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Update from C^{3}RS Lessons Learned Team: Four Demonstration Pilots

SUMMARY

The Federal Railroad Administration (FRA) believes that, in addition to process and technology innovations, human-factors-based solutions can significantly contribute to improving safety in the railroad industry. To test this assumption, FRA implemented the Confidential Close Call Reporting System (C^{3}RS), which includes:

- Confidential reporting;
- Root-cause analysis problem solving by a Peer Review Team (PRT) comprising labor, management, and FRA representatives;
- Implementation and review of corrective actions, some locally and others with the help of a Support Team made up of senior managers;
- Tracking the results of change; and
- Reporting the results of change to employees.

Demonstration pilot sites are currently at Union Pacific Railroad (UP), Canadian Pacific Railway (CP), New Jersey Transit (NJT), and Amtrak.

FRA is sponsoring a rigorous evaluation of C^{3}RS functioning with regard to three important aspects:

1. What conditions are necessary to implement C^{3}RS successfully?
2. What is the impact of C^{3}RS on safety and safety culture?
3. What factors help to sustain C^{3}RS over time?

The evaluation is organized into baseline, midterm, and follow-up time periods at each site. To protect company confidentiality, specific sites are not identified in this report.

This report is part of a series of Research Results published to provide the public with the evaluation's findings [1-4]. Two sets of findings are presented here. The first set consists of baseline findings at one demonstration site (Site A), using the following data sources: (1) interviews with workers, managers, and other stakeholders and (2) other project documents, such as meeting notes and newsletters. The second set consists of findings across all demonstration sites and is based on interviews from all sites.

Baseline Findings at Site A:

Results at this demonstration site indicate that C^{3}RS was implemented successfully. The PRT reviewed 94 cases and implemented the first three corrective actions, one of which was based on analysis of a group of related cases. Opportunities exist to (1) increase the feedback the PRT receives from the Support Team and (2) to promote C^{3}RS to local employees.

Cross-Site Findings: Summary of Success and Challenges

All four demonstration sites included in this evaluation have completed their baseline phases. Each has successfully collected reports; each PRT has worked as a management/labor/FRA group to analyze previously unknown safety problems and to implement corrective actions. Each PRT has experienced challenges, some of which are described in this report, such as the difficulty of tracking and implementing corrective actions, setting priorities in case analysis, and managing the cost of the program.

BACKGROUND

C^{3}RS contains two critical elements: (1) Employees' reports of close calls are routed through a neutral third party—either the U.S. Bureau of Transportation Statistics (BTS) or the National Aeronautics and Space Administration (NASA). (2) Sanitized information is sent to a joint labor/management/FRA PRT trained in collaborative, root-cause problem solving. The PRT conveys recommendations for corrective action to local and corporate management for review and possible implementation. (For more information on C^{3}RS see [5].)

OBJECTIVES

The evaluation is intended to provide knowledge about how C^{3}RS can be implemented successfully, its impact on safety and safety culture, and the conditions necessary for long-term viability. (For previous findings see [1-4].)

METHODS

Phased interviews at Site A at the beginning of the baseline and midterm phases involved railroad employees and managers, both inside and outside of the C^{3}RS program. Interviewees were asked about the impact of C^{3}RS in terms of safety, safety culture, and C^{3}RS program operations. Implementation interviews at all four sites at both baseline and midterm involved key stakeholders, such as PRT members, senior managers, labor officials, FRA, the Volpe Implementation Team, BTS, and NASA. Interviewees were asked about key events related to the functioning and sustainability of C^{3}RS. Document reviews were also conducted.

RESULTS AT SITE "A"

Successes in the first year of C^{3}RS: Site A successfully implemented C^{3}RS. Interviewees said that employees initially distrusted the program, but trust built over time and more "meaty" cases were then reported. One interviewee appreciated how C^{3}RS created a more nurturing environment, not one of "off with your head." The PRT reviewed 94 cases and sent 12 suggested corrective actions to the Support Team. At least two corrective actions were implemented locally; the actions were related to (1) designation of tracks and signs and (2) control operations that line yard switches. The most frequent type of case (37 percent) was related to blue flags, so the PRT developed a system-wide initial safety alert and recommended a full revision of the blue flag policy.

Interviewees reported C^{3}RS as having a positive impact on safety culture. Within the PRT, labor and management were functioning as a cohesive group. Interviewees reported some initial impact in the field—for example, employees speaking up more to managers. Also, labor was more willing to report to C^{3}RS after seeing confidentiality maintained. A local manager talked about the culture changing to become less punitive.

Opportunities to Improve: At Site A, there are opportunities to improve the corrective-action process between the PRT and the Support Team. Similar to other sites, Site A has had difficulty getting sufficient feedback from the Support Team. Suggestions included having the Support Team meet more often and communicating the resolution of each recommendation more frequently to the PRT.

Local employees and managers, while positive about C^{3}RS in general, had little knowledge

about its details. The PRT is beginning to do more marketing of C^{3}RS in the workforce, developing local ambassadors—people who will promote the program to their coworkers. Local managers should also be involved in advocating for C^{3}RS and answering questions.

CROSS-SITE FINDINGS

Successes

All four railroads: UP, CP, NJT, and Amtrak implemented a demonstration pilot of C^{3}RS on a portion of their railroads. Collectively, they received thousands of close call reports indicating employee acceptance. There were no leaks in confidentiality. All four sites had PRTs that met regularly and implemented corrective actions to address safety problems. People agreed that C^{3}RS identified safety risks that otherwise would not have been known.

C^{3}RS had a positive impact on safety culture. All four PRTs agreed that working together with labor and management was novel and effective. Initial improvements in safety culture were measured by the Railroad Safety Culture Survey at two railroads.

There were also measureable improvements in derailments at two sites at midterm. (See [2] and [4] for details on types of derailments and levels of improvement.)

Challenges under Current C^{3}RS Process

Even with those successes, the railroads have encountered some challenges with the current C^{3}RS process. These challenges are not distributed equally across the four sites. They are summarized as follows:

Setting priorities: PRT members felt the C^{3}RS process led them to perform case-by-case analysis in order of receipt. The PRT's primary tool, the Multiple Cause Incident Analysis (MCIA) software, reinforces this case-by-case approach and has limited capability to query, trend, or aggregate cases. Thus, there were fewer system-level recommendations than hoped, despite significant PRT efforts.

PRT membership: PRT has limited knowledge of how departments work together, constraining the identification of carrier-wide solutions. It also has minimal Continuous Process Improvement expertise, which limits data analysis (e.g., Six Sigma) and further limits carrier-wide solutions.

Corrective action monitoring and implementation: PRTs and Support Teams had difficulty coordinating their activities. Limited corrective-action tracking minimized implementation and feedback. Diffuse authority for implementing corrective actions led to weak accountability. Implemented changes were not well advertised, resulting in the value of C^{3}RS not being widely known.

Resources and sustainability: PRTs had a large workload due to the process issues listed above. This caused concerns about how cost versus value would hamper sustainability.

Turnover: The nature of the railroad business creates frequent turnover in management positions. Sites have often experienced delays following the departure of key C^{3}RS members.

Ideas for Improvement

FRA is beginning to work with the C^{3}RS Implementation Team to build the expertise needed to help other sites implement C^{3}RS. The Lessons Learned Team has shared its findings with FRA and a User Group comprised of the first four demonstration sites. Ideas for

improvement that the Implementation Team plans to try at future railroads include: (1) Re-design C^{3}RS to work smarter rather than harder, and (2) Revise the process to better prioritize important issues and manage how the PRT's time is spent.

CONCLUSIONS

All four initial demonstration pilot sites have completed their baseline phases. During their first few years, the railroads experienced benefits and challenges and chose to remain committed to completing their C^{3}RS demonstration.

FUTURE ACTION

The Evaluation Team will collect follow-up data at all C^{3}RS sites and publish findings.

REFERENCES

[1] *Confidential Close Call Reporting System: Preliminary Evaluation Findings.* FRA Research Results, December 2008. DOT/FRA/RR08-33.
[2] *Derailments Decrease at a C^{3}RS Site at Midterm*. FRA Research Results, April 2012. DOT/FRA/RR12-04.
[3] *Senior Cross-Functional Support – Essential for Implementing Corrective Actions at C^{3}RS sites*. FRA Research Results, August 2012. DOT/FRA/RR12-09.
[4] *Another C^{3}RS Site Improves Safety at Midterm. FRA Research Results TBD*
[5] Confidential Close Call Reporting System (C^{3}RS) Web site, http://www.closecallsrail.org/.

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