

Cambridge Center for Behavioral Studies Safety Accreditation Site Visit Report

To:
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Western Energy Company
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From:
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Site: Western Energy Company, Rosebud Mine
138 Rosebud Lane
Colstrip, MT 59323

Date of Visit: August 27-28, 2015

Reviewers: Mark Alavosius, PhD (Chairperson of Commission & Chair of SiteTeam) & Don Kernan (Commissioner)
Commission on Behavioral Safety,
Cambridge Center for Behavioral Studies

Overview:

Western Energy Company – Rosebud Mine is a 25,000-acre surface coal mine complex located in the northern Powder River Basin near Colstrip, Montana and the Northern Cheyenne Indian Reservation. The Rosebud Mine has three active mining areas. The workforce consists of 82 salaried employees and 289 hourly employees. The hourly employees are represented by Operating Engineers Local 400.

The mine produces approximately 12,000,000 tons of sub-bituminous coal annually. The coal is delivered to four power plants via a 5 mile conveyor system. Additionally, one small power plant utilizes waste coal. **The CCBS accreditation review assesses the BBS process at the mine only and did not assess any behavioral safety processes employed in the associated power plants.**

The majority of the mine workforce consists of blue-collar workers; equipment operators, warehousemen, conveyor operators, and laborers. Some of the skilled labor, in such positions as mechanics, welders and electricians, attended trade school. An equal number learned on the job. Many of the supervisory positions are held by promoted union personnel. There are also supervisors, superintendents, and managers, with engineering degrees. The majority of employees have a high school education or higher, although there are some employees that do not.

The average age of the workforce is 47, with ages ranging from 20 to 75. Most of the work force is long-term employees with an average of approximately 15 years experience.

Description & history of the Rosebud PBBS program:

This PBBS program was implemented with the help of a consultant in January 2007. Employees were asked to nominate other employees to create a behavioral safety program. In May 2007, a PBBS design team was chosen and included 13 union members and 4 salaried employees. The members of the Design Team were chosen based on three characteristics:

- 1) They were concerned about safety.
- 2) They were willing to speak their mind.
- 3) They were respected by other people.

In July 2007, the Design Team presented their PBBS process to the managers, superintendents, and supervisors for their input and approval. At this meeting, the entire management signed a Commitment Statement approving the process as designed and pledging to support the process.

In July, August and September of 2007, all employees attended a four-hour workshop to introduce them to the process and teach them how to participate in observations and feedback. The Design Team was divided into five Steering Committees to manage the process. Each Steering Committee meets once a month. The behavior safety process kicked off on October 1, 2007.

Operation of Rosebud PBBS Process:

The Western Energy Company observation process is focused on positive feedback for safe practices. Concerns are corrected immediately if possible or recorded for the Steering Committee to address. The process is managed by the Steering Committee with visible and active support from management. The key features of the observation and feedback process are:

- The observee is anonymous, if the observer does not want to be recognized; the observer can also be anonymous.
- The process is entirely voluntary
- The observations and feedback must remain positive
- The process is kept short and simple
- There is no discipline involved if an unsafe action is observed
- The observer must give immediate feedback to the observed

Three checklists are used to observe work practices. One for "Working" "Driving" and "Office". The checklists are short and simple while including enough information to allow the Steering Committee to analyze all the observation data and comments from the observed. The checklists are printed on card stock that allows the people in the field to take them in a lunch box or keep a supply on the equipment.

Observations extend to hourly union employees, salaried non-union employees, and all temporary staff. Every employee was given the initial four hour BBS workshop on the

observation and feedback process. Any new employees are given training on the BBS process during the initial new miner training. In addition, everyone at Western Energy may be observed and receive feedback – with their permission - as participation is voluntary. The Design Committee has asked that everyone complete two observations per month. Most observations are completed in 3 to 5 minutes, while others require traveling to other work areas and may require 30 to 60 minutes to complete.

During launch of the process, the Design Team placed nine checklist stations at the mine. Each station has boxes to store the blank observation cards and a locked drop box for completed observation cards. Locking bulletin boards are also located at each checklist station. The bulletin boards are for communication with the workforce, informing of such things as planned celebrations and recognition of those doing observations.

The completed observation cards are collected weekly by the Steering Committee members. A representative of the safety department (Felicia) enters the data in a spreadsheet. The information is available for all Steering Committee members, but only the safety department is allowed to enter the observations. The spreadsheet produces graphs depicting the percent of observations, the number of observations, the breakdown of “working”, “driving”, and “office” observations, and the concerns that are noted in the observations.

The Steering Committee wishes to recognize anyone that participates in the observation and feedback process and to celebrate the accomplishments for each crew. The budget for the recognition and celebration is set at \$100 per person each year. The average number of people in each crew is 70, this gives each crew-level Steering Committee a budget of approximately \$7,000 annually. Each committee is responsible for tracking expenditures and are responsible for planning and executing the celebrations and recognition. Celebrations are usually held in conjunction with the Safety Toolbox Meetings. The Safety Toolbox Meetings were requested by the Design Committee as a way of communication with the crews and to have group celebrations. The Safety Toolbox Meetings are held each week to disseminate information across the workforce. Each crew attends two meetings per month.

The measure by which the mining industry is graded is the number of reportable incidents annually. Western Energy received a national award, Sentinels of Safety, in 2011. The award was based on the hours worked and the number of reportable incidents. Western Energy won for the Large Surface Mine category. Western Energy’s Reportable Incident Rate has remained below the national average since 2011, when they had zero reportables.

Most of the group celebrations involve food, such as a pizza dinner or sweet rolls. High visibility t-shirts have been awarded to the entire crew as a thank you. Individual recognition varies by crew. Some crews give gift cards, and others have given items as a reward for participating in the process.

CCBS Site Review Method:

The review team (Alavosius & Kernan) critically assessed the elements of the PBBS system and its coordination during two (2) days on site. The review team interviewed the managers of the PBBS team, toured the extensive work site, reviewed data entry and analysis with the BBS data analyst, attended safety & toolbox meetings and randomly selected workers at sites to assess implementation of the PBBS system. The CCBS team examined outcomes achieved as presented in their application to the CCBS. Additional analyses were generated during the data review and the ability to mine the PBBS data was demonstrated by the BBS team members.

Our reviews revealed the operation of the BESAFE process conforms to the description provided in the well-organized application for CCBS accreditation. The BESAFE system is working as described and appears effective in integrating with other safety management systems at the mine to identify and control risks and maintain a very low incidence rate.

Schedule of Events

Day/Date/Time	Meeting group	Location
Thursday 8/27/2015 8:00 am	Safety briefing for site team	Security Building Conference room
9am	Kick-off meeting with mine leadership team and PBBS system managers.	Admin Building Conference room
10am-noon	Tour of locations in mine (shops, roadways, mining equipment, conveyors, reclamation areas)	Rosebud Mine
noon	Lunch meeting with PBBS managers (Nora & Pat)	off site
1pm – 2pm	Data review with BBS data analyst (Felicia)	Admin Building BBS room
2pm – 4:30pm	BBS Steering Cmt meeting (n=18)	Training Building Conference room
4:30pm – 5:30pm	Follow-up discussion with BBS team members	
6pm-6:30pm	Toolbox meeting (2 nd shift) (n=~60)	Training Building Conference room
6:30pm-7pm	Discussion with toolbox attendees & members of Mine Rescue	
Friday 8/28/2015 6am-6:30am	Toolbox meeting (1 st Shift) (n=~40)	Training Building Conference room
7:00am-7:30am	Toolbox meeting (office personnel) (n=~40)	Training Building Conference room
8am-9:30am	Alavosius visit to C Shop (BBS observation in maintenance shop & interviews)	C-Shop
	Kernan meeting with Mine Rescue	Safety Building Conference room
9:30am – 10am	Debrief with PBBS Managers and Mine leadership (GM)	Admin Building Conference room

Western Energy Company CCBS Site Review Findings

The CCBS review team assessed on-site operations to validate data and confirm that the Western Energy Company PBBS program descriptions as reported in the application are accurate. We find that the program operates as described. Further, the program meets the 3 basic criteria of the Commission on Behavioral Applications for PBBS Accreditation:

- 1) it is a behavioral program,
- 2) the PBBS program has had a visible impact on safety performance, and
- 3) the program has produced sustained positive performance over 3 or more years.

Evidence observed during the 2015 (first time) accreditation visit indicates that Western Energy Company is executing the procedures described in their application for accreditation. Outcome data are extensive, verifiable and current and indicate a safety process that has resulted in sustained control of at risk behaviors and a low rate of incidents. The management systems (e.g., data collection, data entry, analysis, reporting) and training are responsive to the safety needs of the workforce and evidence of employee input into the system is observed. The PBBS process is part of a comprehensive safety program that manages the safety of mining employees and integrates well with the safety operations of the mine.

The PBBS observation process is uneven, however, with some employees electing to not participate. We saw evidence of some active and vocal resistance to the PBBS observations. As a voluntary observation process, it is acceptable that some workers elect not to participate, as they may not feel comfortable with observing and providing feedback to others. In time their comfort may increase especially if they see the benefits of the program. More worrisome is the vocal opposition to the observations by seasoned employees who may dissuade new workers from engaging in the PBBS program.

The following were notable:

- Employees are familiar with the PBBS system of observation and feedback and how it is implemented.
- The recruitment and training systems appear adequate to sustain worker participation in the PBBS system as turnover occurs within the workforce.
- The PBBS operations by Western Energy Company employees are coordinated in an effective manner via the steering committees.
 - Clear communications among the managers of the PBBS safety program and workers are evident as they share data and refinements during formal (safety committee & toolbox meetings) and informal channels.
- The PBBS program is promoted at times with a variety of recognition programs and employee-generated slogans (BESAFE).
 - We recommend more attention to the voluntary and anonymous features of the observations in order to gain management and employee participation, commitment and consistency of operation to the PBBS program and separation of PBBS observations from disciplinary actions.

The PBBS program is supported by management and integrated with routine operations. The program is a coherent and coordinated effort to sustain critical safety practices across a widely distributed workforce. Western Energy Company has an effective PBBS observation system tailored to track important behaviors (3 observation cards), but needs to insure that workers understand the purpose of the observations are to promote safety behaviors (not discipline at-risk behavior) and improve trust in the system so more workers engage and fully implement it.

The PBBS management consists of an overall steering committee with sub committees that engage with the crews. As reported by Nora Buchholz,

- “1. The steering committee has an opportunity to talk to the crews at the toolbox meetings. However, most of the interaction comes during the committee meetings when they go out in the field.
2. The BBS Steering Committees meet one per month for a 12 hour day. As the schedule works, we have a committee meeting every Thursday rotating through the 4 – 12 hour shifts. The Day Crew Committee meets every other week;
3. The toolbox meeting for each shift is twice a month. That means we are presenting the same toolbox for two weeks (6 times) to get all the crews to attend.
4. Kent Salitros (President & GM) will present at toolbox if there is an issue that must be addressed otherwise he is not involved with the toolbox.”

The BESAFE system includes completed observations and timely feedback delivered to those observed, though this could be improved by more worker participation; at-risk behaviors are identified and actions taken to identify barriers to safety; safe behaviors are reinforced; the data are entered in a timely way into the BESAFE data-base, and generate useful and timely reports; summary feedback is provided to the workforce.

The low incidence rates of critical safety events indicate an effective safety system that demonstrates sustained effectiveness.

Strengths:

- Western Energy Company leadership and workers demonstrate a sustained commitment to maintaining the safe operation of the mine.
- The safety (PBBS) oversight procedures are planned and routine such that follow-up actions are coordinated within and across work units.
- Western Energy Company uses a well-established behavioral observation protocol to monitor safety practices. Observers record observations in the field and submit forms in locked boxes so that the data are entered into the BESAFE data-base. These data provide feedback to reinforce and maintain safety and as needed prompt alternatives to at-risk behaviors. Observations focus on important risks in the environment. Observations and immediate feedback interactions are being conducted, but not always are these recorded on the PBBS observation forms. Informal coaching is useful and appears effective.

- Observation data are entered in a comprehensive Excel workbook and examined systematically. Reports are distributed to key audiences.
- Employees interviewed were well-versed in the process, though at times concerned about the consistency of and commitment to implementation of the PBBS program (concern with the anonymity of observations). Evidence of integration with other safety management systems was apparent. Training in the process appears satisfactory. Participation in the observation process is tracked and efforts are made to increase participation and improve the quality of observations. We saw incentives used appropriately to engage workers in safety behaviors and saw no evidence of incentives used in a way that might suppress reporting.
 - According to statements in interviews, employees offer suggestions for improvements and control of hazards during feedback interactions. These suggestions are communicated to supervisors and management for corrective action.
- 30 minute toolbox meetings are held every other week with each crew. All three we attended were thorough, finished on time or a few minutes early with subject matter presented clearly.
 - Nora Buchholz does a great job. Her presentations are straight to the point and specific.
 - Employees at all three meeting were attentive and appeared to be very interested in the topics.
 - A committee member opened each meeting with a brief PBBS related topic. All meetings asked that employees perform observations and some did while in the meeting.
 - “Trinkets”, in this case a blue-tooth speaker, were handed out to each person who completed the goal of 2 observations per month for 3 months.
 - So far in 2015 3 roll-overs occurred without recordable injuries due to all three operators following the seat belt policy. At each toolbox meeting, Nora reviewed and showed a PowerPoint slide show including pictures of the three incidents. A 777 dump truck (70 tons), a “wobble-truck” and a bulldozer rolled over in the mine (all posed high risk for serious injury or fatality). After covering each of the work related roll-overs she then informed everyone of a personal roll-over accident off-site by one employee. She asked the employee to share with the groups the reason the accident occurred and then related those reasons to the work roll-overs. The example stressed the risks of driving too fast for conditions/traffic and lack of attention to vehicle operations.

Concerns:

CARDINAL SAFETY RULES

- Cardinal Safety Rules focus on behaviors that could result in a fatality and may entail disciplinary action to those not adhering with the rules. We learned that PBBS observations were separate and exempt from the enforcement of cardinal rules but there is concern within the workforce that PBBS observations may be a factor in disciplinary action.

INCENTIVES

- Westmoreland Coal Company (corporate office) uses incidence rates as a factor in incentives. The GM of the Western Energy Company declined to have his site participate in this incentive system knowing it may suppress reporting of incidents. We applaud this decision but note concern that corporate leaders might promote such use of incentives.
 - These and other methods of recognition of low incidence rates could spread employee non-participation in observations and undermine the PBBS program.

OBSERVATION RATES OF 'SAFE' and 'AT-RISK' BEHAVIORS

- Observation rates are adequate and we are pleased to note that injury rates are low.
- The reviewers noted some visible resistance to the PBBS observations warranting concern that some workers actively undermine the voluntary engagement of other workers with the observations. While the observation program is designed to be voluntary and anonymous, the potential use of PBBS observations as a factor in disciplinary action worries some workers. Their vocal objections to the observations may persuade new workers to not engage with the PBBS process.
- Formal documentation of observations needs to be strengthened to track engagement with the program. All employees interviewed were knowledgeable of the observation cards but as noted, some (~30-50%) stated they chose to not participate. Some indicated they provide informal feedback but the observation process does not track this.

Recommendations:

- The PBBS program is a properly designed, well-run behavior-based safety system. Impressive improvements in safety behavior and corresponding decrease in injuries and illnesses are noted in comparison to pre-PBBS data. It is highly recommended that the current operations be supported so that they continue. The Western Energy Company PBBS processes are integrated with the mine safety program and these linkages should continue. In the past, the Committee Chairmen meet with Kent Salitros but have gotten away from that. It would be worthwhile to start that again. Also, the Chairmen were asked to come to the

managers meeting but that has also fallen away. It would be worthwhile to start that again as well to more actively engage the mine leadership with the PBBS operations.

- Continue employees' engagement with safety teams by having them routinely summarize and report PBBS observations and comments from their work team at toolbox meetings or other on-the-job meetings. Nora Buchholz ran effective toolbox meetings and arranged brief presentations by workers on various developments (vending machines dispensing safety gear, observation incentives). This will further emphasize and reinforce employee ownership of the program and will help generate higher quality (more detail and constructive suggestions) during implementation of the PBBS process.
- Highlight the separation of anonymous PBBS observations from disciplinary actions (e.g., related to Cardinal Rules or Life Critical Events) during toolbox meetings and other safety meetings.
 - Train/re-train supervisors and managers as needed to insure that the PBBS observations are only used for training purposes.
 - Highlight this separation during meetings with employees and clarify issues so that misinformation is not conveyed via informal channels.
- Alterations to the Western Energy Company PBBS systems (new target behaviors) should be done as data show mastery of some behaviors and emergence of new risks (e.g., seasonal variations raise or lower risks for slips/falls, dehydration, etc.). Employees can and do provide valuable input to the safety program and contribute in important ways to sustaining the safety of the entire workforce. They serve as a source of innovation that improves the current system.
- Recognized metrics guide the Western Energy Company PBBS systems. These include measures of workers' implementation (% of workers trained, % of workers observing, etc.) and effectiveness (incidence rates, counts of recommendations for improvements, etc.). In preparation for 2018 re-accreditation, insure that the following data are kept on a monthly basis and are included for the years 2015-2018:
 - Incident rates: onsite and BLS
 - Observations: percent of employees making observations, number of observations
 - Number of employees trained in the BBS process
 - At-risk behaviors: number of ARBs identified by category across the three observation forms (working, operating/driving, office).
- Continue use of small incentive programs to encourage individuals to conduct observations. Highlight the safety improvements prompted by the observations and feedback so that workers see the utility of their observations beyond their personal behavior change.

- Establish specific measurable goals with employees for increasing their participation with observations across work units throughout the mine to help strengthen the program. All employees interviewed were knowledgeable of the observation cards but as noted, some (~30-50%) stated they chose to not participate.
 - Continue to refrain from adopting any incentives to managers or workers for maintaining low incidence rates. Such incentives may inadvertently suppress reporting of near misses or actual incidents. It is laudable that the mine leaders did not participate in such incentives offered by the corporation.
- The PBBS team showed that PBBS observations offer an additional organized method to workers to report equipment & work site problems and associated risks and arrange correction. We recommend adding a field to the PBBS database for tracking employees' record of any unusual variations (etc. comments related to condition of berms, equipment condition, etc. as a way to collect such observations and stream reports to arrange corrections). We temper this recommendation with the advice that this is done in collaboration with the management team and the engineers responsible for mine safety as the logistics for collecting and analyzing such data may complicate existent systems.

Conclusion:

It was a pleasure to review the performance of the Western Energy Company PBBS program. Our observations confirm that the programs is effectively managing critical behaviors and helping sustain the outstanding safety record of this mine. Our recommendation to the CCBS is for accreditation of the Western Energy Company PBBS program at the Rosebud mine in Colstrip, MT. This accreditation will be for a period of three (3) years, 2015 – 2018.

This recommendation was approved unanimously on September 8, 2015.

Respectfully Submitted,

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