Inside THE RAIL
From NASA's Confidential Close Call Reporting System

ISSUE 1 NOVEMBER 2015

# C³RS and You – *A Winning Combination for Railroad Safety*

## What is C³RS?

The Confidential Close Call Reporting System (C³RS) is a partnership between the National Aeronautics and Space Administration (NASA) and the Federal Railroad Administration (FRA) in conjunction with participating railroad carriers and labor organizations. It is designed to improve railroad safety by collecting and analyzing reports which describe unsafe conditions or events in the railroad industry. Employees can report safety issues or "close calls" voluntarily with complete confidentiality and without fear of discipline. By analyzing these events, potential lifesaving information can be obtained to help prevent more serious incidents in the future.

The FRA and NASA collaborate with rail carriers, labor representatives and front line personnel to implement C³RS at participating sites. A carrier's Implementing Memorandum of Understanding (IMOU) may establish a Peer Review Team (PRT) comprised of local representatives from the carrier, unions, and the FRA at the carrier's site. PRTs promote C³RS, identify why close calls occur, recommend corrective action, and evaluate the effectiveness of any action that was implemented.

### *The Origins of the C³RS*

The C³RS project was the result of a recommendation by participants in the April 2003 workshop, *Improving Railroad Safety Through Understanding Close Calls* held in Baltimore, MD. The Close Call Planning Committee was comprised of stakeholders from various railroads, labor organizations, FRA, Volpe National Transportation Systems Center, and representatives from the National Transportation Safety Board (NTSB).

The establishment of the C³RS also stems from the success of similar systems in the aviation industry, including the NASA Aviation Safety Reporting System (ASRS).

### *Why NASA?*

NASA uses the expertise it has gained from developing and managing the highly successful Aviation Safety Reporting System (ASRS) to administer the C³RS program. NASA has operated ASRS since 1976 and has received over 1,200,000 reports from the aviation community. In that time ASRS has made numerous contributions to aviation safety without violating the confidentiality of a single reporter. NASA is an independent and respected research agency that does not have regulatory or enforcement interests.

It therefore serves as an "honest broker" that is an objective and trustworthy recipient of reports submitted by railroad professionals.

## Your Role in the C³RS Process

When you report to C³RS you benefit from knowing that you are helping to improve railroad safety for yourself, your co-workers and the general public. You also gain a better understanding of the factors contributing to safety incidents.

You can submit reports to NASA C³RS when you are involved in, or observe, a close call incident or a situation or procedure which might compromise railroad safety. All report submissions are voluntary. Reports sent to NASA C³RS are held in strict confidence. All personal and third party references (carriers, employees mentioned, etc.) are removed or de-identified. Dates, times, and related information which could be used to infer an identity are either generalized or eliminated. C³RS de-identifies all reports before entering them into the safety report database. Peer Review Teams receive only de-identified reports.

### *What is a Close Call?*

A close call is any condition or event that may have the potential for more serious safety consequences.

Just a few examples of close calls include:

- A train missing a temporary speed restriction
- A train striking a derail without derailing
- Proper track protection not provided during track maintenance
- Run-through switch incidents
- Blue Flag issues
- Equipment or signal failure
- A train going beyond the authorized maximum speed

**Need More Information?**

A detailed overview of the C³RS, instructions on how to submit C³RS reports, Reporting Forms and a list of Frequently Asked Questions can be found at:

→ **c3rs.arc.nasa.gov**

## Improvements from C³RS Reporting[1]

*Quantitative improvements* in associated rail operations that have been noted since the implementation of C³RS include:

- → An increase in the number of rail cars moved between incidents, thereby resulting in higher productivity
- → A reduction in the number of disciplinary cases resulting in a reduction in paperwork and time spent resolving cases
- → A reduction in derailments

*Operational improvements* to rail safety that were implemented as a result of C³RS information include:

- → Creation of a safety briefing checklist
- → Installation of a squawk box for improving communication between yardmaster and dispatch
- → Modification of speed restriction bulletins
- → Implementation of a mentoring system for newly recruited conductors
- → Modification of radio procedures to ensure uninterrupted communication

## A Case Study – *C³RS Reduces Run-Through Switch Incidents*[1]

At one of the sites that participates in the C³RS program, employees reported various close call incidents for nearly two years. During this time, the Peer Review Teams met on a regular basis and the railroad implemented several corrective actions based upon information supplied in C³RS reports.

"Run-through switches" emerged as the most common close call reported to C³RS. The end result was a 50% reduction in derailment cases caused by run-through switches.

## Inside The Rail – *Your Source for Lessons Learned Through C³RS Reports*

In addition to providing the latest information related to C³RS, this rail safety newsletter will periodically share valuable "lessons learned" in the form of excerpts from C³RS reports. This is a proven, highly effective method of sharing experiential information for education, training and safety development throughout the rail community.

The following report is an example of a run-through switch incident reported to C³RS.

### *One Task at a Time Keeps the Switches in Line*

An employee who ran through a switch shared some good advice on the importance of focusing on one task at a time.

■ *I was working on a yard assignment…. We were called to take three locomotives from the station to a repair facility in another location.*

*My crew had coupled up three locomotives and we were in the process of shoving them to the repair facility. After receiving signals and speaking with the Manager regarding where to take the locomotives, I saw that I needed to throw two switches to get to the facility.*

*We stopped the locomotives and I proceeded to throw the switch farthest from me, a facing point switch, while speaking to the Mechanical Foreman to get permission to enter the repair facility. Once the Foreman dropped the derail and blue-light protection, we moved toward the pit. When I saw the trailing point switch ahead of me, it looked as though it was lined against us. However, having just gotten back up on the locomotive, I was certain that I had thrown both switches. I stopped the equipment anyway. Once we came to a stop, I realized we were already by the switch and thinking we had the lineup all the way, I continued the move onto the motor pit.*

*Once we parked the locomotives, I walked back to the trailing point switch to double check myself. It was easily visible from several feet away that we had just run through the switch. Realizing this was a dangerous condition which could cause a derailment, I summoned a nearby employee and called the Manager. The Manager and I discussed what had happened.*

> **"Realizing this was a dangerous condition which could cause a derailment…"**

*Upon reflection, there are several things I could have done differently, all of which could have avoided the incident. First of all, it was obvious that I had lost situational awareness by only throwing one switch. I had been distracted by focusing mostly on the derail and the Foreman's instructions. This momentary loss of situational awareness resulted in my losing focus on what was directly in front of me, a trailing point switch lined against me…. If I had kept focus on doing one thing at a time, the situation could have been prevented. I should have thought to myself, "First throw the switches, then talk to the Foreman" or vice-versa, but not both at the same time.*

**Stay on the right track to SAFETY!**

The information you provide in a C³RS report provides a direct contribution to railroad safety by highlighting procedural and equipment deficiencies and by providing valuable material for education and training.

We look forward to staying in touch with you through the coming issues of the C³RS safety newsletter Inside The Rail as we work together to improve railroad safety.

[1] *Federal Railroad Administration Publication RR 13-49, December 2013*