

## **Evaluation of Potential Cross-Cutting Trends Associated with Incidents at Washington Closure Hanford - 14495**

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### **ABSTRACT**

As Washington Closure Hanford (WCH) enters the final 18 months of the closure contract, maintaining a strong safety culture has become a main focus. Due to the project completion being anticipated in the near future, there has been a concern for a potential negative impact to the work force. Such impacts revolve around a growing distraction, thereby negatively impacting employee safety as well as affecting the overall WCH safety culture. Within an approximate six month period in 2013, an increased number of incidents and accidents had been observed. These incidents have affected the project's 12-month rolling total recordable case (TRC) data, and, as such, has resulted in a high level of concern for WCH management.

In July, 2013, WCH began an evaluation to understand the increased workplace incidents. The evaluation purpose was to identify unfavorable behaviors while employing methods that would positively influence workforce behaviors with the ultimate goal of controlling incidents through a continuing evolution of the WCH safety culture. This paper presents the problem, evaluation and conclusions identified by a cross-cutting team.

### **INTRODUCTION**

Washington Closure Hanford (WCH), a limited liability company comprised of URS, Bechtel, and CH2M HILL, was awarded the River Corridor Closure Project (RCCP) in August 2005. This project has an estimated 10-year budget of \$2.3 billion for the U.S. Department of Energy, Richland Operations Office (DOE-RL). The RCCP is the first closure project at the Hanford Site. The Hanford Site is comprised of 586-mi<sup>2</sup> in southeastern Washington State. The 220-mi<sup>2</sup> River Corridor comprises the outer edge of the Hanford Site including major portions of the Hanford Reach National Monument. The RCCP mission is to remove the environmental risk and hazards near the Columbia River Corridor through efficient, safe, and compliant procedures while safeguarding people and the environment.

The scope of work for WCH is to implement applicable Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) documents to demolish buildings, remediate waste sites and burial grounds, place reactors into interim safe storage, and operate and expand, as necessary, the Environmental Restoration Disposal Facility.

The River Corridor is located between the Columbia River and the Hanford Site's Central Plateau. Within it, cleanup projects are located in:

- The 100 Area, where plutonium was produced in nine nuclear reactors
- The 300 Area, where uranium was fabricated, manufacturing and waste disposal processes were developed, and research was conducted.
- The 400 Area

- The 600 Area, where two challenging and highly radioactive burial grounds (618-10 and 618-11) are located.

In the summer of 2013, WCH identified a potential cross-cutting trend associated with WCH Occurrence Reporting and Processing System (ORPS) Near-Miss events and recent increases in Occupational Safety and Health (OSHA) TRC rates. Although the TRC rate remains within Department of Energy (DOE) Office of Environmental Management (EM) requirements, with the majority of the issues identified not having significant consequences, the increased incident rate does indicate a trend that is inconsistent with management expectations. Therefore, an issue for was entered into the WCH Corrective Action Management System (CAMS) documenting the condition for evaluation and resolution, as appropriate.

## **METHODS**

In July 2013, an Issue Identification Form (IF) was submitted into the WCH Corrective Action Management System (CAMS) to address the increased TRC cases. An IF is the vehicle used by WCH to identify, track, and resolve problems and or concerns across the company. This issue form was screened as Adverse, and as such required cause evaluation. The WCH Senior Leadership Team chartered a common cause evaluation team. The team was responsible for evaluating a number of recent near-miss and recordable incidents in an effort to identify unfavorable behavioral elements and to positively influence workforce behaviors with the goal of injury and incident prevention. Ultimately, the goal of the team was to support continuing evolution of safety culture throughout WCH.

The team was assembled, pulling individuals from across all projects. This team was comprised of the following individuals:

|                 |                                                       |
|-----------------|-------------------------------------------------------|
| Gary Grant      | Manager, WCH Performance and Quality Assurance        |
| Karl Sanders    | Deputy Manager, WCH Performance and Quality Assurance |
| Doug Hiebert    | WCH Safety Manager                                    |
| Megan Proctor   | WCH Safety & Health Field Manager                     |
| Ken Way         | WCH Safety & Health Programs Lead                     |
| Don King        | Union Representative                                  |
| Jay Wheatly     | Union Representative                                  |
| Justin Williams | Local Safety Improvement Team (LSIT) Member           |
| Mike Abken      | LSIT Member                                           |
| Stan Waggoner   | LSIT Member                                           |
| Chris Zwicky    | LSIT Member                                           |
| Traci Snyder    | LSIT Member                                           |
| Ken Simonson    | LSIT Member                                           |

The team was led by Mike Berkenbile who functioned as the Lead Analyst for the group.

The team's scope included:

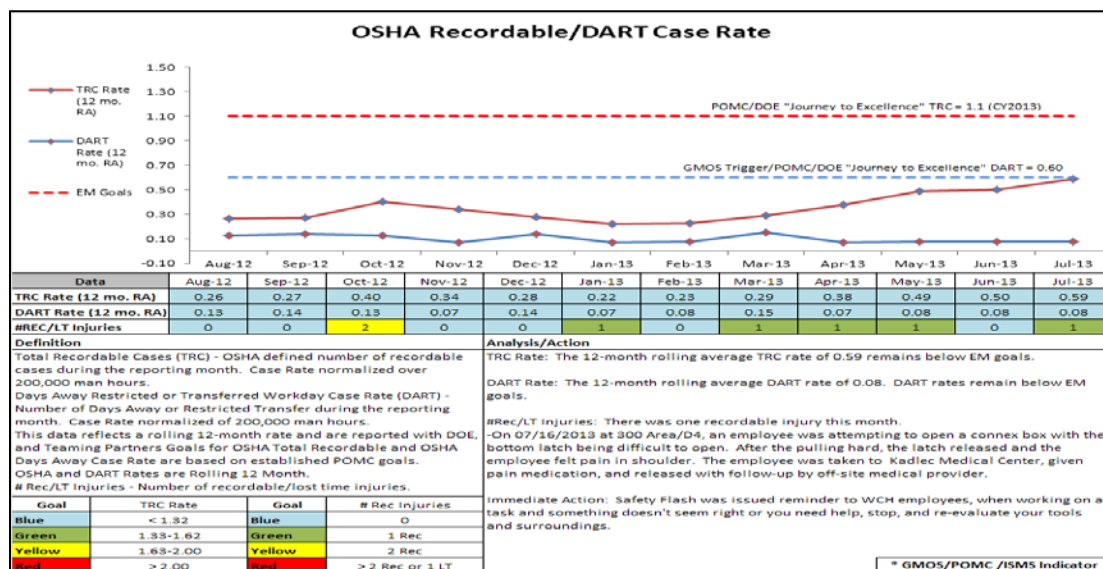
- Select population: WCH Occurrence Reporting and Processing System Near-Miss events and incidents contributing to the current TRC trajectory and other potential cross-cutting issues. The population would be bounded to events and issues occurring within calendar year 2013.
- Conduct workforce interviews at each project to engage a population of project workers.
- Evaluate commonality and consider potential impact of milestones on performance.
- Provide corrective action recommendations.

## DISCUSSION

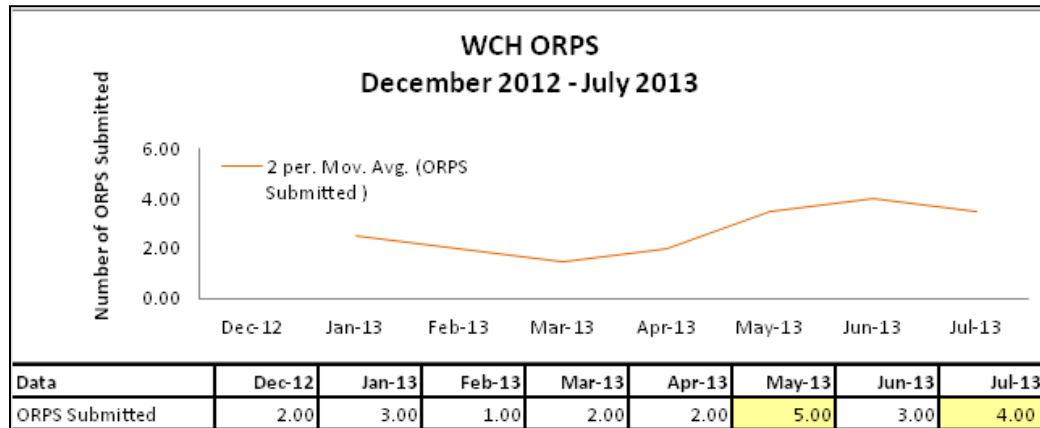
As WCH is moving into the final stages of the closure contact, maintaining strong safety performance and safety culture will be a challenge due to many differing factors. WCH senior management was concerned how these challenges would impact employee safety and the overall WCH safety culture. In 2013, an increased number of incidents were taking place over a period of roughly 6 months. In addition, the 12-month rolling data for TRC was reviewed and a red flag went up regarding the increase in TRC cases.

The issues reviewed and analyzed included a population of Occurrence Reports, TRC, First Aid and Self-No Treat cases. TRC, First Aid and Self-No Treat cases are documented by the Safety & Health Department on an Excel spreadsheet to track and trend cases. Issues were evaluated to determine what logical connections were evident, if any. The population of issues was bounded to events and issues occurring within calendar year 2013.

**Figure 1 Snapshot of Recordable/DART Case Rate**



**FIGURE 2 ORPS Near-Miss Events**



Data from incidents and events was gathered and evaluated. In addition, a team of employees interviewed approximately 75 workers. Workers from all projects within WCH were interviewed, including craft, technical support staff, supervisors and managers. Responses from those interviewed indicated a feeling that the current increase in safety-related issues was primarily attributable to the following:

- Inattention to detail or not focusing on the task
- Conflicting priorities – production vs. safety
- Apathy – lack of having incentives to work safely

The most common current distracters reported by interviewees included:

- Schedule Performance Incentive Fee
- End of the WCH contract approaching
- Labor negotiations with the union
- Union bump and roll activities
- Lack of focus on the task
- Cell phone usage

## CONCLUSIONS

The TRC rate increased from March 2013, through July 2013, as did the number of no treat and self-treat incident cases. Several of the events were found to be attributable to human performance implications. Attention to detail during performance of work tasks was lacking. A majority of the

responses indicated they believed the recent increase in safety-related issues at WCH could be attributable to inattention as a result of external stressors on the organization. During the same timeframe, the union Labor Agreement expired, bump & rolls were taking place, and the union contract proposal was rejected. These correlating factors were further examined and substantiated through an independent interview process that reflected what the data was also indicating.

The increase in Occurrences, Recordable Cases, First Aid and Self-No Treat incidents can plausibly be linked to external factors acting upon the workforce and stressing the WCH safety culture.

Probable factors included:

- The workforce sensing schedule pressure that could emerge during the completion of schedule performance incentive fee milestones.
- Employee reductions due to contract closure.
- The effect of staffing changes due to bump and roll activities.
- Union contract negotiations.

## **RECOMMENDATIONS**

The following were areas that were identified for the need for opportunities for improvement:

- Stress on safety culture
- Optimizing communications
- Enhancing accountability
- Celebrating success

### **Stress on Safety Culture**

WCH should anticipate and mitigate unusual external stressors. This will allow for proactive management of project risks to the organization, ensuring a favorable safety culture that is sustainable through closure of the contract during periods of predictable turmoil. Suggested elements include:

- The scope should include WCH as well as subcontractor personnel.
- Understand underlying causes of all injuries regardless of severity or consequence.
- Address behavioral factors in incident prevention by adding human performance improvement material into Plan-of-the-Day meetings project-wide.
- Leverage Management Walkthroughs and Project Safety Representative's to include activities and criteria that reinforce safety culture and desired behaviors and expectations.

## **Optimization of Communications**

Communications are an important tool to be used to influence workers. Consistent, focused, and widely disseminated communications can create an atmosphere that raises the level of consciousness of current issues. Communications can also promote safe behaviors, and reinforce the benefits for workers and the organization. The following suggestions are provided for consideration:

- WCH currently has a large number of safety communications. It was recommended this number be reduced to essential communications that are meaningful and systematic in content and delivery.
- WCH should minimize closure communications to reduce the distractions these messages may pose. Over-use may lead to a negative effect.
- Communications should treat First Aid and Self-No Treat events as importantly as recordable incidents.
- Communicating all accidents and their causes throughout the company, focusing on prevention of undesired behaviors rather than conditions.

## **Enhancing Accountability**

In WCH's working environment, leaders should foster an environment that promotes fair and equitable accountability and hold individuals accountable for their actions. All personnel should understand the importance of adherence to safety standards and all levels of the organization should exercise accountability for shortfalls in meeting standards. The system of rewards and sanctions should be aligned with strong safety policies and reinforce the desired behaviors and outcomes.

Suggestions include:

- Continuously reinforce the message that safety is first.
- Continuously re-enforce the zero accident expectation.
- Take prompt and fair disciplinary action, ensuring disciplinary actions are appropriate, consistent, and support both nuclear safety and a safety-conscious work environment.
- Generically communicate disciplinary action results across the company.

## **Celebrating Success**

Celebrating company and employee successes is important. Employees who feel appreciated and respected are usually more motivated than those who think their hard work goes unnoticed and are more engaged in the work they do. They are more committed to their team and organization because they know that they're making a difference. The organization needs to enhance encouragement in order to sustain a culture of continuous improvement in times of challenge. Some suggestions include:

- Managers should continue to reward individuals who identify and raise safety issues or issues that affect safety.
- Hold recognition ceremonies/events. Publicly praise individuals for their excellence in a particular achievement to increase motivation. Be specific about what they have achieved and why this is important. This also encourages others to work to achieve excellence.
- WCH should review the Safety Recognition procedure to ensure process is fair and equitable.
- WCH should standardize and safety incentive programs. The potential of being awarded with money or gifts can motivate individuals to work on continuous improvements.

All results were documented in a September 30, 2013 report, *“Potential Cross-Cutting Trend Associated with Occurrences and Recent Changes with TRC Rates May Be Indicative of Systemic Underlying Human Factors”*, (IF-2013-1176). [1] The was presented to WCH Senior Leadership in November, 2013. Based on the findings and recommendations, the WCH Senior Leadership team will take appropriated action. The recommendations have been assigned to the appropriate individual for resolution. This effort is currently underway with evaluations and resolution considerations to be completed by 01/31/14.

## REFERENCES

1. MJ Berkenbile, GM Grant and BC Covert, *“Potential Cross-Cutting Trend Associated with Occurrences and Recent Changes with TRC Rates May Be Indicative of Systemic Underlying Human Factors (IF-2013-1176)”*, September 30, 2013, Evaluation Report.