

Safety and Occupational Health (SOH) Program

Evaluation Department of Interior

Bureau of Reclamation

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Scope and Limitations of the Department of the Interior’s Safety and Occupational Health Evaluation for the Bureau of Reclamation

A Department of the Interior (DOI) Safety and Occupational Health (SOH) Evaluation was conducted at the Bureau of Reclamation (Reclamation). Information was gathered from the Reclamation national office, two regional offices, associated area offices (including dams and power plants), and a construction office. All information was rolled up into this overall Reclamation SOH Evaluation report.

The scope of the evaluation is limited to a sample of Reclamation offices, dams, and their associated power facilities selected by Reclamation, as listed in this report. Even though a variety of Reclamation facilities were included to various degrees, the SOH Evaluation covered only a limited sample of Reclamation operations. The results of the SOH Evaluation should, therefore, be viewed in the perspective of the sample evaluated. Overall results could vary if an alternate sample of offices and operations were evaluated.

The Handbook to Guide Completion of the Safety and Occupational Health Program Evaluation Tool (referred to as “Handbook”) and the SOH Evaluation Protocol are used as guidance to perform the evaluation. In accordance with the Handbook, the SOH Evaluation focused on programmatic issues and is not intended to represent a worksite occupational safety and health inspection. Worksite walkthroughs are conducted only for the purpose of evaluating implementation status of the Reclamation SOH Program. Any findings from these worksite walkthroughs are provided verbally and informally to site personnel during the walkthroughs, daily meetings, and out-briefings, and/or provided in an informal report.

1.0 Executive Summary

The DOI Office of Occupational Safety and Health (OSH), with support from Federal Occupational Health (FOH), conducted a Safety and Occupational Health (SOH) Evaluation of the Bureau of Reclamation (Reclamation) in July of 2013. This evaluation is intended to determine the effectiveness of the Reclamation SOH Program. Results of the Reclamation SOH Evaluation are presented in this report.

The SOH Evaluation focused on six main components essential for an effective safety and occupational health program: (a) management and leadership; (b) employee involvement; (c) hazard recognition and prevention; (d) evaluation and analysis; (e) training and awareness; and (f) program implementation and operation. Evaluation results for each of these components are summarized below.

Reclamation's senior leadership and management demonstrate **leadership and management commitment** for safety and occupational health and have established essential resources and various management systems for the implementation of the SOH program. Senior leadership at the bureau and regional levels issue policy, commitment and value statements, and other communications for the SOH program and related initiatives. A Designated Agency Safety and Health Officer (DASHO) is in place and is actively engaged. The Director of Security, Safety, and Law Enforcement (SSLE) provides leadership for the bureau-wide SOH program, and the SOH Manager reports to the Director ensuring senior level interaction and attention to safety issues and initiatives. The SOH Office is capably staffed. The Reclamation Leadership Team (RLT) provides a senior leadership forum to address and promote the SOH program and initiatives. OSHA recently issued notices of violation to Reclamation for serious violations at the Hoover Dam and Power Plant. The Commissioner and leadership team led Reclamation actions to evaluate and correct similar situations throughout all regions, indicating active leadership for the SOH program. Leadership and management have established systems for safety policy/programs, worksite analysis, deficiency tracking, program evaluation at some levels, hazard identification and control, and other elements. Reclamation recently adopted a new policy SAF P01 Safety and Occupational Health Program. This policy has the intended purpose to re-enforce "the Reclamation leadership's firm commitment to safety and health of its employees, contractors, and others working in, or visiting bureau facilities." These positive attributes are identified as a Reclamation SOH Program **STRENGTH** (see Section 4.2).

Despite the above positive attributes, senior **leadership and management** have not established safety as an organizational value throughout all ranks of Reclamation and have not established accountability systems to ensure effective implementation of the SOH program at the working level. A degree of cultural complacency exists in Reclamation that results in the acceptance of workplace hazards and contributes to the presence of uncorrected hazards, non-compliances, and incomplete SOH program implementation. On several occasions during the course of the facility visits, the evaluation team heard field level managers, supervisors, and workers refer to serious OSHA violations as "minor". Some of the work crews interviewed were resistant to correct compliance issues that presented serious hazardous conditions in the workplace and then justified why corrective action could not be taken rather than determining an adequate solution. Line

management and workers correct specific identified deficiencies but do not take action to ensure lasting corrective action across the organization. The Evaluation Team observed conditions, issues, and situations similar to those for which OSHA issued notices of violation at Hoover Dam and Power Plant, and concludes that they are systemic within Reclamation. With the adoption of SAF P01, Reclamation has the opportunity to launch concerted action around this policy and ANSI Z10 principles that include business practices and management systems to establish a much improved safety culture over time. However, as of the time of the evaluation, Reclamation had not yet developed detailed action and implementation plans to modify and improve management systems to achieve a sound safety culture. The SOH Evaluation Team encourages Reclamation Leadership to build off its strengths and policy initiative to take the safety program to a higher level and take the necessary steps in establishing a sound safety culture throughout all levels of the organization. These issues are identified as a Reclamation SOH Program **WEAKNESS** (see Section 4.2).

The SOH Evaluation Team noted a number of instances where sequestration or similar budget constraints have direct implications for the SOH program and safety. Leadership and management need to be made aware of these implications and take compensatory measures where feasible; however the Team did not find any indication that management is sacrificing safety for the sake of increasing production (see Section 4.1.1, Conclusion 4-3).

Reclamation provides for **employee involvement** through participation in safety meetings, work planning meetings including safety discussions, job hazard analysis (JHA) preparation, inspections and corrective actions, training sessions, annual or periodic safety sessions, and others. Although a variety of positive measures are taken to involve employees in safety and occupational health, Reclamation has not taken involvement to the level where employees feel personally empowered and responsible for workplace and worker safety. Accountability, responsibility, and ownership needs to be established for Reclamation's line management and work crews.

Reclamation provides **hazard recognition and prevention** by performing worksite inspections, completing activity-specific JHAs, and conducting targeted hazard evaluation and control processes for specific focus areas. Worksite inspections are conducted as required for all facilities annually and systems are in place to list, track, and document closure of deficiencies at the bureau, regional, and area office levels. Corrective action, however, is not effectively conducted and does not result in lasting improvements. Line managers and work crews interviewed even resist correction of deficiencies in some cases. These issues indicate lack of accountability and responsibility. JHAs are prepared for work activities to identify, evaluate, and control hazards. The quality of JHAs varies from very well and thoughtfully prepared to just a routine paper exercise of little value. Training and guidance for JHA preparation needs to be improved. Nevertheless, the JHA process is engrained in Reclamation operations. Reclamation also addresses key specific issues such as hearing loss prevention, life safety and fire prevention, and higher hazard operations such as rope access and diving. Lead and asbestos characterization need improvement.

Through the bureau's SOH Office, Reclamation performs **evaluation and analysis** of regional SOH programs. One regional office also recently initiated similar SOH evaluations of its area

offices, which is a good practice consistent with continuous improvement promoted under SAF P01 and ANSI Z10. However, it appears that other regions are not conducting similar evaluations and oversight. Comprehensive or periodic facility reviews of dams and power plant operations are also conducted, but would benefit from participation by SOH professionals (some teams use this resource while others do not). Reclamation also collects and analyzes work-related injury and illness data as required by 29 CFR 1904, Recording and Reporting of Occupational Injuries and Illnesses. The SOH Office prepares a report on bureau injuries and illnesses, which is submitted to senior leadership.

Occupational safety and health **training** is provided for applicable OSHA standards and appropriate records are kept. One region uses a good practice to assemble a supervisor/employee committee to prepare and facilitate training during a “safety days” annual session. This promotes employee involvement and ownership. Gaps and shortcomings in training include limiting opportunities for in-house confined space rescue teams to conduct rescue exercises, asbestos/lead awareness training, electrical safety/arc flash training, hazard recognition training, JHA preparation training and guidance, and supervisor safety training.

To define their overall safety and health **program implementation and operation** requirements, Reclamation has safety and occupational health policy and standards in place at the bureau level. Regional and area offices develop and implement site-specific programs and safety plans. Specialized programs are also prepared for higher hazard operations such as rope access and diving. Program elements are fairly well implemented, although some gaps and improvement opportunities have been identified in the report. Current efforts are underway to improve and modify these programs. In addition, certain areas have been emphasized, such as initiatives to address hearing loss prevention, fire protection, and life safety.

In addition to the bureau policy and standards, Reclamation also maintains a comprehensive set of operating level safety and health requirements through its Safety and Health standards. These standards establish specific safety and health direction for most of the bureau’s daily work activities. The bureau has been involved in an extensive review and revision of these standards over the past two years.

Reclamation has recently approved Reclamation’s Manual Policy SAF P01, Safety and Occupational Health Program that establishes the foundation for an effective SOH program. This policy defines responsibilities and also requires SOH managers to report on their organizations SOH program to senior leadership, which is potential benefit to the SOH program. Very importantly it adopts ANSI Z10 principles for an SOH management system and accordingly emphasizes continuous improvement processes and “developing and implementing SOH as a core value of Reclamation.” This policy establishes the foundation in building a strong safety culture and addresses the weakness identified above and in Section 4.2; however, Reclamation must establish a concrete action and implementation plan with expectations, action items, and timetables to achieve the worthwhile objectives of this policy. Improvement actions necessary to achieve positive changes to the management system and the means to get there have not been established.

To summarize, Reclamation's senior leadership is committed to establishing a strong safety and health program and many of the resources and basic elements/systems for a strong program are already in place. However, a positive safety culture has yet to be established within line management and the worker ranks. Accountability, responsibility, and ownership have not yet been embedded within the Reclamation workforce to demonstrate and achieve Reclamation's stated goal to develop and implement safety and occupational health as a core value. The recently adopted safety and health policy provides an opportunity for leadership to muster its resources toward a common purpose and greatly improve the safety culture over time and within the context of a continuous improvement process. Reclamation needs to develop detailed action and an implementation plan to modify and improve management systems to achieve a sound safety culture, verify/measure implementation, and ensure continuous improvement processes. The SOH Evaluation Team encourages Reclamation's Leadership to build off its strengths and policy initiatives to take the safety program to a higher level and establish a sound safety culture throughout all levels of the organization.

2.0 Background and Purpose of the Safety and Occupational Health Evaluation Program

In order to meet the requirements of the Occupational Safety and Health Act of 1970, Executive Order 12196, and 29 CFR 1960, DOI is conducting SOH Program evaluations at all of its bureaus and offices. These SOH evaluations are conducted by DOI OSH. DOI OSH obtained the support of Federal Occupational Health (FOH) to conduct these evaluations.

An SOH Evaluation Protocol establishes the approach to conduct the Reclamation SOH Evaluation. This SOH Evaluation Protocol provides the necessary detail to carry out the evaluation along with DOI's draft Handbook to Guide Completion of the Safety and Occupational Health Program Evaluation Tool ("Handbook") (<http://www.doi.gov/safetynet/information/general/index.html#Evaluations>).

This report presents the SOH Evaluation results for Reclamation. The SOH Evaluation reviewed the status of the overall Reclamation SOH Program. The SOH Evaluation included discussion with senior leadership and SOH staff at the bureau level and site visits to Reclamation's regional offices, area offices, a construction office, dams, and associated power plants (see Section 3.0 for a list of sites). In addition, telephone interviews were conducted with select personnel from various levels of the organization. The primary objective of this SOH Evaluation is to evaluate the status of Reclamation's SOH Program with respect to its development, availability, completeness, implementation, and effectiveness, including its strengths and weaknesses.

3.0 Approach to the SOH Evaluation

The SOH Evaluation was conducted for the Reclamation SOH Program, with on-site evaluation activities and telephone interviews occurring in July of 2013. Site visits or telephone interviews were conducted at the Reclamation national office, two regional offices, a construction office, dams, and power plants. The Reclamation offices and facilities evaluated and the general extent of the office evaluation are as follows:

- Reclamation National Office in Denver CO and Washington, D.C., telephone interviews with senior leadership including the DASHO, Director of Security, Safety, and Law Enforcement (SSLE) and the SOH Manager and staff, as well as document reviews (plus the SOH Manager and staff participated with the on-site evaluations allowing for on-going discussions);
- Upper Colorado Regional Office – on-site evaluation in Salt Lake City, UT;
- Upper Colorado Area Office, Curacanti Field Office – on-site evaluation in Montrose, CO, plus on-site evaluations at Blue Mesa and Morrow Point dams and power plants;
- Mid-Pacific Regional Office – on-site evaluation in Sacramento, CA;
- Northern California Area Office – on-site evaluation in Redding, CA, plus Shasta Dam and Power Plant;
- Central California Area Office – on-site evaluation in Folsom, CA, plus Folsom Dam and Power Plant;
- Mid-Pacific Construction Office – on-site evaluation in Willows, CA.

The SOH Evaluation was conducted through a series of interviews with management and staff level personnel from various operational units, worksite walkthroughs, and document reviews. Most of these interviews were conducted in person with the SOH Evaluation Team; however for the Reclamation SOH Evaluation, telephone interviews were arranged with leadership and other personnel, as listed above. Walkthroughs are only conducted to provide observations of the extent of program implementation and are not intended to represent safety and health inspections.

This evaluation focused on the effectiveness of the Reclamation SOH Program in establishing bureau-wide safety and occupational health leadership and program implementation. The evaluation process did not focus on individual Reclamation offices or project stations, but rather overall bureau safety and occupational health program performance.

The SOH Evaluation was conducted using the guidance found in the Evaluation Protocol and Handbook. Upon completion of site activities, the SOH Evaluation Team developed conclusions, observations, and documented strengths and weaknesses which were then reviewed by DOI OSH and Reclamation. Reclamation personnel were provided the opportunity for factual accuracy review and comment regarding evaluation results.

4.0 SOH Evaluation Results

This section presents the results of the Reclamation SOH Evaluation. The results are organized by the six main “components” found in the Handbook. These components along with subordinate elements are shown in Table 1. The subordinate elements provide descriptions of the topics addressed in the evaluation for each component; however, the results of the evaluation are not intended to address each element individually.

TABLE 1
SOH Evaluation Components and Elements

Component 1: Leadership and Management

- (i) Management Commitment, Involvement and Communication
- (ii) Responsibility and Accountability
- (iii) Financial Resources
- (iv) Personnel Resources (Size and Technical Skills of Staff)
- (v) Policy
- (vi) Program Promotion and Recognition

Component 2: Employee Involvement

- (i) Safety Committees and Councils
- (ii) Program Involvement

Component 3: Hazard Recognition and Prevention

- (i) Inspection, Identification and Prioritization of Deficiencies
- (ii) Hazard Control and Abatement
- (iii) Reports of Unsafe and Unhealthful Conditions
- (iv) Process/Operational Hazard Analysis, Management of Change

Component 4: Evaluation and Analysis

- (i) Program Evaluation and Assessment
- (ii) Accident Analysis and Prevention
- (iii) Data Analysis. Performance Metrics, Management Review/Follow-up

Component 5: Training and Awareness

- (i) Mandatory Safety and Occupational Health Training
- (ii) Training for Safety and Occupational Health Professionals
- (iii) Training for Collateral Duty Safety & Health Officers and Safety Committee Members
- (iv) Promotion and Awareness Programs

Component 6: Program Implementation and Operation

- (i) Accident Reporting and Investigation
- (ii) Industrial Hygiene and Occupational Medicine
- (iii) Fire Protection and Prevention
- (iv) Occupant Emergency Planning
- (v) Motor Vehicles and Motorized Equipment
- (vi) Contractor Safety
- (vii) Procurement and Design Review
- (viii) Specialized Programs and High Hazard Operations

For each component, one or more conclusions are presented that capture key evaluation results. Each conclusion is followed by a number of supporting observations and discoveries that form the basis for the conclusion. Conclusions and supporting observations/discoveries can indicate either an effective aspect of the SOH Program or an aspect that requires attention.

4.1 Results by Component

Results for each of the six components shown in Table 1 are presented below.

4.1.1 Component 1: Leadership and Management

Conclusion 1-1: Reclamation’s senior leadership and management demonstrate commitment to safety and occupational health and have established essential resources and various management systems for the implementation of the safety and occupational health program. Various positive attributes in this area contributed to the STRENGTH identified in Section 4.2.

Supporting Observations and Discoveries for Conclusion 1-1:

- The Reclamation Commissioner issues policy, commitment statements, video clips and other communications regarding safety and occupational health issues and values. Talking points are prepared and communicated for a multitude of safety issues for the Commissioner, which helps in facilitating communications at the executive level.
- A Designated Agency Safety and Health Officer (DASHO) is in place within senior leadership and is active in the safety and occupational health program.
- Regional Directors also issue safety policy and value statements to all employees within their respective regions.
- The Director of Security, Safety and Law Enforcement (SSLE) is key to providing senior leadership for the bureau-wide safety and occupational health program. The bureau SOH Manager and office reports to the SSLE Director, providing for senior level interaction and attention for safety issues and initiatives.
- A Reclamation Leadership Team (RLT) is established and is comprised of senior leadership including regional directors and bureau leadership. The RLT meets 5-6 times a year. At least twice a year, key safety topics were discussed among senior leadership in this forum. Life safety code issues are a recent topic of attention by the RLT. This forum provides a good opportunity for senior leadership to discuss safety issues and to identify and promote safety initiatives.

Similarly, regional leadership team meetings are held with safety presentations and discussions.

- Other management forums have been established to communicate and discuss safety and occupational health issues. These forms include regional safety manager's meetings, regional safety staff meetings, and teleconferences among Reclamation industrial hygienists.
- A Reclamation Commissioner Safety Award is issued annually. This award recognizes a region for notable safety performance, and Regional Directors have demonstrated a motivation in working to achieve this recognition. At other levels, however, there is a hard cap on awards, which limits the ability to recognize employees and organizations for safety achievement and also limits the ability to promote the safety program.
- Safety-related reports are communicated from regions to senior leadership and the Reclamation SOH Manager. An annual SOH report is provided to senior leadership that identifies high risk safety and compliance issues, as well as accident, injury, and illness information and trends. Regions provide their own annual SOH report and SOH plan to the Reclamation SOH Manager who uses this input to prepare the bureau's final annual SOH report. Safety and occupational health is a key element in Reclamation's strategic plans.
- In January 2013, OSHA cited 58 notices of violation for serious and other deficiencies at Reclamation's Hoover Dam and Power Plant facility. The Commissioner and senior leadership led Reclamation's effort to evaluate and then correct similar deficiencies throughout all their regions. In March of 2013, the Commissioner issued an all-employee communique to address the bureau's response to the OSHA notices at Hoover Dam. Reclamation personnel at all ranks within the organization have been made aware of Hoover Dam's OSHA notices and of leadership's directive to evaluate and correct similar deficiencies bureau-wide. Regional and area office management have evaluated their operating status relative to the OSHA notices at the Hoover Dam facility. Bureau personnel consider the actions and aftermath from the Hoover Dam citations to be a net positive for the organization since it can potentially lead to beneficial outcomes for lasting bureau-wide safety improvements.
- Leadership has established sound safety and occupational health resources throughout the key levels of Reclamation (bureau, regional, and local operational units such as area offices/power plants/dams) including safety managers, safety specialists, industrial hygienists, and fire protection/life safety professionals. At the bureau level, an experienced SOH Manager is in place supported by other capable staff. Regional offices that were evaluated also had experienced and capable SOH managers and professional staff. Collateral duty safety personnel are in place where deemed necessary to support local offices. This evaluation noted that Reclamation has one of the better ratios of SOH personnel to

employees in DOI, and it also has internal industrial hygiene resources that are often unavailable in other bureaus.

- Management systems are in place for safety and occupational health policy and standards, facility inspections, deficiency tracking, program evaluations, and other topics. Although systems are in place, Reclamation has not been fully effective in achieving the desired safety program implementation outcomes and correcting workplace deficiencies with lasting results (see Conclusion 1-2, below for factors limiting the effectiveness of these efforts).
- Reclamation recently adopted a new Reclamation Manual Policy SAF P01 Safety and Occupational Health Program. This policy's intended purpose is to re-enforce "the Reclamation leadership's firm commitment to safety and health of its employees, contractors, and others working in, or visiting bureau facilities." This policy assigns SOH responsibilities. It also states that the Reclamation SOH Program will be developed and implemented using principles contained in ANSI Z10 for Occupational Health and Safety Management Systems. Significant and positive modifications to Reclamation management approaches will be necessary to implement ANSI Z10 principles; however, to date, the extent of improved business management practices in concert with ANSI Z10 has not yet been defined. Leadership needs to develop a path forward to modify its management practices accordingly if this policy is to be effective in improving the safety culture (see Section 4.1.6, Program Implementation and Operation for further details). This policy also requires that SOH managers at all levels report to senior leadership/management of their respective office/organization. This is a positive development.
- Leadership expresses its commitment to workplace safety and is working on mechanisms to communicate values and initiatives and to improve the safety culture. Leadership recognizes the need to improve accountability related to safety performance and implementation of the safety and occupational health program. However, at the time of this evaluation, an effective safety culture and safety organizational value are yet to be achieved (see Conclusion 1-2, below for information on existing conditions, behavior, attitudes, and vulnerabilities that pose challenges to leadership in achieving a positive safety culture).

Conclusion 1-2: Senior leadership and line management have not established safety as an organizational value throughout all ranks of Reclamation and have not established accountability systems to ensure effective implementation of the safety and occupational health program at the working level. A degree of cultural complacency exists in Reclamation that results in the acceptance of workplace hazards and contributes to the presence of uncorrected hazards, non-compliance issues, and incomplete SOH program implementation. The SOH Evaluation Team observed conditions, issues, and causes similar to those that led to the OSHA notices at Hoover Dam and Power Plant and concludes that they are systemic to Reclamation. This is identified as a WEAKNESS (see WEAKNESS in Section 4.2.) The newly adopted safety and health policy (SAF

P01) could serve as a foundation to address this weakness, but an implementation plan has yet to be developed.¹

Supporting Observations and Discoveries for Conclusion 1-2:

- Leadership has not established a positive safety culture throughout Reclamation at all levels of the organization and has not established safety as an organizational value shared by all as integral to the way of conducting business.
- Management takes action to selectively correct certain issues and deficiencies when identified, but glaring omissions exist (both in the physical condition of facilities and in management/employee behavior and attitudes) that the management team has not committed itself and its organization to address. A cultural complacency for workplace safety rather than a positive safety culture is the result. Examples of this condition are provided below:
 - A newly constructed facility for painting and carpentry/woodworking was designed, built, and accepted without the essential safety systems and engineering controls to allow the facilities to be used for the operations intended. This condition was recognized even before occupancy, but had not been corrected at the time of this evaluation.
 - Throughout management, supervisory, and employee ranks it is common to characterize serious OSHA violations as “minor”.
 - Some site supervisors and employees are dismissive of serious facility and equipment deficiencies, hazards, and compliance issues. They consider these deficiencies minor and unimportant, and at times even consider corrective actions as undesirable.
 - Work crews are resistant to correct compliance issues that present serious hazardous conditions in the workplace. For example, evaluators observed that Reclamation work crews were more oriented to justifying why machine guards could not be placed rather than spending an effort in designing an adequate solution.

¹ Management should establish safety as an organizational value and ensure that its policy is implemented in a manner consistent with OSHA requirements and guidance that include the following: “State clearly a worksite policy on safe and healthful work and working conditions, so that all personnel with responsibility at the site and personnel at other locations with responsibility for the site understand the priority of safety and health protection in relation to other organizational values.” 29 CFR 1960. “A statement of policy is the foundation of safety and health management. It communicates the value in which safety and health protection is held in the business organization. If it is absorbed by all in the organization, it becomes the basic point of reference for all decisions affecting safety and health. It also becomes the criterion by which the adequacy of protective actions is measured.” www.OSHA.gov Also see Handbook Component 1, Leadership and Management; Element (v), Policy for information on the development and evaluation of safety policy.

- Compliance issues and hazardous conditions are either often not recognized or are accepted and become “part of the facility landscape”.
 - Line management and work crews do not use non-compliance information and associated corrective actions to achieve lasting, facility-wide improvements. When non-compliances are corrected, the corrective actions are often not shared and not implemented facility-wide or area-wide, resulting in similar unaddressed non-compliances at other locations.
 - Some supervisors voiced concern over lack of enforcement and accountability, difficulty in getting workers to take responsibility for safety, and lack of top/down initiatives to get employees involved and responsible for safety. Some workers voiced concern over line management emphasis on safety.
- The SOH Evaluation Team observations and discoveries across the regions and areas evaluated noted conditions, issues, and causes similar to those identified in the OSHA Hoover Dam and Power Plant notices of violation.
 - Accountability for safety as well as the processes to evaluate and measure safety performance are noted to be lacking. Operational units (area offices, dams, power plants) have significant autonomy even from the regional offices, and some regional offices are reluctant to provide oversight or evaluation for the purpose of measuring safety performance and establishing accountability for lasting corrective actions. However, the recently adopted policy SAF P01 supports and adopts ANSI Z10 principles which include accountability and oversight/evaluation processes for continuing improvement over time. SAF P01, if implemented properly, should serve to quell any concerns over accountability and regional oversight of area performance for purposes of continuous improvement. This observation is discussed in greater detail in Section 4.1.4 for Component 4, Evaluation and Analysis.²
 - SAF P01 and ANSI Z10 principles could be the basis for a culture of safety and making improvements to Reclamation’s safety program. To make these improvements, Reclamation’s leadership needs to establish their expectations and/or a project implementation plan that defines specific and concerted efforts,

² The SOH Evaluation Team is not inferring that any oversight or evaluation should be conducted in an adversarial type of manner that works against support activities provided by regional safety and health offices or that interferes with the authority of the operational units. Instead, evaluation can be conducted in a constructive manner to provide leadership and regional/area management with the necessary performance measures to make informed decisions regarding the safety and occupational health program status and any need for concerted corrective and improvement actions. The Upper Colorado Region has initiated such an evaluation process out of the regional office in a positive and constructive manner (see Section 4.1.4, Component 4, Evaluation and Analysis). Such processes are also consistent with ANSI Z10 principles that are supported under the newly developed policy SAF P01, Safety and Occupational Health Policy.

objectives, and action items to implement the consensus standards for the SOH management system (see Section 4.1.6, Program Development and Implementation for further information).

Conclusion 1-3: Constraints resulting from sequestration and other budget limitations have had safety-related impacts. Reclamation leadership and management need to be aware of these impacts and determine compensatory measures where feasible.

Supporting Observations and Discoveries for Conclusion 1-3:

- Many facilities are short-staffed which, at times, creates the appearance that safety is just another activity where there is little time or resources to pursue. It is also apparent that this lack of interest in maintaining safety standards affects employee morale which leads to the impression among Reclamation employees that management pays no attention and lacks any interest in their well being.
- Employees are being lost by attrition and it has become difficult to fill positions with trained and experienced professionals. This has resulted in worksites losing operational expertise and a training cadre for topics areas as arc flash protection and hazard communication.
- The current backlog for preventive and corrective maintenance is increasing which delays abatement action for facility and equipment hazards.
- A power plant operator interviewed at a power plant was due to receive mandatory operator training. At the time of this interview, this operator had still not received his mandatory power plant operator training. So, the operator had to learn his new position on his own via self-instruction while on the job.
- Vital training and safety exercises have been curtailed for onsite confined space entry rescue teams at facilities that have in-house rescue teams in place. Other safety training is also being curtailed, not only because of safety training cost, but also because of travel restrictions and travel costs.
- Winter fire rated clothing has not been provided, and as a result, switching in cold weather has been suspended. However, cases have occurred occur where workers tried to switch in cold weather without proper gear, which resulted in the stop work authority having to be exercised.
- Employees at a particular worksite reported a previous practice of being denied personal protective equipment, such as respirators, appropriate work gloves, replacement safety glasses, and adequate steel-toed footwear allowance.
- When personnel drive between distant work locations, an overnight stay is avoided if possible to save travel costs, but this leads to a long day of extensive

driving that increases the risks to both drivers as their passengers. This practice barely complies with Reclamation policy that limits the amount of driving that can be done in a workday. This evaluation also discovered that winter driver training had been cancelled for employees who drive in inclement winter conditions.

- Travel by safety and occupational health staff to support workers at various sites has not been significantly affected in 2013, but it is anticipated that this may be an issue in 2014.
- Safety award and promotional opportunities have been limited by sequestration. However, managers are trying to promote safety through other means that have no cost to government.
- On a positive note, management has voiced the position that work must be conducted safely within the limitations at hand, and that managers are not to push production at the expense of worker safety. Management has stated that safety will not be sacrificed to accomplish work. Nevertheless, as noted above, cutbacks have direct implications on worker safety.

4.1.2 Component 2: Employee Involvement

Conclusion 2-1: Reclamation has established mechanisms, forums, and opportunities for employee involvement, but has not yet embedded a culture that empowers and encourages employees to pro-actively recognize, identify, and correct facility hazards and compliance issues.

Supporting Observations and Discoveries for Conclusion 2-1:

- Employee safety committees are in place at some but not all regional and area offices. Where in place, these committees have charters and actively meet to discuss safety issues. Some perform facility inspections.
- Regions also have annual safety conferences/sessions.
- Safety meetings or weekly meetings with safety topics are held regularly among managers, supervisors, and craft at area offices and/or dams/power plants. Plan-of-the-day and/or plan-of-the-week meetings and/or tool box sessions (with work activities and related safety issues as a topic) are conducted to varying extents and with varying degrees of rigor by supervisors and craft.
- Employees are involved in performing Job Hazard Analyses (JHAs) for specific work activities and periodically review or update the JHAs; however, some would prefer that supervisors perform this function alone which is a negative perspective. “Tailgate” sessions are held at times to review JHAs. JHAs are

prepared to varying degrees of quality (see Section 4.1.3, Hazard Recognition and Prevention).

- At some area offices, safety committees with employee involvement are formed to plan for and provide annual training. This is a good practice that actively involves personnel at various levels in preparing, arranging, and facilitating training.
- Collateral duty safety representatives (CDSRs) are assigned from worker ranks where needed to supplement professional safety staff. They are provided training and gain experience by working with professional safety staff. One office conducts “CSDR exchange”, where CDSRs participate in inspections at various locations other than their own. This good practice provides a cross-fertilization of knowledge and hazard recognition abilities and practices.
- Employees participate in annual worksite inspections to varying degrees at offices. One operating unit applies a good practice of rotating CDSRs among various power plants to help inspect each other’s respective areas. This provides a new “set of eyes” for various areas and serves to share knowledge and experience. This office also provided OSHA 6000 training to all employees and everyone participates in worksite inspections, which is yet another good practice.
- Communication and information distribution processes are applied from the national and regional safety offices to keep employees aware of initiatives, activities, safety topics, and safety information in general.
- Locally assigned safety staff actively work with employees to assure safe work practices.

4.1.3 Component 3: Hazard Recognition and Prevention

Conclusion 3-1: Job Hazard Analyses (JHAs) are conducted for specific activities to identify, evaluate, and control the activity-specific hazards. Some of these JHAs are very well prepared, while others have little content of value. Reclamation needs to better define JHA expectations and provide improved training and guidance in their preparation, including hazard recognition skills.

Supporting Observations and Discoveries for Conclusion 3-1:

- Job Hazard Analyses (JHAs) are performed for many specific activities that have associated hazards. Supervisors and employees evaluate the hazards of the activity and its work steps and identify hazard control and worker protection measures. Workers sign-off on JHAs. JHAs are often associated with a work order as part of the work control system, but full integration of JHAs with the

work control system has not yet been achieved. However, JHAs are often posted in the work area or reviewed as part of job preparation.

- The RSHS JHA standard is general and does not include a well-defined minimum threshold that triggers the requirement for preparation of a JHA (e.g., based on risk, complexity, or hazards involved). As a result, requirements for preparation of JHAs vary by region with some requiring JHAs for all jobs and others leaving JHA preparation to the discretion of the supervisor or work crew.
- The quality of JHAs varies. Some are prepared very thoughtfully and contain specific content on work steps, hazards, and control measures. Some of the better JHAs also include photographs of the job and detail challenges of the activity. Others are very general and as a result, the JHA preparation becomes more of a paper exercise instead of providing value-added information. JHAs can become routine and complacency results in preparation and review. Nevertheless, the JHA process is well established throughout Reclamation.
- Some of the better JHAs also document post-job information that serves to improve hazard control measures and work practices for the next time this work is to be performed. This is an excellent process that needs to be encouraged for all applicable activities, especially those of higher risk. The RSHS standard and any training improvements need to encourage this good practice.
- An employee's ability to prepare or participate in JHA preparation varies. Some employees were noted to be quite skilled in JHA preparation, others prefer that supervisors complete JHAs, while still others feel that they are "inadequate" to do JHAs because of lack of training. Hazard recognition training and JHA preparation training and guidance need improvement for good JHA preparation.
- Reclamation needs to share the good practices for JHA preparation across all offices, and incorporate good practice approaches in the RSHS JHA standard. Improved hazard recognition training is also needed.

Conclusion 3-2: Reclamation safety and worksite personnel perform walkthrough inspections of facilities at least on an annual basis as required. These inspections are used to identify, document, and correct hazards and compliance issues in the workplace. However, in certain cases, corrective action does not appear to be a management priority.

Supporting Observations and Discoveries for Conclusion 3-2:

- Reclamation safety and other personnel conduct and document annual walkthrough inspections at their facilities. This approach is consistent with DM Part 485, Safety and Occupational Health Program, Chapter 6, Inspections and Abatement. Reclamation can currently demonstrate that worksite inspections are being performed and that identified hazards are tracked.

- The SOH Evaluation Team identified various hazards and conditions that indicate the worksite inspection and corrective action process needs to be improved at various facilities.
- Reclamation uses the dam safety information system (DSIS) to list and track items that are categorized in the higher risk priority scores (RACs 1 and 2). Regions also use various types of systems in addition to DSIS. One region has developed an automated system (on Sharepoint) that is very nicely constructed and effective. Other regions use less formal systems, but they still serve to identify and track issues to closure.
- RACs are assigned to the various hazards and compliance issues as part of the inspection processes. Reclamation has established guidance for RAC assignment in its SAF 01-06; however, they suffer from subjectivity and inconsistency.
- Reclamation management and facility work crews do not demonstrate a sense of urgency to correct identified safety and health hazards. The SOH Evaluation Team notes that a number of identified hazards remain uncorrected for extensive periods of time. In other cases, the specific item will be corrected, but management does not share this information to correct similar issues in other areas and achieve lasting improvement of facility and equipment conditions. The SOH Evaluation Team observed hazards and conditions that require prompt attention. The SOH Evaluation Team also identified hazards and conditions of similar nature to those that an OSHA compliance team identified at Hoover Dam and Power Plant, which indicates that Reclamation may have systemic SOH issues.³

Conclusion 3-3: As part of its hazard recognition and prevention initiatives at the bureau level, Reclamation targets specific hazards and issues to evaluate, prevent, and control exposures and hazardous conditions, including noise exposure/hearing loss, life safety, and fire prevention, and other high hazard operations.

Supporting Observations and Discoveries for Conclusion 3-3:

- Noise exposure control and hearing loss prevention is a current Reclamation initiative. Reclamation is conducting pilot programs to evaluate noise exposures and implement control measures intended to prevent hearing loss.

³ Many of the hazards identified during Reclamation facility inspections could be considered as “serious” by OSHA. If known hazards are not corrected in a timely manner, not only does the hazard present an on-going vulnerability to worker safety, but an additional vulnerability is created in that OSHA could consider these hazards as “willful” violations. A willful violation is defined as a violation in which the employer knew that a hazardous condition existed but made no reasonable effort to eliminate it, (i.e. plain indifference or a conscious disregard to comply), and in which the hazardous condition violated a standard, regulation, or the *OSH Act*. Penalties in the private sector range from \$5,000 to \$70,000 per willful violation

- Reclamation is emphasizing life safety issues which is a current focus of its SOH evaluation process conducted out of the Reclamation SOH Office.
- Reclamation has recently hired a fire protection engineer to focus on initiatives in fire protection and life safety.
- In addition, Reclamation has specialized hazard analysis and prevention programs for high hazard operations, such as diving operations and rope access operations to secure cliff/rock hazards around dams.
- Lead and asbestos characterizations at various offices and facilities have not yet been complete or not readily available. This survey information is important since it allows workers to avoid, prevent, and control exposures during work activities that could impact these materials.

4.1.4 Component 4: Evaluation and Analysis

Conclusion 4-1: The Reclamation Safety and Health Office perform SOH evaluations of regional and subordinate offices. These evaluations are conducted for selected regions annually. Some regional offices also perform self-evaluations of targeted programmatic areas as part of a continuous improvement effort in concert with ANSI Z10 principles. Other regions, however, have not carried out this type of self-evaluation and oversight. Reclamation needs to clarify and define the expectations for performance measurement and continuous improvement under SAF P01 and ANSI Z10 and ensure that all regions develop approaches intended under this policy and associated principles.

Supporting Observations and Discoveries for Conclusion 4-1:

- The Reclamation Safety and Health Office perform SOH evaluations of select regional offices annually. The implementation status of the SOH program is evaluated to promote continuous improvement of the regional and bureau-wide program. These evaluations are conducted in accordance with the six essential components of an SOH program shown in Table 1.
- One regional office also recently initiated annual internal SOH self-evaluations of its area offices. Targeted program elements are identified as the focus of these evaluations that support continuous improvement efforts. These self-evaluations are conducted by regional safety and health staff located at area offices, along with area office personnel such as CDSRs, line management, and workers.
- Other regional offices have not conducted these types of self-evaluations as part of oversight, verification, and performance measurement. The concern is that this lack of oversight could interfere with technical support efforts and could create an adversarial situation, as well as could compromise the autonomy and authority of

area management. Instead, regional SOH support is provided based on request or invitation.

- SOH management systems (SAF P01/ANSI Z10 and others) include such elements as accountability, oversight, evaluation, and performance measurement, all of which are intended to achieve continuous improvement. The policy in SAF P01 is newly adopted and Reclamation has not yet clarified and defined expectations and initiatives to be implemented under the new policy. This policy could potentially represent the foundation upon which Reclamation could address the shortcomings in safety culture and safety organization value identified in Conclusion 1-2, above, but to do so, Reclamation needs to take the policy to the next level by defining actions necessary to implement the policy (also see Section 4.1.6, Program Implementation and Operation). For instance, in regard to the regional self- evaluations, Reclamation's SOH program would benefit by defining whether these are to be conducted in order to promote improvements.

Conclusion 4-2: Comprehensive or periodic facility reviews are also conducted of dam and power plant facilities and operations. These technical reviews are comprehensive and include limited reviews of certain safety and health elements such as JHAs, hazardous energy control, and permit required confined space programs. There is value for greater SOH participation in these reviews.

Supporting Observations and Discoveries for Conclusion 4-2:

- Detailed technical reviews of dam and power plant operations are conducted on a regular basis. These reviews vary in their frequency, depending on their level of complexity. They primarily focus on examination of facility structural integrity and operating procedures, and include limited review of some safety and occupational health elements.
- With the exception of one region, teams performing these reviews did not generally include safety and occupational health professionals. Management representatives were of the opinion that SOH staff participation would be beneficial in all cases.
- These types of reviews are fundamental to Reclamation oversight processes and fully accepted as key to performance measurement and continuous improvement.

Conclusion 4-3: Reclamation collects and analyzes work-related injury and illness data as required by 29 CFR 1904, Recording and Reporting of Occupational Injuries and Illnesses. The OSHA annual summary of work related injuries and illnesses (OSHA Form 300A) is posted in area offices but not prepared and posted specific to individual locations (establishments such as dams/power plants).

Supporting Observations and Discoveries for Conclusion 4-3:

- Injuries and illnesses are entered into the DOI SMIS system, usually by supervisors of the injured employees. All offices evaluated can produce mandatory work-related injury and illness data. The OSHA 300, *Log of Work-Related Injuries and Illnesses* reviewed indicates that they are maintained current with 29 CFR 1904, Recording and Reporting of Occupational Injuries and Illnesses.
- The OSHA 300-A, *Summary of Work-Related Injuries and Illnesses* are posted at establishments, which are generally at the area office level, as required by 29 CFR 1904.⁴
- The Reclamation Safety and Health Office assemble, analyze, and prepare a report on employee work-related injuries and illnesses bureau-wide.

4.1.5 Component 5: Training and Awareness

Conclusion 5-1: Reclamation provides various types of safety and occupational health training, appropriate for worksite hazards and related to the applicable OSHA standards. In addition, specialized safety-related training is provided for certain high hazard operations. However, various types of specialized training does not exist and opportunities for improvement are identified.

Supporting Observations and Discoveries for Conclusion 5-1:

- Reclamation provides various safety related training to employees based on hazards and work activities that relate to specific OSHA standards. In general offices identify training requirements by worker and maintain records of requirements and status of training.
- One area office assembles a specific safety committee comprised of a cross-section of personnel including craft that prepares for an annual training program for the work force. This training is then conducted over the course of a “safety days” period using outside vendors and internal resources. The involvement of various personnel on the training committee is a good practice, and participation on the committee rotates each year.
- As applicable, Reclamation’s offices provide training for hazard communication, respiratory protection, hazardous energy control, electrical safety, confined space entry and rescue, first aid/CPR, hearing conservation, forklift use, watercraft operations, defensive driving, and other program elements.

⁴ See 29 CFR 1904.30(a) and (b)(3) and 29 CFR 1904.32 and (b)(2)(ii). Also, Bureau of Labor Statistics defines an establishment as, “the physical location of a certain economic activity—for example, a factory, mine, store, or office. A single establishment generally produces a single good or provides a single service. An enterprise (a private firm, government, or nonprofit organization) can consist of a single establishment or multiple establishments. All establishments in an enterprise may be classified in one industry (e.g., a chain), or they may be classified in different industries (e.g., a conglomerate).”

- Training in the new “global harmonized system” for hazard communication is also provided to inform personnel of new requirements for this standard that are to be implemented.
- Where confined space rescue teams had been established at dams/power plants, there are indications from team members that they did not feel they had provided adequate time for training and exercises. In cases where management establishes these in-house teams, it needs to ensure that adequate time for training and exercises is allowed.
- Training in asbestos and lead awareness (and possibly asbestos and lead- worker training as applicable) may not be adequately provided to all applicable workers who require it. Some who have apparently received such training are unaware of it which indicates that the training needs improvement.
- Many supervisors and workers alike were of the opinion that electrical safety and arc flash training needs to be improved, along with the overall program.
- First aid and CPR training is provided to many employees. In addition, blood-borne pathogen training is provided in many cases even though most Reclamation employees are not designated as first responders.
- Reclamation has a higher ratio of full-time SOH personnel to employees than other bureaus, and does not rely on collateral-duty safety representatives (CDSR) to the degree that other bureaus do. However, where they are used, they appear to have CDSR training as required, either through DOI LEARN or the OSHA 6000 training. Some regional safety managers also ensure various levels of training and on-the-job mentoring for CDSRs. CDSR interactions during this evaluation showed that they are knowledgeable, capable, and continuing to gain experience.
- Safety training for supervisors is not adequate and is needed as an essential element to improve safety culture.
- Improved hazard recognition training for those participating in facility inspections and JHAs is also needed, as is training in the preparation of JHAs.
- Heavy equipment is operated off-road. No training or certifications are provided. Even though most use is off-road, a level of training needs to be defined and delivered.

4.1.6 Component 6: Program Implementation and Operation

Conclusion 6-1: Reclamation has recently approved Reclamation Manual Policy SAF P01, Safety and Occupational Health Program that establishes the foundation for an effective Safety and Occupational Health (SOH) Program. This policy defines

responsibilities and also requires SOH managers to organizationally report to senior leadership or management of their respective offices which is potentially of great benefit to the safety program. Very importantly it adopts ANSI Z10 principles for an SOH management system and accordingly emphasizes continuous improvement processes and “developing and implementing SOH as a core value of Reclamation.” This policy establishes the foundation to build a strong safety culture and address the weakness identified in Section 4.2, below. Reclamation has not established a concrete action and implementation plan with expectations, action items, and timetables to achieve the worthwhile objectives of this policy; however this will be addressed beginning with its FY 2014 Action Plan.

Supporting Observations and Discoveries for Conclusion 6-1:

- SAF P01 Safety and Occupational Health Program policy was recently adopted to provide the foundation for establishing a sound SOH management system providing for continuous improvement and developing and implementing SOH as a core value of Reclamation.
- ANSI Z10 principles for an SOH management system are adopted by this policy. These principles include accountability, oversight, evaluation, performance measures, and other processes to achieve continuous improvement of the SOH program.
- SAF P01 tasks the RLT, both as a collective group and through its individual members (i.e., senior leadership and management) for providing visible guidance and operational leadership for developing and implementing SOH as a core value of Reclamation. This responsibility is important to achieving correction of the weakness identified in Section 4.2, below; however, the means to achieve this is undefined.
- SAF P01 also assigns SOH personnel for assisting in the development of effective SOH management processes using ANSI Z10 principles. This, of course, would seem to include accountability, measurement, evaluation, and other oversight functions (fundamental to continuous improvement) that some regions and SOH offices are reluctant to perform.
- Some managers and SOH staff seem to understand the implications of implementing ANSI Z10 principles and the new policy, but many expressed no understanding of the implications of this policy on management practices.
- Reclamation structures its regional safety offices in two distinct manners. One of its five regions has a regional safety office with regional safety staff assigned to and embedded in area offices but still reporting to the region. The remaining four also have a regional safety office and staff, but the safety professionals in area offices report to the area manager (i.e., line organization). In both cases, regional safety offices are supportive of area operations. However, the SOH Evaluation

Team notes that in the first approach, regional safety staff is engaged daily with area operations, and the regional safety office implements continuous improvement initiatives consistent with ANSI Z10 and SAF P01 such as SOH evaluation, self-assessment, and performance measurement, in addition to providing technical support. Based on observations, it does not appear that other regions are providing SOH evaluation, self-assessment and performance measurement (e.g., oversight) of field operations which is essential for continuous improvement process to be effective. There appears to be reluctance at the regional SOH level to become involved in field office SOH issues, except when requested by the area offices. In the spirit of implementing SAF P01 and establishing a sound safety culture, Reclamation needs to determine whether one organizational approach has any fundamental advantage over the other and is more conducive to SAF P01 policy implementation.⁵

- This policy provides Reclamation with the opportunity and foundation to implement positive change in business and management practices and systems to improve safety and occupational health performance and achieve positive safety culture and value improvements. To announce and communicate this program, a video clip and endorsement is to be prepared for delivery by the Commissioner. Reclamation is also planning to rewrite certain directives and standards. Recognizing that this new policy was issued as this evaluation was underway, the need is critical for concerted management action regarding this policy in terms of developing an implementation plan with clear expectations, action items, and timetables to make fundamental and lasting improvements over time.⁶

Conclusion 6-2: Reclamation has safety and occupational health policy and standards in place at the bureau level. Regional and area offices develop site-specific safety plans and implementing programs. Generally program elements are fairly well implemented, although some gaps and improvement opportunities exist. Efforts are underway to improve and modify these programs over time. In addition, certain emphasis areas are a focus of attention, and initiatives are underway to address hearing loss prevention, fire protection, and life safety. Reclamation also has safety practices in place for specialized activities such as rope access work and diving.

Supporting Observations and Discoveries for Conclusion 6-2:

- Safety and occupational health policy and standards are established at the bureau level. The bureau SOH office has updated organizational policy and supporting documents and standards on an ongoing basis for individual program elements.

⁵ The SOH Evaluation Team is not suggesting that one organizational structure is preferred over the other. This needs to be a Reclamation evaluation and determination. In addition, a singular approach may or may not be appropriate. However, to implement SAF P01 and ANSI Z10 principles, management practices may need to be tailored for the specific organizational structure in place at the region.

⁶ The SOH Evaluation Team emphasizes that Reclamation needs to take the words of this policy and translate them into positive action driven at the highest levels of senior leadership.

The Reclamation Safety and Health Standards (RSHS, Yellow Book) provide specific requirements for use in the conduct of daily work at the operating level of the organization for the safety and occupational health program including individual program elements. Reclamation revises and updates a number of these standards on an ongoing basis.

- Regional and area offices develop site-specific programs that are more tailored for their individual regional or area office operations. Some of these site-specific programs are nicely tailored with site information, while others could be improved.
- The RSHS contains a standard for JHA completion. This standard needs to be updated to clarify the recommended threshold for JHA completion and provide additional information to supervisors and workers who prepare these JHAs to ensure they are prepared with the proper content and detail.
- An RSHS hazard communication standard is in place as are site-specific programs. Reclamation is providing training on the “global harmonized system (GHS)” that is being implemented in accordance with revised OSHA requirements. Reclamation needs to ensure that other aspects of the GHS such as labeling and safety data sheets are implemented as required. Many hazard communication elements are in place at Reclamation offices, but the SOH Team notes that chemical inventories are not adequate at various sites.
- Written respiratory protection programs are in place at offices where respirators are used. Training and fit testing are provided. The SOH Evaluation Team noted deficiencies in respirator and respirator equipment (cartridge) storage at certain sites. These factors need to be included in facility inspection processes to ensure identification and correction but could also be addressed through effective regional and area office SOH evaluations and oversight. Some offices require that all employees receive respiratory protection training and fit testing and be issued respirators. While this is not contrary to any regulation, those who seldom use respirators forget proper procedure on how to store and use the respirators that are in their possession. Fit testing is provided for half facepiece respirators but not disposable air purifying respirators, such as N-95s, even though they are required to be used at times.
- Written confined space entry programs are in place at offices. Training in confined space entry and rescue is provided. Some sites have internal confined space rescue teams. However, some teams may not receive adequate opportunity to conduct practice exercises for rescue. Reclamation management needs to ensure that adequate training and exercises are provided when in-house rescue teams are assigned.
- Industrial hygiene monitoring is performed to determine exposures to hazards.

- Reclamation is emphasizing hearing conservation and hearing loss prevention as a focus area. Pilot programs are underway including exposure monitoring and implementation of engineering controls for hearing loss prevention. Hearing conservation requirements are generally in place, and the current efforts underway will assist in better determining personnel who need to be in the program and determine the feasibility of implementing engineering controls across Reclamation operations. These efforts demonstrate pro-active measures in hazard evaluation, prevention, and control.
- Hazardous energy control programs (lockout/tagout) are in place and training is provided. Some personnel voiced concerns that a lock out/tag out clearance certificate can be written by the worker who is performing the energy control task.
- For electrical safety, Reclamation has requirements in both the Reclamation Safety and Health Standards and in the FIST 5-14, Arc Flash Hazard Program. They are both currently under revision and will be issued in the near future with the FIST to be retitled as the Electrical Safety Program. Reclamation Technical Service Center conducts detailed incidental energy studies to identify flash protection boundaries and incidental energy at assigned work distances in association with electrical equipment in Reclamation facilities. These studies provide the basis for determination of arc-flash rated PPE when working with that specific equipment, and have been completed at nearly all Reclamation major facilities. Electrical safety programs and training are implemented, but some are of the opinion that improved arc flash training is needed and that guidelines need thorough review and revision. Fire rated clothing is provided for warmer weather conditions, but there were indications that it was not being provided for winter conditions at some locations, even though mandated under Reclamation requirements. Without winter fire rated clothing, workers cannot perform switching conducted outdoors; however, some have observed personnel attempting this work using inadequate “wind- breaker” type of gear, and stop work authority was exercised. Reclamation needs to address providing fire rated clothing for winter conditions, where applicable.
- First aid and CPR training is provided to many employees. In addition, blood-borne pathogen training is provided in many cases even though most Reclamation employees are not designated as first responders.
- Reclamation is emphasizing fire protection and life safety. A fire protection engineer has recently been hired for initiatives in this area.
- The asbestos and lead programs need improvement in hazard characterization and training.

- Specialized programs are in place for higher hazard activities such as rope access work designed to remove and/or secure hazards (e.g., loose rocks) from cliffs and elevated areas around dams. This program is well-structured with a Rope Access Control Board in place to establish and review processes and practices, as well as to review the region's rope access team activities. Rigorous training and qualifications, JHAs, pre-job planning, post-job reviews, rescue planning, equipment inspection, PPE, and other safety measures are integrated with this work. Similarly a specialized program is in place for diving, and a diving manual has been developed.

Conclusion 6-3: Reclamation has systems in place for construction safety, including award and construction review processes to ensure safety considerations and requirements are integrated with procurement and construction processes. There is concern, however, that new facilities may not be incorporating adequate design controls to ensure that essential safety systems and engineering controls are in place to address the hazards and operations for which they were designed and intended.

Supporting Observations and Discoveries for Conclusion 6-3:

- Reclamation has construction offices that manage Reclamation construction contracts. Safety considerations are integrated with procurement, award, and construction processes.
- As part of the procurement and award process, contractor/bidder insurance experience modification rates (EMR) are evaluated along with lost-time injuries and OSHA citations and violations.
- Post-award meetings are held and contractors must submit an acceptable safety program before authorized to start work.
- Reclamation has construction inspectors and engineers involved with quality assurance and oversight of the projects, including review, identification, and correction of safety and occupational health issues. On-site inspections are conducted and documented, and a review of reports confirms that safety is a consideration in these inspections. Safety-related deficiencies are corrected on the spot when possible. Processes are also in place to correct any safety issues that need to be raised to a higher level. However, where imminent danger situations were identified on construction sites, Reclamation construction inspectors indicated only the contracting officer could take action to stop work on the site. Since the contracting officer is generally located far from the site and requires time to contact, this could result in imminent danger situations to remain in existence until such time as the contracting officer is contacted and makes a decision to take action.

- Contractors use only their own equipment and prepare their own JHAs for review by inspectors.
- Industrial hygiene exposure monitoring is conducted by contractors at times and this data is provided to the construction office. However, these data need to be forwarded and shared with regional SOH offices.
- A construction oversight system to review past safety performance of contractors is being worked on in at least one region. The contractor performance assessment recordkeeping system (CPARs) is being looked at as a possible tool to input safety-related information for contractor rating purposes.
- Despite good processes in place for construction safety, the SOH Evaluation Team conducted site visits of a paint shop and carpentry/woodworking shop that were recently constructed without the necessary safety systems and engineering controls to allow them to be operated for the work intended. In addition to correcting these conditions, Reclamation needs to perform a lessons learned exercise to determine the cause for this glaring oversight, determine if it is a systemic issue, and ensure that it does not recur.

4.2 Strengths and Weakness

During the SOH Evaluation, areas or work practices of particular strength or weakness are noted. By definition, “strength” is considered to be a noteworthy practice that can serve as a model and that merits sharing, review, and possible implementation throughout Reclamation and at other DOI bureaus and offices. A “weakness” is a particular issue that represents a causal factor for performance shortcomings and/or that represents an organizational vulnerability in safety and occupational health program implementation and/or worker protection.

One “strength” and one “weakness” were identified during the Reclamation SOH Evaluation as follows:

STRENGTH: Reclamation has established key fundamental elements for an effective safety and occupational health program. Leadership and management are committed to safety and communicate their commitment. SOH offices are established at various levels of the organization and are staffed with experienced, capable, and actively engaged professionals. Systems are in place for SOH policy/programs, worksite analysis, deficiency tracking, program evaluation at some levels, hazard identification and control, and others important to effective SOH program implementation. Reclamation has recently adopted SAF P01 to define the overall policy foundation upon which to build an effective SOH program using sound management systems and principles of ANSI Z10. The SOH Evaluation Team strongly encourages Reclamation to develop a set of concerted initiatives or a defined action plan to indicate that this new policy will be applied with support of Leadership to improve systems and practices and establish safety as a true organizational value. The SOH Evaluation Team encourages Reclamation Leadership to build its strengths and policy initiatives to take the safety program to a

higher level and establish a sound safety culture throughout all levels of the organization. Reclamation needs to build off these positive attributes to address the weakness discussed in this report and establish a sound safety culture.

WEAKNESS: Senior leadership and management have not established safety as an organizational value throughout all ranks of Reclamation and have not established accountability systems to ensure effective implementation of the SOH program at the workplace level. As noted in this report, a degree of cultural complacency exists in Reclamation that results in the acceptance of workplace hazards and contributes to the presence of uncorrected hazards, non-compliances, and incomplete SOH program implementation. Managers, supervisors, and workers refer to serious OSHA violations as “minor” and some even describe serious injuries as “minor.” Work crews are resistant to correct compliance issues that present serious hazardous conditions in the workplace and justify why corrective action cannot be taken rather than determining an adequate solution. Line management and workers correct specific identified deficiencies but do not take action to ensure lasting corrective action across the organization. The SOH Evaluation Team observed conditions, issues, and situations similar to those for which OSHA issued notice of violations at Hoover Dam and Power Plant and concludes that they are systemic throughout Reclamation. With the adoption of SAF P01 and implementing ANSI Z10 principles, Reclamation has an excellent opportunity to launch concerted action that should include modifications to current business practices and management systems to establish an improved culture of workplace safety.

5.0 Documents, Interviews, Walkthroughs

The SOH Evaluation was conducted through a process of document reviews, interviews, and worksite walkthroughs.

Examples of types of documents reviewed included:

- SOH directives, policy, programs, and procedures;
- Injury and illness records;
- Worksite inspection reports;
- Deficiency listings and closure documents;
- Training documents and records;
- Oversight and assessment reports;
- Safety committee charters, agenda, inspections, and other documentation;
- Safety related communications;
- Other documents related to safety requirements and performance.

Examples of personnel/positions interviewed included:

- Senior management (e.g., DASHO, Reclamation senior leadership and management at headquarters, regional offices, and area offices);

- Line management and supervisors from diverse operations, such as fire, law enforcement, search and rescue, resource management, facilities management, among others;
- Department/group managers;
- Safety and health management and staff;
- Safety committee chairs and members;
- CDSOs;
- Employees at multiple levels and in many organizations;
- Facility management personnel;
- Technical and engineering personnel
- Labor representative.

Worksite walkthroughs were conducted in various types of facilities.

6.0 Maturity Model

The Capability Maturity Model (CMM) was developed by Carnegie Mellon University and is used as a general model to aid in improving organizational business processes in diverse areas. When applied to existing organizational processes, CMM allows an effective approach toward improving them.

There are five maturity levels defined along the continuum of the CMM and as the quality of Reclamation’s SOH processes improves, Reclamation moves up these five levels.

Maturity Level		OS
5: <u>Optimizing:</u> It is characteristic of programs at this level that the focus is on continually improving performance through both incremental and innovative changes/improvements.	5.0	
	4.5	
4: <u>Quantitatively Managed:</u> It is characteristic of programs at this level that, using process metrics, management can effectively control the AS-IS process. In particular, management can identify ways to adjust and adapt the program without measurable losses of quality or deviations from specifications.	4.0	
	3.5	
3: <u>Defined:</u> It is characteristic of programs at this level that there are sets of defined and documented standard processes established and subject to some degree of improvement over time. These standard processes are in place and used to establish consistency of program performance across the organization.	3.0	3.03
	2.5	
2: <u>Managed/Repeatable:</u> It is characteristic of programs at this level that some processes are repeatable, possibly with consistent results. Program discipline is unlikely to be rigorous.	2.0	
	1.5	
1: <u>Initial (Chaotic):</u> Programs at this level are characteristically undocumented and in a state of dynamic change, tending to be driven in an <i>ad hoc</i> , uncontrolled and reactive manner by users or events.	1.0	
	0.0	

Note: The Reclamation level on the Capability Maturity Model is 3.03 with a standard deviation of .5674. The highest data point is 5.0 and the lowest is 2.0.

7.0 SOH Evaluation Team

The SOH Evaluation Team is comprised of the DOI OSH Safety and Occupational Health Manager and three senior FOH occupational safety and health professionals, each with over 35 years professional experience in the field, including performing numerous multi-disciplined high level SOH program evaluations, technical safety appraisals, audits and assessments, and OSHA- type inspections for multiple federal agencies and other enterprises. The SOH Evaluation Team includes:

- Barry Noll, PE, Safety and Occupational Health Manager, Office of Occupational Safety and Health, DOI (headquarters). Overall Team Leader from the Secretary's office.
- Frank Fitzpatrick, CIH, FOH -- Overall FOH Program Manager and primary interface with DOI. Key responsibilities are to plan and prepare for the evaluation and develop, document, and refine the evaluation process and tools for the evaluations and future evaluations, review deliverables, and coordinate overall Team functions. Mr. Fitzpatrick did not participate in evaluation activities conducted on-site at Reclamation offices.
- Gary Gottfried, CIH (ret), FOH – SOH Evaluation Team Leader and Senior Industrial Hygienist and primary interface with Reclamation. Key responsibilities include leading the Evaluation Team during the on-site evaluation process, coordinating site evaluation activities, conducting aspects of the programmatic and field evaluations with a focus on management of the SOH program, industrial hygiene and occupational health, gathering and compiling evaluation information, and preparing results.
- Jack Janda, MS, CSP, FOH – Senior Safety and Occupational Health Specialist. Key responsibilities include conducting aspects of the programmatic and field evaluations with a focus on occupational safety and OSHA compliance, recordkeeping, conducting site walkthrough inspections, gathering and compiling field information, and preparing results.
- Reclamation Participants and Liaison: James Meredith, SOH Manager. Key responsibilities included team liaison with Reclamation offices, arranging opening and closing conferences, and attending interview, deliberation, and other evaluation processes. Jerry Balcom, Loss Control Program Manager, U.S. Army Corps of Engineers, supported Reclamation in the SOH Evaluation and attended evaluation processes.