

Recommendations for Improvement

- Gain more worker involvement in safety program activities such as safety committees, SBMS, and IOPS. This worker involvement should include R&D workers as well as bargaining unit workers who are directly affected by the scope of the activity.
- Continue efforts to improve work planning and how concerns are addressed (across the Lab, but particularly with bargaining unit staff)

Tenet: ***Employee Involvement***
Element: ***Safety Committees***

Evaluators: Rich Garretson, Todd Hart

ASSESSMENT

Strengths

- There are numerous safety committees and activities associated with specialized subject areas (SBMS) or program implementation efforts (IOPS). Therefore there are many opportunities for staff to be involved in improvement of PNNL's safety programs.
- Committees use the intranet to deliver information.

Weaknesses

- All staff do not know what VPP is about, even though they know how to work safely.
- Committee processes are often not formalized.

Recent/Expected Changes

- Porcelain Press is being implemented in most PNNL facilities to communicate DOE-VPP to all staff.

Conclusion

RATING	TREND
Adequate	➔

The use of safety committees for employee involvement has been a relatively minor approach for addressing safety issues at PNNL. Worker involvement is integral to the relatively new processes of SBMS subject area development and IOPS implementation. There is a lack of formality and rigor in the implementation of safety committees that exist and this is recognized as an improvement opportunity for the Lab.

Recommendations for Improvement

- Institutionalize and formalize safety committees (role, responsibilities, accountabilities, authorities, establishment of agenda, minutes, quorum rules, decision-making, training, membership selection).

Tenet: *Worksite Analysis*

SUMMARY

TENET/ELEMENT	ASSESSMENT SUMMARY	TREND
Worksite Analysis		
Pre-Use/Pre-Startup Analysis	**Good**	↗
Comprehensive Surveys	**Good**	↗
Self-Inspections	**Good**	→
Routine Hazard Analysis	**Good**	↗
Employee Reporting of Hazards	**Adequate**	↗
Accident Investigations	**Good**	→
Trend Analysis	**Adequate**	→

TENET RATING

TENET	ASSESSMENT SUMMARY	TREND
Worksite Analysis	**Good**	↗

SYNOPSIS

Workplace hazards are well analyzed both before work begins and periodically thereafter. There are several initiatives to improve the processes and worker/management empowerment and knowledge needed to support better worksite analysis. Improvements need to be made in the area of employee reporting of hazards (empowerment) and trend analysis (using results of data that is collected).

ISSUES AND RECOMMENDATIONS

ISSUE: Management in some parts of the organization has not consistently demonstrated excellent response to employee concerns and reports of hazards.

RECOMMENDATIONS:

- Continue programs and efforts to ensure that immediate managers encourage employee reporting of hazards and respond properly to such reports.
- Consider ways to improve the capture (document) of employee reports of hazards and use the results for trend analysis.

ISSUE: Self-assessments should continue to be improved in terms of process, and the development and communication of trend analysis.

RECOMMENDATIONS:

- Consider options to improve the effectiveness of self-assessments such as a means to better communicate assessment results between similar divisions and/or implementing a process to rotate subject matter experts

between divisions on self-assessments as a way of getting “fresh eyes” to look at spaces.

- Consider how to improve trend analysis processes across the Lab, particularly related to self-assessment results and hazard analysis information.

Tenet: ***Worksite Analysis***
Element: ***Pre-Use/Pre-Startup Analysis***

Evaluators: Drue Collins, Pat Wright

ASSESSMENT

Strengths

- SBMS provides comprehensive, consistent requirements for planning for, analysis of, and control of hazards.
- EPR provides a good start for hazard identification for R&D projects.
- IOPS provides excellent bench level controls including R^2A^2, access control, and training to required practices, permits, and procedures.
- 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.

Weaknesses

- The process for work planning is not fully mapped, described, or consistent across organizations and management systems.
- There are redundancies and gaps in work planning tools that are inefficient and can lead to inadequate worksite analysis.
- Existing tools that support worksite analysis are not well integrated and do not always share/communicate information between them or to key roles in the work planning and control process.
- The process to communicate hazards to subcontractors and ensure they work safely needs additional improvement.

Recent/Expected Changes

- The 2nd Generation Management System Operational Improvement Initiative will map and describe the Expert Delivery work process and help ensure the implementation of a consistent process for work planning and control across organizations, Product Lines, and Management Systems.
- The Hazard Analysis Operational Improvement Initiative will develop and implement an integrated work planning process that facilitates communication of hazard identification and mitigation information between tools that support worksite analysis and hazard prevention & control, and to key roles in the work planning and control process.
- Improvements initiated by the FY2000 VPP Program Evaluation are improving the specifications for procurements of goods and services.

Conclusion

RATING	TREND
Good	↗

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. Self-evaluations have identified several opportunities for improvement, which are addressed by current initiatives at the Lab level. Those initiatives will result in continuous improvement in the identification, analysis, and mitigation of hazards.

Recommendations for Improvement

- Continue supporting Operational Improvement Initiatives, including the 2nd Generation Management System and the Hazard Analysis Initiative.
- Continue with actions to address FY2000 VPP Program Evaluation conditions related to subcontractor communications and oversight.
- Consider a more in-depth evaluation of the adequacy of the process of developing Letters of Instruction for subcontractors (notably Fluor Federal Services, which expressed that there is room for improvement during their VPP On-Site Review).
- Re-evaluate the need for Lab-level requirements for construction safety.

Tenet: *Worksite Analysis*
Element: *Comprehensive Surveys*

Evaluators: Drue Collins, Pat Wright

ASSESSMENT

Strengths

- IOPS provides a hazard awareness summary that is periodically updated.
- EPR provides an initial determination of hazards associated with each project.
- Baseline hazard surveys have been conducted for significant hazards such as asbestos, noise, beryllium, radiation or radiological contamination, and confined spaces.
- The Chemical Management System identifies and quantifies chemical hazards.
- The Map Information Tool provides a hazard summary, which is comprehensive for IOPS spaces and contains available information for other spaces.
- Hazard surveys are performed by staff qualified as safety and health professionals, or by Cognizant Space Managers who "own" the space and make use of safety and health professionals as needed.

Weaknesses

- IOPS has not yet been implemented in all facilities.
- EPR does not "inform" IOPS of hazards that are planned for a space.

Recent/Expected Changes

- IOPS is being rolled-out to all facilities where potentially hazardous work is conducted.
- The Hazard Analysis Operational Improvement Initiative is linking EPR and IOPS.

Conclusion

RATING	TREND
Good	↗

Comprehensive surveys have been conducted as appropriate and are maintained in a constantly changing environment of research projects. Continuous improvement initiatives are focused on making the results of comprehensive surveys more accessible to those who need to use them.

Recommendations for Improvement

- Continue support for continuous improvement initiatives such as the IOPS roll-out OII and the Hazard Analysis OII.

Tenet: *Worksite Analysis*
Element: *Self-Inspections*

Evaluators: Drue Collins, Pat Wright

ASSESSMENT

Strengths

- The self-assessment process is well defined in the SBMS subject area, Integrated Assessment.
- Line organizations perform self-assessments in accordance with an approved "Division/Directorate or Management System assessment plan".
- Field deployed subject matter experts are well integrated into the organizations' self-assessment program.
- Management system self-assessments are performed in accordance with approved procedures.
- An independent oversight group performs unbiased assessments.
- Quarterly self- assessments are performed by the Cognizant Space Managers in IOPS facilities.

Weaknesses

- Results that are not considered "significant" may not be shared between Divisions/Directorates that may have similar circumstances.
- Matrixed ES&H staff and CSMs may become complacent with lab space and hazards.

Recent/Expected Changes

- None

Conclusion

RATING	TREND
Good	➔

PNNL has implemented a rigorous self-assessment program. The program includes the assessment of Line Organizations (divisions/directorates) and the Management Systems (programs). Results of the self-assessment are thoroughly analyzed and produce suggestions for continuous improvement. Results of assessments could be better communicated between similar divisions.

Recommendations for Improvement

- Develop a means to better communicate assessment results between similar divisions.
- Consider implementing a process to rotate subject matter experts between divisions on self-assessments as a way of getting “fresh eyes” to look at spaces.

Tenet: *Worksite Analysis*
Element: *Routine Hazard Analysis*

Evaluators: Drue Collins, Pat Wright

ASSESSMENT

Strengths

- EPR identifies hazards for projects and provides pointers/links to SBMS requirements associated with the hazards.
- IOPS ensures that hazards are controlled (permits in place, access to space is controlled, training is complete and current).
- 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 implement their hazard analysis responsibilities.
- Hazard Awareness Summaries (IOPS) are used to inform/train staff entering space.
- Permits, procedures, and practices are used to train/qualify staff to perform work safely.
- Formal training is driven by analysis of the hazards a staff member will be exposed to through the Staff Development and Training Plan (SDTP).
- Lesson plans are based on SBMS requirements, lessons learned, and program assessments.

Weaknesses

- IOPS has not yet been implemented in all facilities where potentially hazardous work is performed.
- EPR does not "inform" IOPS of hazards that are planned for a space.
- There is inconsistent implementation of routine hazard analysis (particularly in non-IOPS spaces).

Recent/Expected Changes

- IOPS is being rolled-out to all facilities where potentially hazardous work is conducted.
- The Hazard Analysis OII is linking EPR and IOPS.

Conclusion

RATING	TREND
Good	↗

There is a strong process for ensuring that hazards are routinely analyzed and mitigated. The process is being improved by several Operational Improvement Initiatives.

Recommendations for Improvement

- Continue support for continuous improvement initiatives such as the IOPS roll-out OII, SDTP/EJTA/JETS OII, and the Hazard Analysis OII, which will integrate tools for routine worksite analysis.

Tenet: ***Worksite Analysis***
Element: ***Employee Reporting of Hazards***

Evaluator: Drue Collins, Pat Wright

ASSESSMENT

Strengths

- The need to report accidents and significant hazards is well established.
- Workers have documented stop-work authority
- Communications between employees and immediate managers, and with support staff such as Building Managers, Safety & Health Representatives, etc. is typically open and effective at identifying and resolving issues.
- Numerous avenues are available for employees to report hazards, both formally and informally.

Weaknesses

- Hazards may not always be reported if they are fixed by employees. This may lead to loss of trend information.
- In some cases relationships between employees and immediate managers or support staff could be strengthened.
- There have been a few cases where employees have not been satisfied with the way their concerns about hazards were addressed. In a few isolated cases employee reports of hazards have not been properly acted on by management.
- In some cases, employees may not recognize the need to take action to report hazards that affect workers other than themselves.
- There is no formal process for capturing minor employee reports of hazards.

Recent/Expected Changes

- F&O recently reinforced the need for managers to support employee reporting of hazards and concerns, and an improved program for addressing concerns has been developed.
- A long-term trend of better knowledge and implementation of Roles, Responsibilities, Accountabilities, and Authorities is yielding better performance and relationships between managers, staff, and support groups.
- IOPS has significantly improved the empowerment of employees who are Cognizant Space Managers to identify and take action to correct hazards in their space.

Conclusion

RATING	TREND
Adequate	↗

There is a good culture of employees identifying and correcting hazards. IOPS is helping to strengthen that culture. Workers typically have a good relationship

with their immediate manager and support staff who can help them properly address hazards. There is less focus on documenting employee-reported hazards and analyzing the information for trends (both related to hazard as well as culture). Management in some parts of the organization has not consistently demonstrated excellent response to employee concerns and reports of hazards, although performance in that area is improving with greater formality in operational processes (e.g. IOPS) and culture.

Recommendations for Improvement

- Continue programs and efforts to ensure that immediate managers encourage employee reporting of hazards and respond properly to such reports.
- Continue improving operational processes such as IOPS, which empower staff to report and address hazards.
- Consider ways to improve how employee reports of hazards are captured, and use the results for trend analysis.

Tenet: *Worksite Analysis*
Element: *Accident Investigations*

Evaluators: Drue Collins, Pat Wright

Assessment

Strengths

- The lab has a comprehensive program for reporting off-normal events. The program is well defined through the Off-Normal Event (ONE) Reporting program that consists of the SBMS subject area Event reporting and the *Off-Normal Event program description.*
- Accident investigations relating to injury/illness are well defined in the SBMS subject area *Injury or Illness.* The subject area incorporates the Safety and Health Management System (SHIMS). The SHIMS program enables a variety of reports and trending analysis. Management, staff and integrated ES&H staff members are incorporated into the process.
- Occurrence reporting guidelines are well described in the *Event Reporting* SBMS subject area. The Assessment Closure (Corrective Action Management) is well defined and provides a good means to track corrective actions. The lab is continuing to improve its distribution of Lessons Learned and Best Practices through the recent implementation of a web-site.
- The Radiological Problem Reports program is well defined and detailed in the SBMS subject area.

Weaknesses

- Staff below the management level should be more knowledgeable of the reporting requirements relating to occurrences.
- Staff should have better access to the results of accident investigations (including critiques).
- Results of occurrences and accident investigations are not always integrated into future planning processes.
- There continues to be a need to better communicate the results of occurrence reports and critiques back to the workers involved and all potentially interested/affected staff.

Recent/Expected Changes

- None

Conclusion

RATING	TREND
Good	➔

Accident investigations are well defined and incorporate a rigorous reporting, investigating, analysis, tracking, and distribution process. General knowledge regarding staff reporting requirements could be enhanced.

Recommendations for Improvement

- Provide staff with a brief reminder of Occurrence reporting responsibilities.
- Consider improving the process for sharing lessons learned from critiques with staff.

Tenet: *Worksite Analysis*
Element: *Trend Analysis*

Evaluators: Drue Collins, Pat Wright

ASSESSMENT

Strengths

- The Assessment Tracking System captures assessment information and provides good reporting (including some trending).
- Radiological dose trend analysis is very strong (ALARA program).
- Injury and illness trends are analyzed and reported.
- IOPS captures hazard analysis data.
- Let's Talk process trends employee reports of problems.

Weaknesses

- There is no comprehensive Lab-level trend analysis process for:
  - Injury/illness cause
  - Self-assessment data
  - Employee reporting of hazards
- Trend analysis processes that are in place are decentralized.
- There is no Lab-level trending of hazard analysis data.

Recent/Expected Changes

- IOPS is beginning to deliver self-assessment data to divisions.

Conclusion

RATING	TREND
Adequate	➔

The ALARA program provides good trending of radiological dose data. The ATS system and IOPS provide good systems to capture data and they are beginning to contribute to Lab-level trending efforts. However, trend analysis processes across the Lab (particularly related to self-assessment results and hazard analysis information) could be improved.

Recommendations for Improvement

- Consider how to improve trend analysis processes across the Lab, particularly related to self-assessment results and hazard analysis information.

Tenet: *Hazard Prevention & Control*

SUMMARY

TENET/ELEMENT	ASSESSMENT SUMMARY	TREND
Hazard Prevention & Control		
Professional Expertise	**Good**	➔
Safety & Health Rules	**Good**	↗
Personal Protective Equipment	**Good**	➔
Preventive Maintenance	**Good**	↗
Emergency Preparedness	**Good**	➔
Radiation Protection Program	**Good**	↗
Medical Programs	**Good**	↗
Occupational Safety & Health Programs	**Good**	↗

TENET RATING

TENET	ASSESSMENT SUMMARY	TREND
Hazard Prevention & Control	**Good**	↗

SYNOPSIS

There is very good prevention and control of hazards at PNNL. The availability of excellent programs (SBMS and IOPS) and highly knowledgeable support staff assure that significant hazards are properly addressed. There is a need to better communicate safety and health principles and requirements to staff. 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.

ISSUES AND RECOMMENDATIONS

ISSUE: Not all staff members and managers are aware of the professional expertise that is available to support them regarding worker safety and health.

RECOMMENDATION:

- Continue efforts to broadly communicate the availability of safety and health expertise to managers and staff who may need to use it.

ISSUE: Workers with ancillary safety and health responsibilities could benefit from additional training.

RECOMMENDATION:

- Develop and implement a process to provide staff members having ancillary safety and health responsibilities with training to support their safety and health responsibilities and the requirements that apply to their work.

Tenet: ***Hazard Prevention and Control***
Element: ***Professional Expertise***

Evaluators: Mike Fullmer, Russ Meicenheimer, Pat Wright

ASSESSMENT

Strengths

- There are an adequate number of well-qualified safety and health professionals supporting Hazard Prevention & Control at PNNL.
- Safety and health professionals are field-deployed to provide support to all potentially hazardous activities.
- Well-documented IH sampling/ monitoring procedures are used including the use of certified laboratories for analysis.

Weaknesses

- Staff members with ancillary safety and health responsibilities (e.g. safety committee members) are not always provided with additional safety and health training to support their duties.
- Staff members do not always know who their field-deployed safety and health representatives are.

Recent/Expected Changes

- None

Conclusion

RATING	TREND
Good	➔

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 the communication of the availability of safety and health expertise.

Recommendations for Improvement

- Consider providing additional training to safety committee members and others with ancillary safety responsibilities, focusing on their duties such as hazard identification and mitigation, and program leadership.
- Continue efforts to broadly communicate the availability of safety and health expertise to managers and staff who may need to use it.

Tenet: ***Hazard Prevention and Control***
Element: ***Safety & Health Rules***

Evaluators: Mike Fullmer, Russ Meicenheimer, Pat Wright

ASSESSMENT

Strengths

- SBMS is an excellent repository and vehicle for safety and health "rules" (required procedures and suggested guidelines).
- SBMS contains standards and applicability statements that make it clear that safety and health rules apply to all staff members including managers.
- The Worker Safety & Health Management System provides excellent stewardship for safety and health rules.
- There are clear Roles, Responsibilities, Accountabilities, and Authorities for important safety and health-related roles contained in SBMS.
- There is a clear, consistent process for accountability articulated by the Human Resources Management System and contained within SBMS. This includes the establishment of expectations and goal-setting, annual performance evaluations, and disciplinary action.
- There are good processes for recognizing ES&H excellence within the rewards and recognition programs for each organization, and at the Lab-level.
- Lessons learned regarding safety issues are communicated via the SBMS Lessons Learned/Best Practices website, and through direct e-mails to special mailing lists when judged to be appropriate by managers or support staff.

Weaknesses

- SBMS is somewhat complex and difficult to navigate.
- Staff often rely on past experience/ knowledge rather than current information/ requirements.
- The fact that disciplinary actions for safety infractions are not broadly communicated could be reducing the awareness that there is strong accountability for safety and health performance.

Recent/Expected Changes

- SBMS organization and navigation is the subject of continuous improvement efforts and several Operational Improvement Initiatives (e.g. 2nd Generation Management System, Integrated Operations, and Hazard Analysis Initiative).

Conclusion

RATING	TREND
Good	↗

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 and managers and they are consistently implemented. There is certainly room for improvement in both the content and organization of Occupational Safety & Health Programs, and continuous improvement is being achieved through self-assessment by Management System Owners (such as the Worker Safety & Health Management System) and involvement of staff members in the development of new requirements (SBMS subject areas) and the roll-out of Integrated Operations (IOPS). There is strong accountability for safety and health performance based on compliance with safety and health rules.

Recommendations for Improvement

- Continue planned improvement initiatives (SBMS continuous improvement, IOPS OII, 2nd Generation Management System, and Hazard Analysis Initiative).
- Consider whether information about safety and health accountability (e.g. disciplinary action as well as positive lessons learned) could be more frequently/widely distributed without compromising Human Resources principles of confidentiality.
- Add more detail about safety and health-related recognition programs (e.g. the F&O "Thumbs Up" award) to the application.

Tenet: ***Hazard Prevention and Control***
Element: ***Personal Protective Equipment***

Evaluators: Mike Fullmer, Russ Meicenheimer, Pat Wright

ASSESSMENT

Strengths

- There is a written program that addresses the elements defined in regulatory requirements for a PPE Program.
- All PPE is provided free and readily made available to the users.
- There are specific training programs (e.g. fall protection, electrical, respiratory, and hearing protection) for PPE as defined in vertical regulatory standards.
- A PPE assessment was performed for selected craft people to evaluate the proper use of PPE. Accident injury/illness data was used to focus on potential concerns involving the proper use of PPE.
- Permits and training identify the correct PPE to be used for potentially hazardous situations
- PPE is recognized as the "last line of defense" and other controls such as engineered controls and substitution are preferred.

Weaknesses

- Users of PPE have a good understanding of PPE use and hazards associated with a specific PPE requirement e.g. electrical. If the PPE involves hand protection, eye protection, torso protection, or foot protection involving other tasks, there is sometimes inadequate understanding of the correct PPE for the hazard by the user.

Recent/Expected Changes

F&O has reinforced the expectations that field supervisors will:

- familiarize their workers with the types of PPE available and the limitations of the PPE.
- select PPE when practical that provides a level of protection greater than the minimum required to protect staff from recognized hazards.
- ensure staff are using PPE by performing direct observation in the field.

Conclusion

RATING	TREND
Good	➔

There is a written program that when followed would ensure adequate protection for staff members using PPE. Staff members who perform routine tasks (e.g. working in machine shops or laboratories) involving potential hazards that require the use of PPE have a good understanding of PPE protection requirements.

Staff members who perform infrequent or non-routine jobs that are not formally evaluated sometimes do not understand the level protection required to mitigate the hazard.

Recommendations for Improvement

- A method should be implemented to assure that users of PPE not associated with a specific PPE training program understand the use and limitations of PPE they are expected to wear for hazards they could encounter.

Tenet: ***Hazard Prevention and Control***
Element: ***Preventive Maintenance***

Evaluators: Mike Fullmer, Russ Meicenheimer, Pat Wright

ASSESSMENT

Strengths

- There is a formal process for evaluating equipment and systems for developing 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.
- All users have an opportunity to provide comments and request changes during the PM development process. This includes the craft performing the PMs. Craft people are encouraged to provide feedback when performing PMs to improve the PM user-friendly capability in the field.
- All completed PMs are reviewed by the Facility Engineer to make corrections to the PM process and to ensure any discrepancies noted on the PMs are corrected
- Normally a pre-job planning meeting is conducted with craft people before the PM is performed to ensure they understand the requirements and to address any concerns they have with the PM.

Weaknesses

- The current PM format is not very user-friendly and the organization responsible for revising PMs is in the process of reformatting the PMs.

Recent/Expected Changes

- F&O is implementing a process for craft participation in reviews of PMs, standard maintenance, and SOPs.

- F&O is establishing a process for pre-screening and prioritizing field requested changes to PMs, standard maintenance, and/or SOPs and communicating the results to the field.
- F&O is implementing the use of Change Notices to improve responsiveness to field requested changes to PMs, standard maintenance, and/or SOPs.

Conclusion

RATING	TREND
Good	↗

There is a formal PM Program implemented that meets the regulatory requirements for performing PMs. Improvements are being implemented to make the PM Program more user-friendly.

Recommendations for Improvement

- Ensure the issues listed in "Recent/Expected Changes" above are implemented and communicated to all affected users.

Tenet: ***Hazard Prevention and Control***
Element: ***Emergency Preparedness***

Evaluators: Mike Fullmer, Russ Meicenheimer, Pat Wright

ASSESSMENT

Strengths

- All occupied facilities (>10 staff) receive an annual table top emergency drill evaluation.
- All occupied facilities (>10staff) 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.
- All staff members receive general emergency response training and facility specific training.
- PNNL relies on two emergency response providers. Their area of coverage is well defined and they participate in emergency response drills.

Weaknesses

- None

Recent/Expected Changes

- None

Conclusion

RATING	TREND
Good	➔

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 would 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. PNNL received an "Outstanding Performance Award" for their Emergency Response Program in FY 2000.

Recommendations for Improvement

- None

Tenet: ***Hazard Prevention and Control***
Element: ***Medical Programs***

Evaluators: Mike Fullmer, Russ Meicenheimer, Pat Wright

ASSESSMENT

Strengths

- There is a program (EJTAs) to assess staff members' job tasks and potential hazards. The assessments are reviewed annually, new hire or when the staff member changes job tasks. The assessments are provided to the medical provider to help understand stressors in the work environment when conducting medical exams.
- Staff members receive a new hire medical and periodic targeted exams depending on the staff member's job tasks. Voluntary health maintenance examinations are available on a frequency based on age.
- There are procedures to address the method to ensure workers receive prompt medical attention as a result of occupational injuries/illnesses.
- There is a program to ensure there are first aid responders in occupied facilities. The trained responders and first aid kits are identified in the facilities.
- There is an established Employee Assistance Program to improve the staff member's health and well being off the job. This program is strictly voluntary.

Weaknesses

- PNNL is required by DOE contract to use a sole source medical provider.
- PNNL has a limited "Return to Work Program" for occupational and non-occupational injury/illnesses.
- PNNL is behind on implementing new-hire medical examinations for some new staff.

Recent/Expected Changes

- PNNL is improving their "Return to Work" in conjunction with their Case Management Program.

Conclusion

RATING	TREND
Good	↗

PNNL has an adequate Medical Program to ensure staff members are not exposed to potential hazards or risks that could impair their health as a result of job tasks. Emergency care is adequate to ensure staff members receive prompt medical treatment to reduce the recuperation time in the event there is an injury/illness. Baseline medical exams are provided to identify existing conditions and potential exposure trends to allow for job task adjustments.

Recommendations for Improvement

- Provide timely new-hire medical examinations.

Tenet: ***Hazard Prevention and Control***
Element: ***Radiation Protection Program***

Evaluators: Mike Fullmer, Russ Meicenheimer, Pat Wright

ASSESSMENT

Strengths

- There is a strong, rigorous program based on DOE RadCon.
- Radiological control staff are well qualified and well trained.
- Focus Groups within the RadCon organization provide for good employee involvement, concentrating on continuous improvement (e.g. communications, procedures, etc.).
- There is a strong culture of RadCon compliance throughout the Lab.

Weaknesses

- There are overly restrictive requirements for some kinds of low-risk work (potentially leading to lack of credibility and acceptance of program requirements by staff).

Recent/Expected Changes

- None

Conclusion

RATING	TREND
Good	↗

The Radiological Control program was rated “Outstanding” by DOE in PNNL’s performance evaluation. This program element is considered to be very good and improving.

Recommendations for Improvement

- Continue current improvement initiatives such as the Focus Groups. Ensure that they are properly chartered.

Tenet: ***Hazard Prevention and Control***
Element: ***Occupational Safety & Health Programs***

Evaluators: Mike Fullmer, Russ Meicenheimer, Pat Wright

ASSESSMENT

Strengths

- SBMS delivers strong, well-documented programs.
- SBMS comprehensively covers hazards of PNNL work.
- SBMS provides user-oriented requirements.
- Field-deployed S&H subject matter experts provide excellent support.
- There is self-assessment of worker safety and health programs at least every 3 years.

Weaknesses

- SBMS is somewhat complex and difficult to navigate.
- Staff often rely on past experience/ knowledge rather than current information/ requirements.

Recent/Expected Changes

- SBMS organization and navigation is the subject of continuous improvement efforts and several Operational Improvement Initiatives (e.g. 2nd Generation Management System, Integrated Operations, and Hazard Analysis Initiative).

Conclusion

RATING	TREND
Good	↗

PNNL Occupational Safety & Health Programs are a model for other laboratories and have been a major factor in Battelle's selection to manage other national laboratories. There is certainly room for improvement in both the content and organization of Occupational Safety & Health Programs, and continuous improvement is being achieved through self-assessment by Management System Owners (such as the Worker Safety & Health Management System) and involvement of staff members in the development of new requirements (SBMS subject areas) and the roll-out of Integrated Operations (IOPS).

Recommendations for Improvement

- Continue planned improvement initiatives (SBMS continuous improvement, IOPS OII, 2nd Generation Management System, and Hazard Analysis Initiative).
- Seek even more worker involvement in the improvement initiatives.
- Consider how to get more independent technical expertise in the assessment of Occupational Safety & Health Programs.

Tenet: *Safety & Health Training*

SUMMARY

TENET/ELEMENT	ASSESSMENT SUMMARY	TREND
Safety & Health Training		
Employees	**Good**	↗
Supervisors	**Adequate**	➔
Managers	**Adequate**	➔

TENET RATING

TENET	ASSESSMENT SUMMARY	TREND
Safety & Health Training	**Good**	➔

SYNOPSIS

Safety and health training of workers is very good in terms of scope, coverage, timeliness, and quality. The training of supervisors and managers is less comprehensive and timely, and represents an improvement opportunity. First line managers (supervisors), in particular, could benefit from improved knowledge of their responsibilities and technical aspects of safety, as well as the skills necessary to successfully support and empower workers.

ISSUES AND RECOMMENDATIONS

ISSUE: Not all managers have adequate knowledge and skills to properly execute their safety and health responsibilities.

RECOMMENDATION:

- Develop and implement a process to ensure that managers and supervisors are knowledgeable of their safety and health responsibilities and the requirements that apply to their work.

ISSUE: Workers with ancillary safety and health responsibilities could benefit from additional training.

RECOMMENDATION:

- Develop and implement a process to provide staff members having ancillary safety and health responsibilities with training to support their safety and health responsibilities and the requirements that apply to their work.

Tenet: ***Safety & Health Training***
Element: ***Employees***

Evaluator: Drue Collins, Deana Colley

ASSESSMENT

Strengths

- Well-established ES&H T&Q Program implemented through SBMS Subject Areas.
- SDTP is a strong tool to ensure graded approach to all employees safety & health training.
- IOPS roll-out has significantly enhanced workplace-specific training/hazard mitigation in those facilities.
- On-line Site Orientation (available remotely) Subject Area expedites and improves safety & health readiness of visitors, vendors new hires, and all other non-staff.
- Training & Qualification maintains a service posture to assist all PNNL organizations in training preparation, utilizing the systematic approach to training (SAT).
- Proactive expansion of computer-based, web-based ES&H training options has significantly increased positive user reception.
- PeopleSoft tracking and computer registration, and payment utilization is continuously improving its capabilities at measurable cost savings.

Weaknesses

- None

Recent/Expected Changes

- Laboratory training principals and process owners are considering steps to increase utilization of the Hanford HAMMER Training Center for hands-on training opportunities. Discussions are currently underway; outcomes to be formally put into an execution plan.

Conclusion

RATING	TREND
Good	↗

Safety & health training processes for PNNL employees and on-site non-staff are well-established, well-received, and continuously improving. The T&Q Management System measures one performance indicator in support of Laboratory Critical Outcomes for Operational Excellence. The *ES&H Commensurate with Assigned Responsibilities* performance indicator has 3 distinguishable elements that combine to provide on-going data and ensure that ES&H training and qualification is appropriate for a complex workplace of this type. The Systematic Approach to Training (SAT) provides a protocol ensuring that new technical/regulatory information (eg., Ergonomics standard, State of Washington) is incorporated and that PNNL employees are provided with state-of-the-art learning events.

Operating as a Service Center principally for Safety & Health training, the T&Q Department also provides guidance and supporting activities for training embedded in other Management Systems. This proactive assistance posture helps ensure consistency in communication of expectations and provides a solid educational foundation for increasingly efficient safety & health efforts for this Laboratory. Other contractors and national laboratories, as well as the Battelle parent company have expressed interest in the PNNL model, and regularly seek help implementing similar training processes in their respective workplaces.

Recommendations for Improvement

- Continue to accomplish the well-defined training activities currently planned and scheduled as identified in the myriad of sources, reports, and documents produced in the past few months.
- Increase VPP information in coursework throughout the Laboratory; perhaps providing a VPP orientation separately. As VPP continues to mature in the Lab, it will grow as a critical element in collaboration with the Integrated Safety Management System (ISMS); thereby requiring up-dated information.
- Consider training all safety committee members in VPP tenets and processes.

Tenet: *Safety & Health Training*
Element: *Supervisors*

Evaluator: Drue Collins, Deana Colley

ASSESSMENT

Strengths

- Supervisors undergo similar job-hazards training as their respective personnel; preparing them to interact with safety & health professionals as needed for accomplishing work safely.
- Potential hazards-based training is available in multiple formats (Web-based, computer-based, platform); ensuring a timely, well-received method of training.
- A well-established, comprehensive job planning process helps ensure supervisors realize/mitigate hazards faced by their staff.
- Supervisors have readily cooperated in supporting the work of the VPP Committee members and realize their role in promoting an effective voluntary program at the Lab.

Weaknesses

- S&H training (other than for special regulatory requirements) at this level is largely optional.
- There appears to be a tendency to assume the "inherent skills/development" of supervisors to have proper training to supervise employees facing inherent task hazards. Training is generally hazards-based only; little emphasis on development of the supervisor in R^2A^2.
- Over-arching S&H initiatives (i.e., VPP) are inconsistently communicated specifically to supervisory staff for their input/involvement.
- VPP training for supervisory staff remains informal.

Recent/Expected Changes

- A Training Survey has been conducted by the Training & Qualification Department. The survey was designed to gain current information regarding S&H training needs of laboratory managers and supervisors. Results indicated that supervisors would engage in and support more formalized, hazard-specific, and regulatory training focused on their supervisory R^2A^2s as it becomes available.
- Training and Qualification plans to increasingly include VPP information in training courses/orientations.

Conclusion

RATING	TREND
Adequate	➔

Supervisory safety and health training at the Laboratory is available formally as well as informally. Supervisors gain important technical and regulatory environment, safety & health information by interacting with safety and health professionals, job planning teams, and assigned SME's (engineers, scientists). Supervisors are clearly familiar with the hazards facing their personnel and detailed training expectations for staff SDTP's.

Recommendations for Improvement

- Continue to formalize and incorporate VPP information into training events; minimize any perspective that VPP is passing as another level of effort initiative in safety & health.
- Consider developing safety and health training for new supervisors, focusing on technical and interpersonal skills.

Tenet: ***Safety & Health Training***
Element: ***Managers***

Evaluator: Drue Collins, Deana Colley

ASSESSMENT

Strengths

- The T&Q Department is increasingly involved in preparing training events requested by management throughout the Lab, indicating that there is recognition of the need for quality training by management.
- The Training Advisory Council includes managers from all parts of the Lab.

Weaknesses

- Managers and Supervisors are reportedly not consistently aware of their S&H R^2A^2's.
- There is no systematic process ensuring managers are formally trained in safety and health R^2A^2's, hazard recognition/mitigation, or availability of S&H professionals to assist in the workplace.

Recent/Expected Changes

- A Training Survey has been proactively conducted to gain information regarding S&H training needs of Laboratory managers and supervisors. Results have been analyzed by the T&Q Department and shared with upper management as well as the Training Advisory Council.
- IOPS has made significant strides in S&H preparedness with an embedded training matrix for affected employees. Management of these facilities is learning the program and a multi-tiered Website has been established to help inform IOPS users.
- Process owners are planning to improve integration of the IOPS Training Matrix and the SDTP. These changes will provide a tool to comprehensively address S&H training needs throughout the Laboratory. Forward planning of training events will be more efficient and accurate with this integration.

Conclusion

RATING	TREND
Adequate	➔

Management Safety & Health training is available in several formats at the Laboratory. To a large extent, formal S&H training is hazard-dependent, regulatory driven training; however, S&H topics are generally covered in several managerial readiness courses. Though formalized S&H-specific training for managers is generally optional, a recent survey indicated that managers are more likely to be "uncomfortable" with their safety and health issues rather than untrained/unqualified. Individuals in those positions have inherently been subject to long-term S&H information regarding hazard identification/mitigation, reporting, investigation, work planning, etc.

Several initiatives are currently underway or being planned by the T&Q Department to enhance and formalize S&H Manager training on a continuous improvement basis.

Recommendations for Improvement

- Develop and implement a training protocol for managers on the suggested ES&H topics, for web-based delivery, using a team of ES&H SME's, representative managers, and training developers.
- Use the Notice of Intent SBMS process to change appropriate subject area(s) to require mandatory training for all new managers. This training should be specific to the management role and be additional to any hazards-based training required for those individuals (i.e., respiratory training, hazardous waste generator, etc.).
- Cognizant Space Mangers need better training for the recently rolled-out IOPS.