



Confidential Close Call (C³RS) Reporting System



What is C³RS

A system that enables you to:

- Learn about and address safety risks early, *before* incidents or accidents occur
- Understand *why* events occur and proactively address system causes
- Create an organizational culture where people can learn from mistakes
 - Confidential for employees
 - Safe for railroads

Why is C³RS Needed?

- Proactive, early warning system
- Focuses on the problem, not people
- Provides incentive to learn from error
- Targets the root cause, not the symptom
- FRA and railroad management can only cover so much ground

History of C3RS

- In 2001–2002, FRA developed a close call reporting project to gather information regarding incidents where no accident occurred yet the potential existed for significant property damage, injury, and possible loss of life
- As program evolved, it was determined that analyzing this type of data was best suited for people close to where these close calls occurred, as they were more familiar with the operational characteristics, geography, and operating rules.
- 4 railroads volunteered to conduct pilot testing in 2007
 - Union Pacific Railroad
 - Canadian Pacific Railway
 - New Jersey Transit
 - Amtrak



What is a Close Call?

- Non-reportable event that FRA or the RR would otherwise never know about
- A unsafe condition, or event, that poses the risk of more serious consequences to personnel or property
- It's an opportunity to improve the safety of railroad operations
- Think of a close call as a precursor or identifier of vulnerabilities in a system that may be laying below the surface

What is NOT a Close Call?

- Any FRA reportable incident
- Any injury to any person
- A real time observation by a manager and/or supervisor
- Any willful act

C³RS Program Elements

- Peer Review Team (PRT)
 - Local RR managers
 - Local RR labor representatives
 - FRA personnel
- The PRTs use an investigative tool Multiple Cause Incident Analysis (MCIA) to analyze the close call reports for root causes and contributing factors and to assist in formulation of corrective actions to be implemented prevent similar future incidents.
- Office of Railroad Safety field personnel are participating members in the incident analysis process and function as local program champions
- NASA 3rd Party Call/Reporting center – take reports – callback – de-identify – send reports to PRTs – Program communications

C³RS Program Elements

- C3RS User Group Workshop
 - Representatives from all PRTs
 - Annual gathering
 - Representatives from industry organizations
 - FRA personnel
- IMOU – Boiler plate template with minor modifications

Where Are We Today?

- C³RS is currently being used by 8 carriers
 - Amtrak
 - New Jersey Transit
 - Metra
 - Metro North
 - Long Island Rail Road
 - Keolis Commuter Service
 - Strasburg Railroad
 - Septa
- 17 active Peer Review Teams (PRTs)
- Covers 21,000 railroad employees



Program Outcomes

- **41% reduction** in Human Factor derailments
- **50% reduction** in derailments caused by Run Through Switches
- **53% reduction** in Human Factor incident costs
- **100% reduction** in Blue Signal Blocking Device errors committed by train dispatchers
- **18% reduction** in transportation injuries
- **39% reduction** in disciplinary hearings = \$890,000 in cost savings

Source: Research Reports 13-49, 15-17, and Volpe Lessons Learned Final Report (June 2017)

<https://www.fra.dot.gov/Page/P0822>



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Positive Safety Results After 5 Years of C3RS

- 100% Reduction in blue flag violations by dispatchers (Blocking Devices)
- 16% Reduction in derailments system wide (Estimated 7.7 per year)
- 31% Reduction in derailments at largest yard (Estimated 1.4 per year)
- 100% Reduction in speed related decertification



Implemented Corrective Actions Clear Windows for Workers Visibility



Implemented Corrective Actions Separate Speed Restriction Bulletin

NJ TRANSIT Rail Operations
RB
Restriction Bulletin
Effective: 4:00 P.M. Tuesday, January 31, 2012

Restriction	Sec 1		Sec 2		Sec 3		Sec 4		Other		Name	Time	Comments	Date	
	From	To													
1. Sec 1 (Sec 1) - Sec 2 (Sec 2)	01	02	03	04	05	06									
2. Sec 2 (Sec 2) - Sec 3 (Sec 3)			07	08	09	10									
3. Sec 3 (Sec 3) - Sec 4 (Sec 4)					11	12									
4. Sec 4 (Sec 4) - Other (Sec 4)							13	14							
5. Other (Sec 4) - Sec 1 (Sec 1)									15	16					
6. Other (Sec 4) - Sec 2 (Sec 2)										17	18				
7. Other (Sec 4) - Sec 3 (Sec 3)											19	20			
8. Other (Sec 4) - Sec 4 (Sec 4)												21	22		

Line	Name	Between or At	Speed	Speed	Time	Date	Time	Date
			From	To	Effective	Effective	Comments	Date

Line	Name	Between or At	Time	Date	Time	Date
			Effective	Effective	Comments	Date

Line	Name	Comments	When	Time	Date	Time	Date
			in effect	Effective	Effective	Comments	Date

Implemented Corrective Actions Restriction Sign Brackets

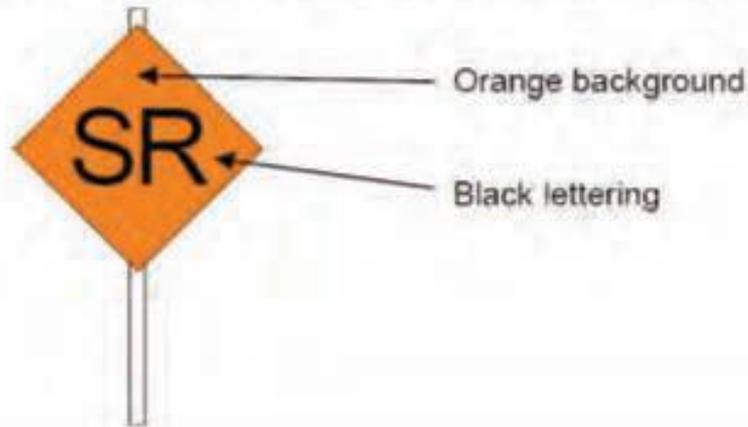


Implemented Corrective Actions Temporary Speed Restriction

NEW SPECIAL INSTRUCTION 296-1 – TEMPORARY SPEED LIMIT REMINDER SIGN (Effective 4/9/13)
Effective 4:00 P.M. Tuesday, April 9, 2013, New Special Instruction 296-1 – Temporary Speed Limit Reminder Sign in effect as follows:

296-1. TEMPORARY SPEED LIMIT REMINDER SIGN

The Temporary Speed Limit Reminder Sign will be placed approximately 500 feet from the ends of the station platform and will serve as a reminder to the crew that they are **within** the limits of a temporary speed restriction.



Additional Benefits

- Improved communication
- Improved cooperation
- Building Trust (a work in progress)
- Safety Blitzes/Advisories

Potential New Carriers

FY 2018

- New Jersey Transit – Engineering
- FEC – Transportation
- Tri Rail – Transportation
- NCTD (Coaster) – Transportation
- Denver RTD – Transportation
- DCTA (Lone Star Express) – Transportation
- New York and Atlantic

NASA & Third Party Confidential Report Processing

➤ Why NASA?

- NASA serves as an independent third party that collects, analyzes, and maintains the confidential data collected for C³RS.
- Over 40 years of experience in confidential safety reporting
- Established Aviation Safety Reporting System (ASRS) - in collaboration with FAA
- Since 1976 over 1,400,000 reports have been received....without ever violating the identity of a reporter or carrier!

Database Query Tool (DBQT)

C3RS Database Query Search About Help Total Records: 2619 Signed In: Data_Info

Open All

Text Search

Contains

Narrative Callback Synopsis

* Use a comma to search words independently

Date / Time >

Environment >

Train / Equipment v

Type Of Operation (all | none)

Passenger / Commuter

Freight

Yard Assignment

Shoving

Pulling

Push / Pull - Passenger

Other

Rules in Effect (all | none)

Centralized Traffic Control

Interlocking

Track Warrant Control

Direct Traffic Control / Equip

Your Search Returned 44 Results

Previous **1** 2 3 4 5 Next Records Per Page: 10

Synopsis Only

ACN 3161

DATE / TIME

Date of Occurrence	2016-01
Local Time Of Day	0601 - 1200

LOCATION

State	NY
-------	----

ENVIRONMENT

Weather	Clear
Weather	Other: In Terminal.
Natural Lighting	Daylight

TRAIN / EQUIPMENT A

Track Authority	Dispatcher
Operating Rules	NORAC
Main Track Configuration	Multiple
Rules In Effect	Centralized Traffic Control
Rules In Effect	Interlocking
Operation Type	Passenger / Commuter
Operation Type	Push / Pull - Passenger



NASA C³RS Safety Alert

ALERT BULLETIN

AB 2016:1/1-1
6/23/2016
4101, 4387, 3472

TO: FRA RRF-25

INFO:

FROM: Linda J. Connell, Director
NASA Confidential Close Call Reporting System

SUBJ: Maintenance Track Authority Issues

We recently received a C3RS report describing a safety concern that may involve your area of operational responsibility. We do not have sufficient details to assess either the factual accuracy or possible gravity of the report. It is our policy to relay the reported information to the appropriate authority for evaluation and any necessary follow-up. We feel you should be aware of the following:

C3RS has received reports describing maintenance work on sections of main track without receiving authority.

(ACN 4101) A Block Operator was informed that a Maintenance of Way work group occupied the tracks without receiving track authority and a train entered their track.

(ACN 4387) The Foreman and Trackmen understood they had foul time on a track and had their work interrupted when a train entered the same track.

(ACN 3472) A Dispatcher issued track authority to Maintenance of Way on an incorrect track.

The C3RS database contains additional records involving track authority related events. These records are available upon request.

(Keywords: Track Warrant Control, Working Limits, Form B Limits, Foul Time, Track and Time)

To properly assess the usefulness of our alert message service, we would appreciate it if you would take the time to give us your feedback on the value of the information that we have provided. Please contact Linda Connell at (408) 541-2827 or email at linda.j.connell@nasa.gov



Confidential Close Call Reporting System
P.O. Box 177 | Moffett Field, CA | 94035-0177



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NASA C³RS Safety Alert Topics

- Track maintenance work groups
miscommunication with train dispatchers
- Unauthorized access to locomotive operating
compartments
- Unannounced high speed crossovers into work
areas

NASA C³RS Newsletter



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 derailling
- 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



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C³RS Six-Month Recap

Metra's Transportation C³RS program launched approximately six months ago on Aug. 17, 2015. The program has not only been an overwhelming success but it has proven to be extremely valuable to both Metra and its covered employees.

To build upon this success, Metra management, working closely with crafts from the mechanical, engineering and police departments, will be implementing their own C³RS program. This program is set to go live in March/April 2016.

Because of the willingness of labor and management to work together, Metra will become the first railroad in the nation to have all contract crafts covered by the C³RS program. This milestone has been recognized by the FRA, Metra's management and Board of Directors, labor representatives and our peers in the industry.

Moving forward, the goal is still to compile as much information as possible in order to assist in implementing the most effective safety measures.

Through our case review, the PRT has discovered that a majority of cases have only been reported by one crew member. Many of these reports could have benefited from having additional contributions. We are strongly encouraging all crew members to submit separate reports (when applicable) in order to obtain the maximum benefits of the program. Please do not depend on one person to submit a report. Everyone's knowledge of the situation is essential.

Finally, we would like to stress the importance of the callback with NASA. The callback is a key element of the reporting process that we use to determine the root cause of the incident. In a handful of cases, callbacks to NASA were not returned which hindered our ability to fully work the event. Please take the time to answer the phone when NASA calls or make sure you return their call and be as cooperative and informative as possible. This will only benefit you and your coworkers in the end.

Thank you for your continued support.

Nicole McGann
Safety Compliance Analyst, Metra



C³RS Progress in Brief

- Transportation employees have used C³RS more than 120 times since its launch.
- The Peer Review Team (PRT) has worked 105 cases to date. The team meets 1-2 days each month. Each case can require from 20 minutes to three hours depending upon the issue and information provided.
- Case information has been compiled and categorized. As of yet, no formal corrective actions have been brought to the PRT Support Group. However, the PRT will bring their suggested corrective actions to the PRT Support Group meeting, tentatively scheduled for March 11, 2016.
- The PRT will be out in the field for contact meetings in the spring/summer of 2016.

MLESP

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https://www.facebook.com/njtc3rs/?ref=ts

C3RS on NJ Transit

CONFIDENTIAL CLOSE CALL REPORTING SYSTEM ON NJ TRANSIT

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http://njtc3rs.com/

PHOTOS

CONFIDENTIAL CLOSE CALL REPORTING SYSTEM ON NJ TRANSIT

C3RS on NJ Transit April 4 · 🌐

On March 30th the PRT held its quarterly support meeting with NJT DGM's at the MMC. Corrective actions that were discussed during the meeting were as follows. The installation of dual mode signs at Newark, MSU, and Long branch. Car marker signs - Monies to be in 2017 budget Cab Signal Drops- all lines are about finished New SJB tri-folds for Flagman are at printers now... [37 more words.]

<http://njtc3rs.com/2016/.../04/quarterly-support-team-meeting/>

Quarterly Support Team Meeting

On March 30th the PRT held its quarterly support meeting with NJT DGM's at the MMC. Corrective actions that were discussed during the meeting were as follows. The installation of dual mode s...

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Ken McDowell likes Bo Boland's post.

Jeffrey Wolff shared Brandon Arrington, Osceola County Commissioner's post.

Bob Ide 43m

Eddie Quinn

Kt Tully

Andrea Conforti

Ang Mecca

Lee Caporate

Nadine Avery Solo... 13h

Rich Magas 35m

Alyson Frick Reilly 40m

Kristen Dempsey 13h

Eliisa Taube Marise 12h

Billy Jones 24m

Tom Regenski

Ellen Dewey

Joshua Mast 17m

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Ben Riso

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12:00 PM 5/25/2016

C³RS Communications



March 2016 | Volume 1 | Issue 1

The Keolis Transportation Peer Review Team

As the New Year begins, members of the Transportation PRT look forward to continued success with the program in 2016 as we reflect on recent accomplishments following a strategic roll-out in August. The diverse team is prepared to take on another year of railroading, this time, with the help from lessons learned via C3RS cases submitted by T&E employees

MBTA member Alex Lovejoy plans to use system safety principles coupled with his recent commuter rail experience over the past few years to work with the team on developing corrective actions and obtaining MBTA support on initiatives stemming from the program. FRA members Rich Thomas and Patrick Vedder bring experience and knowledge of federal regulations

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Pg 2- What is a Close Call?

Case Statistics



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Closing Thoughts

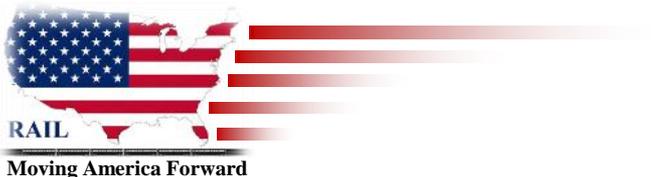
- As of October 31, 2017, NASA has received over 10,000 reports (13,000 for program total)
- Over the last 16 months C³RS has received an average of 260 reports per month
- Generally, 85% of the reports received are about incidents that ***carrier management and/or FRA have no knowledge***

Lessons Learned - Challenges

- Buy In from all parties
- Succession planning
- Implementation and education are essential – especially from front line management
- More hands on than initially perceived – carriers need continuing support
- IMOU needs to be revisited for revisions now that we have experience
- **FRA**

More Information

- PRT Website
 - www.c3rsprt.com
- Nasa Website
 - <http://c3rs.arc.nasa.gov/>
- FRA Website
 - <http://www.fra.dot.gov/c3rs>



Questions



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CONFIDENTIAL CLOSE CALL REPORTING SYSTEM

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