DOE/EH – 0684

BECHTEL SAIC COMPANY, LLC

YUCCA MOUNTAIN PROJECT

Report from the DOE Voluntary Protection Program Onsite Review, August 11-15, 2003

U.S. Department of Energy
Office of Environment, Safety and Health
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Washington, D.C. 20585

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Contents

Abbreviations and Acronyms

AFL-CIO	American Federation of Labor - Congress of Industrial Organizations
AJHA	Automated Job Hazard Analysis
ALARA	As Low As Reasonably Achievable
BLS	Bureau of Labor Statistics
BSC	Bechtel SAIC Co., LLC
CAIRS	DOE Computer Accident/Incident Reporting System
CATS	Computer Aided Tracking System
CIH	Certified Industrial Hygienist
CSP	Certified Safety Professional
DOE	U.S. Department of Energy
ES&H	Environment, Safety and Health
ESH&Q	Environment, Safety, Health & Quality
EWP	Enhanced Work Planning
FY	Fiscal Year
ISMS	Integrated Safety Management System
JHA	Job Hazard Analysis
JSA	Job Safety Analysis
LOTO	Lockout/Tagout
mb	millibar – unit(s) of atmospheric pressure
MSDS	Material Safety Data Sheets
OCRWM	Office of Civilian Radioactive Waste Management's
OJT	On the Job Training
ORPS	Occurrence Reporting Program System
OSHA	U.S. Department of Labor's Occupational Safety and Health Administration
PM	Preventive Maintenance
POD	Plan Of The Day
PPE	Personal Protective Equipment
ROD	Record of Decision
RPM	Risk Prioritization Matrix

RWP	Radiation Work Permit
S&H	Safety and Health
SIC	Standard Industry Code
SME	Subject Matter Expert
VPP	Voluntary Protection
YMSCO	Yucca Mountain Site Characterization Office

Executive Summary

The Department of Energy Voluntary Protection Program (DOE-VPP) onsite review of Bechtel SAIC Co., LLC (BSC) was conducted during the week of August 11 through 15, 2003. BSC has been the prime management and operating (M&O) contractor at the Yucca Mountain Project since February 2001.

Management Leadership

The DOE-VPP Onsite Review Team (Team) found strong evidence of safety and health (S&H) commitment from all levels of management. The team noted that management demonstrated a very strong commitment to employee S&H and they held themselves both responsible and accountable for S&H in the workplace. All managers, supervisors and employees are evaluated as to their performance in the safety and health area. Top-level management is visible and actively participates in the S&H program.

Employee Involvement

The Team found that employees are actively involved in S&H throughout the workplace. Employee involvement not only occurs through their participation in the safety meetings and training activities, but also through the safety inspection processes, observation programs and in periodic self-assessments. Employees openly stated that they not only felt responsible for their own safety, but also for their peers' safety. The Team found during the interviews that employees usually spoke in terms "our" efforts when referring to their peers and management. This clearly demonstrates a strong sense of ownership and pride in S&H by the employees. The Team observed that employees are truly involved in the S&H program and a strong safety "culture" has developed at this site. Notably, employees are not only involved in hazard recognition, job hazard analyses, but also in hazard resolution.

Worksite Analyses

Various forms of self-inspections are conducted at this site. Job hazard analyses are thorough and extensively utilized. Employees are not only encouraged to report any unsafe conditions, but are expected to report and correct the situation(s), if safe to do so. Accident investigation processes involve employees and result in an analysis to determine the root cause. Identified hazards are immediately addressed with appropriate corrective actions are being taken in a timely manner. The site has conducted multiple, comprehensive surveys covering this site. The site also conducts numerous inspections of all units and areas such that the entire worksite is covered at least quarterly.

Hazard Prevention and Control

BSC has a full complement of safety and health professional staff. Safety and health rules have been clearly laid out for all employees and managers. The site employs a standard hierarchy of control to the prevention and mitigation of hazards in the work environment consisting of engineering controls, administrative controls, and personal protective equipment (PPE). The PPE

program is an in depth program that is well integrated into the operations control, safety and health oversight and training portions of the site's programs.

The site has implemented a comprehensive preventive maintenance (PM) program that uses a combination of preventive, predictive, and corrective maintenance to enhance the availability, operability, and reliability of plant structures, systems and components. The site has mature, well functioning emergency preparedness, radiation protection and medical programs.

Safety and Health Training

The Team noted from employee interviews and document reviews that employees at all levels knew how to identify and protect themselves and others from hazards associated with their jobs. As was noted on several occasions during the interviews, the training provided to employees has made them more conscious of health and safety issues not only in their work environment, but also in their everyday lives away from the site.

Management clearly supports the S&H training programs as evidenced by employee interviews, funding levels, and documentation review. In addition, interviews of employees confirm that BSC provides in-depth hazard recognition training.

Conclusion

The Team concludes that the applicant has met and/or exceeded each of the five DOE-VPP tenets. Accordingly, our technical opinion as documented in this report will be presented to the DOE-VPP Program Administrator for consideration in making a recommendation to the Assistant Secretary for Environment, Safety and Health, EH-1.

I. Introduction

The prime management and operating contractor for the U.S. Department of Energy at Yucca Mountain Project is the Bechtel SAIC Company, LLC (BSC). The main offices for BSC are located at 1180 Town Center Drive in Las Vegas, NV. BSC's parent companies are Bechtel Corporation located on 50 Beale Street in San Francisco, CA, and Science Applications International Corporation located on 10260 Campus Point Drive in San Diego, CA. BSC is the applicant requesting DOE-VPP recognition.

The collective bargaining agent at the site location is the Southern Nevada Building and Construction Trades Council, AFL-CIO, 1701 Whitney Mesa Drive, Suite 101, Henderson, NV 89014, telephone number (702) 452-4799.

BSC employs approximately 1141 employees with about 225 subcontractor employees.
In regard to the Yucca Mountain Project, BSC's role is to assist DOE in all mission-related work, including site characterization, prepare repository system and waste package design, conduct iterative total system performance assessments, and assist the Department of Energy's Yucca Mountain Site Characterization Office (YMSCO) in preparing the Site Recommendation and License Application for submission to NRC.

The Yucca Mountain Project is located about 100 miles northwest of Las Vegas, Nevada. For more than 20 years the project has involved extensive scientific study on Yucca Mountain's geology, hydrology, biology, and climate.

Experts throughout the world agree that the most feasible and safe method for disposing of highly radioactive materials is to store them deep underground. Accordingly, Yucca Mountain, has all the key features that make it suitable for a nuclear waste repository. The physical characteristics that make Yucca Mountain a nearly ideal site for waste disposal include:

- remote location and long distance from a large population center--100 miles from Las Vegas, Nevada;
- very dry climate--less than 7.5 inches of rainfall a year; and
- extremely deep water table--800 to 1,000 feet below the level of the potential repository.

As the first U.S. Department of Energy nuclear program subject to external regulation, the Yucca Mountain Site Characterization Project is one of the most closely reviewed programs ever undertaken by the federal government. The Department's studies are reviewed by many organizations including:

- Congress of the United States of America
- General Accounting Office
- U.S. Nuclear Regulatory Commission
- State of Nevada's Nuclear Waste Project Office
- Nye County Nuclear Waste Repository Office
- Nuclear Waste Technical Review Board
- National Academy of Sciences

The Department of Energy's Office of Civilian Radioactive Waste Management's (OCRWM) has responsibility for the Yucca Mountain site. Within OCRWM's organization at headquarters the

DOE-VPP Point of Contact is Narendra Mathur, RW-52, Regulatory Coordination Division, located at 1000 Independence Avenue, SW, in Washington, D.C. 20585

At the site office in Las Vegas, the Federal DOE-VPP Point of Contact is Bill Tunnell, DOE Safety and Occupational Health Specialist. Mr. Tunnell served as a team member on this DOE-VPP onsite review of the applicant.

II. Injury and Illness Data Assessment

The injury illness rates for BSC are significantly below comparable private industry (SIC 8744) rates, and therefore satisfy the basic criteria for VPP recognition. In general, safety performance, as indicated by the statistics presented, has continued to improve. Estimated rates through the end of July 2003 are 0.84 for recordable injuries and 0.21 for lost time injuries.

A. BSC INCIDENCE RATES

BSC Recordable Case Rate: BSC recordable injury/illness case rate includes subcontractors who are directly supervised by BSC and are included on the OSHA 200/300 Log. NOTE: Data from 01/01/00 to 02/11/01 includes previous contractor (TRW) experience. BSC assumed contract 02/12/01.

Calendar Year	BSC Recordable Case Rate Includes CAIRS*	Number of Recordable Cases	Total Hours Worked	Most Recent BLS- SIC #8744 Incident Rate	DOE Average CAIRS*
2000	1.93	31	3,204,906	1.7	2.5
2001	1.69	24	2,841,930		2.4
2002	0.92	14	3,051,543		2.1
3 Year Total		69	9,098,379		
3 Year Avg.	1.52	23	3,032,793		2.3

*DOE Computerized Accident/Incident Reporting System (CAIRS) Database. Some data submitted to the CAIRS Coordinator, including revised reports for previous years, has not yet been entered into the CAIRS database.

Lost Workday Case Rate: BSC lost workday injury case rate includes subcontractors who are directly supervised by BSC and are included on the OSHA 200/300 Log.

Calendar Year	BSC Lost Workday Case Rate Includes CAIRS	Number of Lost Workday Cases	Total Hours Worked	Most Recent BLS- SIC #8744 Incident Rate	DOE Average CAIRS*
2000	0.62	10	3,204,906	0.8	1.1
2001	0.42	6	2,841,930		1.0
2002	0.20	3	3,051,543		0.9
3 Year Total		19	9,098,379		
3 Year Avg.	0.42	6	3,032,793		1.0

*DOE Computerized Accident/Incident Reporting System (CAIRS) Database. Some data submitted to the CAIRS Coordinator, including revised reports for previous years, has not yet been entered into the CAIRS database.

B. SUBCONTRACTOR INCIDENCE RATES – Subcontractors not directly supervised by BSC.

Recordable Case Rate

Calendar Year	Subcontractor Recordable Case Rate (# of recordable injuries per 200,000 work hours)	Number of Recordable Cases	Total Hours Worked
2000	0.00	0	7,602
2001	0.00	0	558
2002	No subcontractors	0	0
3 Year Total		0	8,160
3 Year Average	0.00	0	2,720

Lost Workday Case Rate

Calendar Year	Subcontractor Lost Workday Case Rate (# of lost workday cases per 200,000 work hours)	Number of Lost Workday Cases	Total Hours Worked
2000	0.00	0	7,602
2001	0.00	0	558
2002	No subcontractors	0	0
3 Year Total		0	8,160
3 Year Average	0.00	0	2,720

C. TOTAL RATES FOR BSC AND ALL SUBCONTRACTORS

Total Recordable Case Rate

Calendar Year	Total Recordable Case Rate (# of recordable cases per 200,000 work hours). Includes CAIRS*	Number of Recordable Cases	Total Hours Worked
2000	1.93	31	3,212,508
2001	1.69	24	2,842,488
2002	0.92	14	3,051,543
3 Year Total		69	9,106,539
3 Year Average	1.52	23	3,035,513

Total Lost Workday Case Rate

Calendar Year	Total Lost Workday Case Rate (# of lost workday cases per 200,000 work hours). Includes CAIRS	Number of Lost Workday Cases	Total Hours Worked
2000	0.62	10	3,212,508
2001	0.42	6	2,842,488
2002	0.20	3	3,051,543
3 Year Total		19	9,106,539
3 Year Average	0.42	6	3,035,513

III. Management Commitment

The level of management commitment found at this site meets all DOE-VPP criteria. The sub-elements of this tenet and an evaluation of the applicant's performance in these areas are addressed and described below.

VPP Commitment

A fundamental premise of the DOE-VPP is top-level commitment from management. Review of operations shows that a core principle for this corporation is to "do work safely."

Management commitment to safety and employee involvement is implicit in the design of the program and systems that support safety at the site. The BSC approach is to endorse and support a strong S&H culture by funding, developing, implementing and ensuring employee accountability for a continuously improving S&H program.

Communication of S&H policy begins for all employees through the new-hire orientation. All employees are given a copy of the Environment, Safety and Health (E,S&H) Handbook, which includes a statement of commitment to S&H by the President and General Manager, and an orientation on general E,S&H policies including Integrated Safety Management Systems (ISMS).

Additionally, all ES&H policies and procedures are available to employees via a program documents database. The site also utilizes employee meetings, briefings, posters, fliers, and newsletters in both hardcopy and electronic media for communication.
Goals and objectives are set through the Performance Evaluation and Measurement Plan (PEMP) process. BCS utilizes a formal performance indicator process for translating goals and objectives into a measurable performance process. Management has an established system requiring managers and supervisors to conduct periodic walk-through of their work areas and requiring direct involvement in self-inspection activity. Management and employees are involved in all S&H meetings.

Leadership

The application presented a well thought out comprehensive program to support all the sub-elements of the DOE-VPP tenets. Management commitment to safety and employee involvement is implicit in the design of the program and systems that support safety at the site.

During the on-site review, the Team found management commitment to be solidly demonstrated from the President to directors and managers. Commitment is also demonstrated in strong safety and health policy statements, the providing of resources necessary to support all safety and health program activities, attention to employee identified safety and health concerns, active participation in safety promotional activities, and leadership/mentoring for employee safety team activities.

BSC has established a hierarchy of committees and teams that appear to effectively provide an opportunity for all employees to be involved in the safety program. For example, the implementation of the BSC Safety Council (formerly called the President's Zero Accident

Committee) shows that workers and managers cooperate to plan and administer the overall safety process.

Interviews of a significant number of employees and supervisors indicate that they have immediate access to top management throughout all facilities at the site to assist with safety and health concerns.

Organization

BSC has established an organizational structure to facilitate efficient communication and integration of safety within the project. Safety and health personnel are matrixed from the safety and health organization to support the four functional organization branches within BSC. The chain of authority and responsibility for the BSC ES&H program starts with the BSC President and General Manager. The President and General Manager delegates responsibility for performing work safely to the functional managers and project managers. Overall responsibility for S&H programs, support and performance assessment resides with the ES&H manager. Additionally, this facility has a verified Integrated Safety Management system (ISM) complying with the organizational integration requirements of that Departmental policy. The S&H Department has assigned each department a subject matter expert (SME) as a direct link to the S&H Department. These SME's meet with the departments through S&H meetings, staff meetings, and all hands meetings to provide guidance and assistance.

Responsibility

Top management is prominently involved in the safety and health program in that the President and General Manager of BSC has ultimate responsibility for S&H. Responsibility and authority for S&H management of programs, projects and facilities is delegated to line management. The site's ISM system and subsequent lower tiered, formal orders, manuals and requirements documents provide a framework for assigning roles, responsibilities and accountability. These documents are complimented by other formal documents such as job or position descriptions that describe general ES&H responsibilities, skills and experience. In turn, annual performance reviews provide a formal method for evaluating individual performance of specific S&H responsibilities. Position qualifications and assignment of responsibility and closely integrated with the S&H training program to ensure that personnel have received adequate S&H training.

Accountability

Management is committed to providing the leadership, direction, goals, training, resources, and standards to assist employees in the performance of their duties in a safe and healthful manner. Managers are held accountable for safety by specific standards within their individual performance standards and they are accountable for the consistent enforcement of company safety policy. The company has a formal written performance appraisal system with safety and health responsibilities as a critical element for management personnel.

The President and General Manager of BSC holds line management and supervisors accountable for S&H through quarterly reviews of departmental goals and established performance indicators which are reviewed and approved by DOE. Also, annual performance reviews is another method used by the site to hold all employees, including managers and supervisors, accountable for their job or task specific performance. Annual performance reviews, which are conducted for all employees, consider safety and health performance as a major element. Additionally, the results

of these reviews may directly affect merit award considerations. Management has an established disciplinary action policy for violations of rules, policy and requirements thereby ensuring accountability on the job. Accountability is regularly communicated to all employees through staff meetings, safety meetings, training, site publications and annual performance reviews.

Authority and Resources

DOE provides BSC with budget guidance based on project milestones, initiatives, and planned upgrades to facilities and programs. In turn, BSC utilizes this guidance to develop a Basis of Estimate for their budget submittals. Part of this Basis of Estimate is the development of a proposed budget for ES&H programs which is developed utilizing a risk prioritization matrix (RPM). As an example, in FY 2002 the site's overall budget was $230 million with approximately $11 million or 5% of the total devoted to the ES&H operating budget. The ES&H operating budget for FY-03 is 3.2% of the total budget. In addition to those resources, each department within the BSC organization provides as needed, budget support for ES&H equipment and training for their (non-matrixed) personnel. These resources are outlined in specific basis of estimate for individual department work packages.

The BSC ES&H department employs Certified Health Physicists (CSP), Certified Industrial Hygienists (CIH), Certified Safety Professionals (CSP), Certified Environmental Managers, a Registered Occupational Health nurse, and Board Certified Occupational Medical Doctors. Additionally, BSC has many other qualified personnel dedicated to fire protection, emergency response, ergonomics and security operations. All personnel are well equipped with the necessary equipment, instrumentation and access to analytical facilities or support. Accordingly, this key element of VPP is well demonstrated by the contractor in their handling of this issue.

Additionally, resources have been programmed into overall planning to sustain employee involvement in VPP activities. These resources are applied toward executing functions, coordinating safety and increasing general employee awareness.

Planning

BSC requires that all core activities have adequate budget and planning for safe operations prior to authorizing any work. BSC has a series of formal, written project control directives, which define both the budgetary process and control for planning and addressing changes to operations and projects. Additionally, the RPM process must be prepared for each work package during the planning process. Changes to projects or tasks must be submitted to the Baseline Management Review Board for review and approval before work is undertaken. At all levels, managers are required to plan and outline safety and health support as part of their program or project scope of work. Overall, the application indicates that the safety and health program is goal driven with quarterly review and modification of goals and objectives based on actual performance findings. In all cases, safety and health planning is carried out in accordance with the DOE Integrated Safety Management System (ISMS) policy and implementing guidance.

BSC safety and health performance goals are influenced by Corporate and DOE performance expectations. The BSC President and General Manager has established a goal of zero accidents, injuries, and illnesses. Performance expectations are translated to goals using the performance indicator process outlined in AP-ESH-004, Occupational Safety and Health Program. The employee perception survey, President's Zero Accident Council and program, the Condition/Issues Identification and Reporting/Resolution System (CIRS), and the Manager's Quarterly Safety Report are tools and systems used to effectively drive continuous improvement.

The maturity and application of these planning and measurement tools was evident throughout the organization. Formal and informal interviews across the site validated employee awareness and a culture that supports identified safety and health goals. Also, safety and health accountability is well integrated horizontally and vertically across the business.

Six Sigma applications, BSC Black Belts have been integrated to each function, including ES&H, to facilitate strategic improvements across the business. Within the ES&H function, Black Belts are validating processes and controls associated with the safety and health program.

Subcontractor Program

The subcontractor program is both integrated and effective to assure subcontractor safety and health performance at BSC. Site Operations, Procurement, Quality, and ES&H are integrated such that procurement, management, and oversight of subcontractors are effective. Noteworthy is the practice of involving an integrated approach for RFP development and release. Operations, Procurement, Quality, and ES&H are all involved in the RFP process to assure proactive identification of performance requirements are met. Pre-qualification and pre-work conferences assure that performance expectations are understood and met. The pre-qualification process requires an Experience Modification Rate of 1.0 or less (for current and previous two years) and requires submission of a pre-qualification package (form) outlining their experience and safety performance. Conformance to the S&H requirements qualifies the bidder to be considered for receipt of a RFP. Failure to meet the minimum stipulated S&H requirements will result in disqualification of the potential bidder.

Site Operations representatives are assigned and accountable for subcontractor performance with the ES&H organization providing oversight. Line accountability is well established and understood. Each subcontractor incorporates the requirements of PGM-CRW-AD-000001, Integrated Safety Management Description Document. Site orientation, BSC provided S&H training, and pre-job briefings are performed to assure communication and understanding of performance expectations. Job safety analyses, construction work authorizations, safe work permits, and health and safety plans are used to ensure hazard identification and control. Noteworthy is BSC practice of providing subcontractors with site-specific safety and health training.

Failure to comply with safety and health rules, regulations and policy can result in suspensions, stop or withhold payment orders and/or dismissal from the site. Subcontractors who repeatedly violate the same rules, policies or standards may be dismissed from the site.

Currently, subcontracting activities are minimal at BSC. As the Yucca Mountain project progresses, however, subcontractor activity is expected to increase significantly.

Management personnel interviewed during the course of this on-site evaluation who had a responsibility for either planning, supervising or working along with subcontractors indicated that subcontractors were all expected to follow safety and health requirements and that subcontractors were held accountable for meeting these requirements. In addition, a few random interviews with employees confirmed that subcontractors and their employees were held accountable for safety and health performance on the job.

Program Evaluation

Annual program evaluations have been conducted at this site using DOE-VPP criteria since 1997. Evaluations of the S&H program are conducted with participation by both management and employees. Self-assessments and annual reviews are used as a means for continuous improvements in the S&H program. Yearly goals and objectives for the overall site safety and health program and the individual units are developed and partially based on the results and findings of the annual program evaluations.

The BCS system for S&H program evaluations includes several processes including internal ES&H assessments, management assessments, self-assessments, perception surveys and the DOE requirement for annual ISMS reviews.

S&H evaluations and the results of evaluations are formally documented, and any required corrective action is tracked to completion. The results of S&H program evaluations are used to modify and/or develop goals. Employees participate in conducting evaluations and in the development of goals and objectives for the overall site safety and health program

Site Orientation

A comprehensive, formal site orientation program including training and documentation applies to all persons entering this site. All new employees receive the orientation training. Training includes safety and health policy, regulations, requirements and instructions. All construction workers receive construction S&H training. Other specialized training is given based on the tasks that will be assigned.

Employee Notification

Employees were made aware of BSC's participation in VPP through pamphlets, flyers, the Porcelain Press, the VPP web site, departmental safety meetings, and briefings by safety personnel. This information is re-enforced through various meetings, publications and written materials. BSC also uses, *BSC Today*, and *BSC Management Today*, which are electronic company newsletters sent to each employee via e-mail.

The employee notification program meets the requirements for employee notifications contained in DOE Orders and guidance documents. Specifically in regard to workers' right to express concerns and see the results of inspections and accident investigations, etc., the BSC Employee Concerns Program has been added. This program is contained in BSC guidance, LP-GEN-001-BSC, "Employee Concerns Program." Information and forms for this program are available to all employees through both online access and at displays throughout the work areas. Also, DIR-GEN-002, "Safety Conscious Work Environment," dated 8/29/02 establishes the BSC policy to achieve and maintain a work environment where "every employee feels free to raise concerns both to management and/or the U. S. Nuclear Regulatory Commission (NRC) without fear of retaliation".

Management Visibility

Top-level management is clearly visible and actively participates in S&H program. The General Manager regularly participates in various safety and health activities. Managers are held accountable for their S&H responsibilities and maintain a policy of accessibility with regards to

S&H issues that arise in the workplace. An "open door" policy ensures that any employee at any time can express a S&H concern to any level of management. The Team confirmed this policy through formal and informal interviews and noted that most employees did not feel the need to raise concerns above their first-tier or immediate supervisor because any concerns raised were resolved almost immediately.

IV. Employee Involvement

The onsite review clearly showed that employees are actively engaged in the safety and health program. In addition, review of program documents and the results of interviews showed that management has empowered employees to proactively administer the safety and health program at this site. Employees work safely and recognize that worker involvement is a key element to an effective Safety and Health (S&H) Program. Workers are empowered to call "stop work" or "timeout" without fear of reprisal. The degree of employee involvement in safety and health found during the review clearly meets all DOE-VPP criteria for employee involvement.

Degree and Manner of Involvement

Following is a summary of information from 25 interviews of office and craft personnel.

It was apparent that a safety culture is becoming a part of the way employees approach any work task, both in the office and at the construction site. Workers are alert for hazards in and around the workplace and are not hesitant to correct them if they can. If this is not possible, most said they called the work order desk to get the problem corrected. It was also common to hear that workers brought issues to their manager and to their departmental safety meetings. Safety meeting minutes reflected that issues brought up in meetings were tracked until resolved. The Technical Information Center has what they call a Safety Huddle each week. This is an informal meeting among the employees to allow those hesitant to speak in a larger, more formal safety meeting the opportunity to bring up issues they may have. Because of the open atmosphere employees also feel free to speak to fellow employees when they notice an unsafe act or condition.

Many of the employees stated that they were involved in the regular safety inspection of their work area. A number of those interviewed served, or have served, on their departmental safety committee. In addition, many of the employees served as an Emergency Response Team member. This means they are responsible for ensuring personnel in their work area exit safely in an emergency and are accounted for.

All personnel interviewed attended regular departmental safety meetings and many regularly made presentations on various safety topics. The Project Controls safety committee has established a web site, "Safety Q Tips," which contains recent meeting minutes, including presentations, as well as other work and home safety topics of general interest.

Almost all employees participated in the incentive program. It was common for the topics covered in the incentive challenges to be discussed at departmental safety meetings. In one particular case the topic of a particular challenge, which was fire exit safety, was carried home by an employee and was practiced at their apartment. Several neighbors noticed and also had home exit drills; the apartment manager noticed this and distributed home exit guidelines to the entire complex.

Several of the office work areas stop work one or more times a day for ergonomic exercises to help reduce the potential for ergonomic problems.

When work orders are required for work, the work order writer commonly talks with the craft personnel who will do the work to get input on the correct way to write the steps. For all new work orders a pre-job briefing is held. This is a meeting attended by craft, foremen, supervisors, quality assurance, engineering, safety, industrial hygiene and anyone else who will be involved in the work. The procedure is read and discussed and any needed corrections are made before work begins. Workers utilize the feedback section of the work order to suggest changes to future, similar work.

Workers have the right to stop work if they believe it is unsafe and all interviewed believed they could do so without repercussions. Workers can also call a time out if they encounter a problem with a work order. On one occasion, a work order had been written for work on an overhead door in the tunnel. As the work progressed, the condition of the door spring was not what had been anticipated when the original work order was written. The workers called a timeout and the procedure was corrected to address the actual conditions before work continued.

Two comments, one from the construction site and one from an office worker downtown seem to summarize workers attitude toward safety:

" I came from the nuclear navy sub world. We have a level of safety here that is similar to what I had there."

" Safety is not just rhetoric, it is action."

Safety and Health Committees

The President's Zero Accident Committee (PZAC) has been temporarily replaced by the ZAP Steering Committee. This committee meets monthly and is composed of members of department ZAP committees and management. Minutes show that this committee meets monthly.

A new committee, the BSC Safety Council, has been established. Council membership will consist of the General Manager, General Manager Direct Reports, representatives from mid -level management and chairpersons of departmental ZAC committees. Training for members of this committee is scheduled for August 20 and the first meeting is scheduled for September 2003.

Minutes for recent meetings of the various departmental ZAC committees were reviewed. Minutes show the meetings are a forum to bring up safety issues, to disseminate Project safety information, to track issues from previous meetings, and to present recognition awards. It also provides an opportunity for presentations by safety and health professionals.

The genuine involvement of employees and the recognized value and appreciation for many of the safety and health committees became evident during many of the employee interviews. One of the most active and effective BSC safety committees is Team Yucca at the Yucca Mountain field site. The mission of Team Yucca is to increase cooperation and open lines of communication to improve construction project performance in four key areas: Safety, Quality, Cost and Schedule. The membership represents all Crafts, Staff and Management—the Zero Accident Program (ZAP) at the field site has been integrated to become part of Team Yucca. Each professional field is represented and members are rotated in every three months. This ensures all employees have an opportunity to participate on the committee. From June 2002 through July 2003, over 227 Action Items were identified from members. Of that number, 191 items have been closed or resolved---a success rate of 86%. Remaining issues have planned completion dates on the Action Item List. Copies of the current meeting minutes and the Action

Item List are available in the Change House for all personnel. Personnel who initiate issues are contacted concerning the disposition of their issue(s).

Items are addressed and corrected that often exceed the OSHA requirements. Copies of the current meeting minutes and the Action Item List are available in the Change House for all personnel. Personnel who initiate issues are contacted concerning the disposition of their issue. Following are several examples of safety improvements that have been implemented through the work of Team Yucca:

- New craft trailers were procured to house craft personnel who had previously worked out of Conex containers.
- To protect workers and visitors in the area of the portal shack, yellow caution lines were painted along the railroad tracks.
- Wide gates were installed at the steam cleaning facility to allow large items to be moved into the cleaning area without raising them over the fence.
- Computerized sign making equipment was procured to facilitate the fabrication of operational and safety signs.
- Better non-slip interlocked mats in the shower rooms that are cushioned for better comfort for the users.
- The purchase and use of brighter flashing strobe lights in the tunnel.
- The attachment of safety chains on each of the rail cars, rather than relying on individuals being able to locate a safety chain from a storage area. Having a separate safety chain attached to each car helps assure safety as well as saving the time that was often required to locate a safety chain at designated storage areas.
- Using Craft union insurance funds to purchase products to help personnel quit smoking.
- Major improvements in sign-making capability and sign location around the site to improve safety.
- Assessment of chairs in the Change House resulted in several repairs and replacements to improve personnel safety.
- Personal comfort issues on the transportation buses are discussed and addressed.

The Yucca Committee is extremely successful, not only from an "issues raised" point of view, but from an "issues closed" point of view as well.

V. Worksite Analyses

The onsite review clearly showed that BSC meets the requirements for work site analysis found in the DOE-VPP criteria. The sub-elements of Worksite Analysis program at this site are described below. The worksite analysis processes across the site are structured and implemented to adequately control hazards to the workers, the environment and the public. Formal worksite analysis processes for control of operations and the mitigation of hazards or potential hazards are in place. Personnel interviewed during this review and observations made by the Team confirmed that these processes are used and understood by the workers. Hazard analysis processes incorporate fundamental tools such as Job Safety Analyses (JSA's) to ensure a safe and functional work evolution and structured prior to work commencing.

Pre-use/Pre-startup Analysis

The information provided in this section is complete to meet the requirements for pre-use/pre-startup analysis. At BSC, LP-3.30Q, Hazards Analysis System, provides an integrated process for the conduct of hazard analyses of current YMP design and work activities. The procedure also provides information on what analysis is required for each activity phase. It describes organizational responsibilities and interrelationships of hazard analyses for operational safety systems. Based on the review of the application it is gathered that work at YMP is conducted by AP-2.23Q, Work request/Work order Process, which describes the responsibilities and process for the work planning and control. The TCO team and engineers interface with the Site Operations to develop work orders that describe the responsibilities, hazards, and controls for work on new and existing assets and for test control activities. TCO field test management staff and Site Operations personnel work with safety professionals and Principal investigators to oversee and conduct work in compliance with work order process.

LP-3.30Q procedure requires that an Operational Preliminary Hazards Analysis (OPHA) must be conducted on all work plans. The OPHA is conducted in three phases. First, planned work activities are reviewed to identify and list potential safety hazards. This is conducted by the use of an OPHA checklist that provides information pertaining to types of work activities being conducted. Secondly, based on the types of work activities, an ESH review is conducted to further analyze hazards. Lastly, identified hazards are mitigated and controlled based on engineering controls first, then by administrative and work practice controls, with Personnel Protective Equipment usage as the last option. The completed OPHA checklist is attached to the WP and submitted to the Department Manager and to ES&H Department. ES&H concurrence is required in the WP process.

Additionally, a work planner conducts a job walk-through using a checklist in identifying hazards associated with performance of work activities. The work planner completes the Job Planning Hazard Analyses Checklist in detail addressing the hazards. The checklist provides task level analysis. Once the walk-through has been completed and potential hazards identified, the work planner provides additional analysis of hazards and identifies mitigating controls in the WO. If the tasks are such that it requires a Job Safety Analyses (JSA), then the Work Planner coordinates with management/supervision, ES&H and affected employees to ensure that a JSA is developed.

This section of the application is provided with several attachments. However, they were not referenced anywhere in the description section of the application. Additionally, actual examples of the attachments were not provided.

Comprehensive Surveys

Comprehensive surveys are performed to identify existing or potential hazards and to ensure a safe and healthful working environment. The baseline hazard inventory contains a comprehensive ES&H radiological, and fire hazard baseline for all BSC facilities. The baseline provides a single documented comprehensive occupational hazard inventory of each facility that is available to project personnel, including work order planners. A team of individuals consisting of Certified Safety Professionals, Certified Health Physicists, environmental specialists, radiological technicians, and fire protection engineers were involved in the development of Baseline Hazard Inventory. The hazard inventory was performed in July 2000 and revised in November 2001 to document a single comprehensive occupational hazard inventory by each facility into one database that would be available to project personnel. This inventory is updated every two years. To enhance the existing baseline hazards survey and to ensure that current data for all existing chemicals are included, BSC has developed a process to ensure linkage to the hazardous materials inventory into the baseline. The inventory is updated currently through the excess process underway on the project. Access to certain areas on the project is restricted due to constant change in inventory. The chemical inventory is being updated on a routine basis through an electronic database. Tenant managers provide updates as necessary when conditions change in their area to reflect the current state of materials.

BSC uses qualified professionals in conducting safety and health surveys, including personnel qualified and certified to perform safety and health surveillances relating to electrical, construction, excavation, hoisting and various other safety and health topical areas. The safety and health issues including IH matters are tracked through CIRS, a computerized tracking system.

Self-Inspections

BSC uses the departmental Zero Accident Committees (ZAC) in conjunction with the tenant manager group consisting of managers, committee members, and employees as part of the system to ensure that general workplace inspections are covered on a routine basis. Each department has established goals for both management and employee inspections of their work areas. Specific checklists are developed for each department to ensure that hazards for that area are evaluated, reviewed and documented. These checklists are used by various committees' personnel who have been trained in recognizing hazards. Additionally, standing committees (electrical, labor/management, etc.) that are functional conduct inspections tailored to that area. Self-inspection results are documented through the CIRS and tracked to completion. Another part of the self-inspection process uses the tenant manager concept, which ensures that each workplace for BSC is inspected monthly using a structured checklist. In addition, ES&H and operations personnel conduct daily operational surveillances and biweekly management walk-arounds of the Area 25 are conducted. Biweekly inspections are structured and zoned in such a way that the entire site is inspected quarterly.

Routine Hazard Analysis

LP – 3.30Q, Hazard Analysis System, describes the processes to systematically analyze design and operational hazards.

a. Design Hazards

The Design Hazards Analysis work proceeds concurrently with the development of design details. The design developed is governed by procedure AP-3.13Q, *Design Control.* Development and implementation of hazard controls begins with the systematic identification of hazards and event sequence scenarios. Hazards mitigation then evolves through a series of design phases and ends in a final design. Hazards mitigation controls are reevaluated during each design phase (conceptual, preliminary, detailed (final) and implementation). The Design Hazard Screening Checklist (DHSC) tracks potential hazards for the design work. The DHSC is updated as the design is developed if additional potential hazards are identified. A DHSC for Fire Protection of Dry Transfer Facility #1 was examined during this review and found to meet the requirements of LP – 3.30Q.

b. Operational Hazards

A systematic hazard analysis is completed for workplace activities also. Site construction and maintenance work is controlled by AP-2.23Q, *Work Request/Work Order Process* which requires a Job Planning Hazard Analysis Screening Checklist as described in procedure LP-3.30Q to be completed to identify hazards associated with new or unique work.

Detailed analysis of hazards and necessary mitigations are developed using Job Safety Analyses (JSA), Occupational Exposure Assessments, PPE Hazard Assessments, and Medical Needs Analyses as described in LP-3.30Q. After identifying hazards, the recommended mitigation(s) are incorporated into the work instructions. During observation of underground operations, work order 14418-02, Install and Pull Test Connectable Swellex Rock Bolts, was reviewed at the worksite. It appeared to incorporate the necessary hazard controls including JSAs, procedures and discussion of hazards and associated mitigations.

Employee Reporting of Hazards

The following mechanisms are used for reporting concerns and issues:

- Notify management/supervisor through "open door policy"
- Notify the ES&H Department

- Intranet or by hard coy sent to the Condition/Issue Identification Reporting/Resolution System (CIRS) Coordinator
- CIRS Process
- Interactive Safety Meetings
- Safety Committees
- Office of Civilian Radioactive Waste Management (OCRWM) Concerns Program
- BSC Employee Concerns Program

Employees can notify their managers/supervisors about safety and health concern without fear of reprisal. If managers and/or supervisors are not available, they can contact ES&H department

with any questions or concerns. All employees have the right, responsibility, and authority to stop work immediately if they determine that the situation places themselves or coworkers in danger that may result in an injury or illness. These rights are found on Worker's Bill of Rights card, which is distributed to all employees and carried by the all employees. Employees can also submit their concerns in writing through the CIRS process. This system is accessible to all employees and provides a single point of access for reporting hazards, opportunities for improvement, conditions, and/or suggestions. Employees can submit these concerns either by name or anonymously though the BSC intranet or by the hard copy sent to the CIRS condition coordinator. A 30-member committee composed of ES&H, management, training, engineering, CIRS Conditioner Coordinators, and other SMEs as needed, screens all CIRS concerns biweekly. Screening sessions determine if CIRS concern is a noncompliance, opportunity for improvement, or suggestion. Employees are given responsibilities for completion of corrective actions. All CIRs corrective actions are tracked to completion by senior management to ensure that timely closure of the items occur. Interviews with BSC HR personnel indicated that the CIRS is scheduled to be replaced by the Corrective Action Program (CAP) on September 30, 2003. This will be an upgrade in the current system in that Quality related matters would also be included. Under the CIRS, Quality issues have been directed specifically to Quality Assurance for resolution. Under CAP, employee concerns will be assigned a priority level of 1 to 4, and individuals will be assigned to assure resolution and feedback to the initiator.

An additional method for employees to notify management of S&H concerns and issues is through ES&H committees. Interactive safety meetings and a hotline provided by the Human Resources are additional means by which employees can express their safety and health concerns. The BSC employee concerns program provides an anonymous method to raise a concern or issue. Boxes to collect concerns are located in all facilities.

Accident Investigations

The responsible manager must conduct a preliminary investigation of each accident or near-miss accident in accordance with LP-ESH-026, Responding to Accidents/Incidents. For recordable accidents and designated near miss incidents, the manager must appoint an Accident Investigation Team, consisting of personnel knowledgeable of the processes involved in the accident or near-miss accident.

The team reviews pertinent information and evidence relevant to the accident or near-miss accident and determines the root causes. A number of personnel are trained in root cause analysis processes and are available to be used in investigations. Preliminary Accident Report 2003-065 was reviewed. It was complete. Final Accident Reports 2003 001and 2003 064 were reviewed. The root causes were identified in both cases and recommendations were made to prevent reoccurrence. Report 2003 001 originally contained no contributing or root causes and thus no corrective recommendations. The report was reviewed by safety and health personnel and returned to the responsible manager. Safety and health then worked with the manager to identify accident causes and develop corrective actions. In report 2003 064, the Kepner-Tragoe Problem Solving methodology was used to analyze the event and determine recommended corrective actions. Additionally, seven issues were entered into the corrective action tracking system (CIRS), a lessons learned was written (OCRWM-LL-2003-111), and an article was published in Issue 112 of the Porcelain Press.

Trend Analysis

Several methods are used to identify trends, which need to be addressed. Six Universal Project Goals have been established by BSC. Each manager's progress in meeting these goals is tracked and discussed at the General Manager's Review.

Performance Indicators including reportable accidents, lost time accidents, number of CIRS written and progress toward closure, cost index, traffic citations, and number of safety and health assessments are provided monthly to DOE as part of a monthly operating report. These reports include process control charts, which indicate abnormal deviation from an established average performance level. Following is an example of how this was used to identify a process outside established control limits and the resulting actions. In December of 2002 it was noted that the number of recordable injuries was considerably above the upper control limit of the chart and thus warranted investigation. This was done using a Six Sigma process. Through this process, the type injury, body part involved and the work area experiencing the majority of the injuries was determined. At this point safety and health personnel performed an overall review of the work area including a workflow analysis and ergonomic conditions of workstations. Incorporating this review, the department developed an Incident Prevention Plan to prevent further injuries.

VI. Hazard Prevention & Control:

The level and complexity of the hazard prevention and control program found at this site meets DOE-VPP criteria. Sub-elements of this tenet are addressed and described below.

Access to Certified Professionals

The BSC application confirms that ES&H personnel were hired based on technical expertise, professional experience and overall ability. Personnel throughout the site have appropriate education and professional credentials. The BSC E,S&H department employs Certified Health Physicists (CSP), Certified Industrial Hygienists (CIH), Certified Safety Professionals (CSP), Certified Environmental Managers, a Registered Occupational Health nurse, and Board Certified Occupational Medical Doctors. Additionally, BSC has many other qualified personnel dedicated to fire protection, emergency response and security operations.

Methods of Prevention and Control

Hazards at this site are controlled using engineering controls, PPE, and work practice guidelines. These controls are reviewed and only need updating on an infrequent basis, as they are well characterized. All site safety rules, safe work practices, and PPE usage were found to meet requirements.

Engineering Controls - Engineering controls are the preferred method for eliminating/ minimizing employee exposure to hazards.

Administrative Controls - The type of work being conducted at this site does not warrant administrative controls that entail time rotation or other exposure control strategies. There is extensive use of personal protective equipment on the work site. A rigorous program has been developed and followed for the control of heat stress hazards, which anticipates hazardous heat conditions. The program involves utilizing the medical and industrial hygiene staffs in training workers on hazardous heat conditions, the effects and treatments of heat illness, monitoring heat stress levels using known techniques and instrumentation, implementing work/rest regimens known to reduce affects of heat, and medically monitoring workers in potential hazardous high heat level conditions. Heat illness cases have been dramatically reduced as a result this proactive initiative.

Safety and Health Rules

Safety and health rules, policies and procedures, are in place and effectively address hazards and their controls. BSC has established numerous recognition programs and maintains an effective discipline program. An electronic system establishes the S&H rules contained in procedures, policies and mechanisms required for safe execution of work on the projects. During employee orientation, each employee is given an "Environmental Safety and Health Handbook" which is a quick reference that describes the S&H rules – discipline procedures are also outlined in this handbook. The discipline process includes a graded approach, which ranges from verbal reprimand to termination.

Updates are made through the electronic notification system; announcements; The BSC Today Newsletter; The Communicator; Porcelain Press; Portal; ZAP Survival Guides; Lessons Learned; and numerous e-mails from project staff.

Multiple positive reinforcement systems are in place to reward employees who practice and/or promote examples of safety actions. Some of the rewards are:

- Penny/Dollar campaign for an observed safe act
- Silver dollar campaign that recognizes outstanding efforts in safety, quality and/or production
- The ZAP Survival Guide campaign provides employees with the opportunity to improve the project's ES&H program

Personal Protective Equipment

The site policy is to provide the necessary PPE required to protect workers from hazards that cannot be otherwise eliminated or avoided by engineering or administrative controls. A variety of equipment is made available including gloves, boots, safety glasses, hearing protection, and respirators. The application indicates that employees must receive training and appropriate medical evaluation before being permitted to use PPE. Training includes information about the maintenance, care, inspection, storage, disposal and use of PPE. Where PPE is utilized, instruction for its use is integrated into task-specific procedures (JHA & JSA's). The PPE program is an in depth program that is well integrated into the operations control, safety and health oversight and training portions of the site's programs.

Preventive/Predictive Maintenance

BSC has implemented a comprehensive preventive maintenance (PM) program to mitigate the chances and effects of unplanned equipment failure. The BSC PM program is established by LP-OM-007-BSC, Preventive and Predictive Maintenance Program. The program effectively outlines the requirements for establishing PM performance requirements, accountabilities and evaluation, and records management. A review of recent PM records and interviews indicate that the program is being effectively implemented.

Emergency Preparedness and Response

The Emergency Preparedness Program incorporates comprehensive emergency and Resource Conservation and Recovery Act (RCRA) contingency plans. The plan lists emergency response facilities and equipment, defines onsite and offsite relationships, outlines processes used to assess consequences and develop protective actions. A hazard assessment is maintained from which the emergency plan is maintained and scenarios (drills and exercises) are developed. The site has adopted the incident Command System as the model for managing emergency response on the site. The BSC emergency preparedness program is established in accordance with the requirements of DOE Order 151.1, Comprehensive Emergency Management System.

One very important emergency preparedness capability that is maintained by BSC is the Mine Rescue Team. The Mine Rescue Team consists of 15 volunteers who through dedication and hard work keep current and practiced with self-contained apparatus in preparations for emergencies. The accomplishments of this team include:

- 1996 -1st Place, Traveling Team

- 1998 – 4th Place, MSHA National
- 2000 – 3rd Place, South West Division
- 2002 – 3rd Place, South East Division

The Mine Rescue Team practices under the MSHA requirement, 30 Code of Federal Regulations, Part 49. In an effort to be well trained in the event of an emergency, the team practices scenarios that surpass requirements of MSHA regulations. The teams' preparations were tested during a Yucca Mountain fire incident that occurred on January 13, 2003. One of the members of the Mine Rescue Team provided a vivid presentation of that occurrence. On that day smoke was discovered behind the isolation bulkhead in the ECRB via a remotely monitored camera. In response the Crisis Management Team (CMT) was activated, and all people in the underground operations were evacuated. The required emergency notifications were made, and the BSC emergency response organizations, including Medical, the Fire Department and the Mine Rescue Team were called into action. An emergency response-planning meeting was conducted at the site operations office. The Mine Rescue Team then conducted an underground entry using self-contained breathing apparatus (SCBA) to isolate air, water and electrical power to the area. The CMT then developed a carefully structured plan for exploration, to include: sampling of the tunnel atmosphere from the surface; procedures for walkthrough evaluations with specific objectives; locating all suspected hazard conditions on a map of the tunnel; and emphasizing focused attention to the 24+10 area. A second Mine Rescue entry was then made. The Mine Rescue Team entered the sealed area through a previously sealed 24-inch square opening in the bulkhead. A section of the rubber insulation covering a temporary electric lighting cable was found to be burnt. The source of the fire was found to be an electrical short caused by moisture entering small electrical ballast within a lighting fixture connected to the temporary lighting cable. The combustion sources were isolated and the ECRB was again isolated. The CMT was then deactivated for the day. The following day a detailed plan was then developed to identify the extent of the damage and to isolate the damage to the smallest SSC. At this time the facility was no longer in an emergency condition. A third Mine Rescue entry was then conducted to verify communications capabilities, to isolate the specific problem area, to investigate the extent of the damage, and to restore power to lights and cameras within the tunnel. The team also took many photographs within the ECRB and in the previously isolated area where the fire originated. Thankfully, the January 13th fire incident resulted in no injuries and only minor equipment damage. The BSC Management, Emergency Response, Safety and Mine Rescue organizations responded to the situation in a professional manner. Procedures and organizations had been established and were employed as designed to effectively deal with this situation. It has proven to be a good lessons learning experience with several notable outcomes:

- The incident afforded the Mine Rescue Team a chance to react and work through a real time industrial safety problem that tested their training and provided real world experience.
- The communications capability to the CMT trailer has been improved to enable better response and interaction throughout the site during emergencies,
- The layout and configuration of the CMT trailer has been improved to allow more efficiently and effective operation.
- The personnel control parameters, such as limiting the number of personnel inside the change house and personnel location accountability, which can be critical during an emergency situation, have been improved.
- A policy and procedure has been established to help assure that equipment and devices used in connection with scientific testing within the Yucca tunnel complex will meet the regulatory safety standards meant to reduce potential safety hazards.

Another recent example that illustrates outstanding BSC Management safety commitment, contingency planning and preparation, and Employee Involvement was demonstrated in the recent handling of the emergency situation resulting from flash flooding and access road washouts during July 30-31, 2003. The July 30th flooding occurred as a result of an estimated 620 acre-feet (over 200 million gallons) of water falling in a one-hour period in the Central Midway Valley area causing flash flooding in Forty Mile Wash. Accompanying this storm were 40 to 50 mph wind gusts, many violent lightning strikes that damaged some site equipment, a 5 millibars (mb) barometric pressure rise in a 10-minute period, and an 11 degree F drop in air temperature in a 30-minute period. On July 31st another rainstorm accompanied by severe lightning at the ESF dropped 0.27 inches of rain on the already saturated region. BSC Management conducted an emergency evacuation of all personnel because of the possibility of additional flooding in the Forty Mile Wash. The bus drivers that normally drive personnel to and from the Exploratory Studies Facility (ESF) had returned to town, as is the practice after driving the buses to the site. Fortunately, several Teamster Union Employees, who had been trained to drive buses under emergency conditions (based on a lessons learned from an earlier emergency drill), proved to be a valuable contingency asset. BSC successfully used these previously trained and qualified craft members to drive the buses and as a result all personnel were safely evacuated.

Radiation Protection Program

At present, the site is not considered a radiological site under 10 CFR 835. BSC, through the YMP-Radiation Protection Program (YMP-RPP) has implemented an As-Low-As Reasonably-Achievable (ALARA) program to maintain the highest standards of environmental, safety and health protection possible. The goal of the ALARA program is to achieve and maintain exposure levels far below the applicable controlling limits of 10 CFR 835, Occupational Radiation Protection. The YMP-RPP applies to all employees. The program ensures that employees are adequately trained and can demonstrate an understanding of the YMP-RPP programs. Program documents appear to be thorough and comprehensive. A formal program is in place to monitor data and data trends to ensure adequate performance.

Medical Programs

The site has adequate medical services. The medical program includes pre-placement and periodic physicals, injury/illness treatment, employee assistance program, and health promotions. The Medical Director frequently conducts walk-around of the worksite and these activities include other members of the medical staff so that they can get a first hand understanding of work place exposures. Additionally, the staff is routinely involved in routine hazard analyses and have input into hazard mitigation and control planning. Case management and review of previous cases for lessons learned have been incorporated into the current program with proven success in lowering accident and incident rates.

VII. SAFETY AND HEALTH TRAINING

The safety and health training program, procedures and overall implementation meets the DOE-VPP criteria.

Employee Safety and Health Training - General

Overall, the site provides formal, comprehensive, and documented safety and health training for all employees. BSC uses the Systematic Approach to Training (SAT) process for the development and implementation of ES&H training and qualifications programs. This process is controlled and administered through formal directives and guidelines. Overall, the BSC ES&H training program consists of more than 40 formal courses.

Evaluation and updating of ES&H training is part of a formal BSC process and it is governed by formal policy documents. In all formal training, BSC utilizes both written and performance measures and/or tests to confirm the training objectives have been met.

Supervisor Safety and Health Training

All BSC supervisors are required to complete both the basic employee training and additional ES&H training tailored for the unique responsibilities of their position. Supervisors also have the opportunity to utilize the informal training resources available at the site in addition to this formal ES&H training for supervisory personnel.

Manager Safety and Health Training

In addition to the required ES&H training for all employees, the senior managers are trained in ES&H leadership. This training is designed to evaluate and coach managers in the leadership attributes, responsibilities, and approaches needed to achieve the organization's ES&H goals.

VIII. Assurance of Commitment

The assurances attached to this application meet applicable DOE-VPP requirements and the overall application indicates that this site is committed to the DOE-VPP process.

The site's bargaining unit personnel are represented by the Southern Nevada Building and Construction Trades Council, which is affiliated with the Building and Construction Trades Department, American Federation of Labor-Congress of Industrial Organizations (AFL-CIO). Mr. Jim Long, President of the Southern Nevada Building and Construction Trades Council has signed a statement of commitment and support regarding BSC participation in the DOE-VPP.

Management of the site has signed a statement of commitment regarding their participation in the DOE-VPP. The senior manager for the Department of Energy has signed a statement of commitment regarding BSC participation in the DOE-VPP.

IX. General Assessment

A. Safety and Health Conditions

The DOE-VPP Onsite Review Teams made observations during walk-around activities, both as a group and individually, and conducted over one hundred interviews of personnel. The consensus of the team was that the site was well maintained. No serious problems were observed.

All minor S&H issues observed were immediately addressed and resolved to the satisfaction of the Team. For example, the DOE-VPP Onsite Review Teams made an observation during walk-around activities at BSC (Yucca Mountain Site), that a number of refrigerators used for food storage were observed in operating or work areas where some, small potential for exposure to toxic materials exists - 29 CFR 1910.141(g). BSC considered the observation, began informing employees to take an interim precautionary step and is considering a systemic solution to the storage and consumption of food and beverages.

B. Safety and Health Programs

The DOE-VPP team found the applicant's program to be highly effective. The overall program is comprehensive and well communicated. The Team believes that the contractor has developed a strong S&H infrastructure and with proper guidance and funding this program is expected to continually improve.

X. Team Conclusion

The Team was able to reach a consensus opinion that the applicant has met or exceeded all technical requirements for participation in the DOE-VPP. Accordingly, the Team now forwards this report as formal documentation of their conclusion to senior management for their consideration.

Appendix: DOE-VPP Onsite Review Team

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