

National Aeronautics and
Space Administration

Ames Research Center
Moffett Field, CA 94035-1000



C³RS Alert Message Memo

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. The program is designed to improve railroad safety by collecting and analyzing reports which describe unsafe conditions and events in the railroad industry. Employees are encouraged to report safety issues or "close calls" voluntarily and confidentially.

When C³RS receives a report(s) describing a hazardous situation - for example, a railroad system problem, a confusing procedure, or any other circumstance that might compromise safe operations - it will issue an Alert Message. Alert Messages have a single purpose: to relay safety information to individuals in a position of authority so that they can evaluate the safety information and take corrective action as needed. C³RS has no direct operational authority of its own. It acts through, and with, the cooperation of others. Alert Messages are classified as Alert Bulletins or For Your Information Notices and may be included in ad hoc C³RS Safety Teleconferences.

Alert Bulletins – Alert Bulletins (ABs) are utilized for significant or time-critical safety Issues.

For Your Information Notices – For less critical topics, For Your Information (FYI) Notices are issued.

Safety Teleconferences – C³RS will conduct Safety Teleconferences on an ad hoc basis between C³RS and others within the railroad community. These teleconferences alert appropriate personnel to safety issues identified in some selected C³RS Alert Messages by engaging in dialogue about the event(s) presented.

All Alert Messages are issued using de-identified information provided in the reports.

Sincerely,

A handwritten signature in cursive script that reads "Becky L. Hooy".

Becky L. Hooy, Director
NASA Confidential Close Call Reporting System
NASA Aviation Safety Reporting System
Email: Becky.L.Hooy@nasa.gov
Phone: 408.541.2854

About C³RS Reports & Alert Messages

C³RS Report Records

The C³RS Expert Analysts provide the analysis for each report record in the C³RS Database. Information in a C³RS report record includes two types of information – fixed and text.

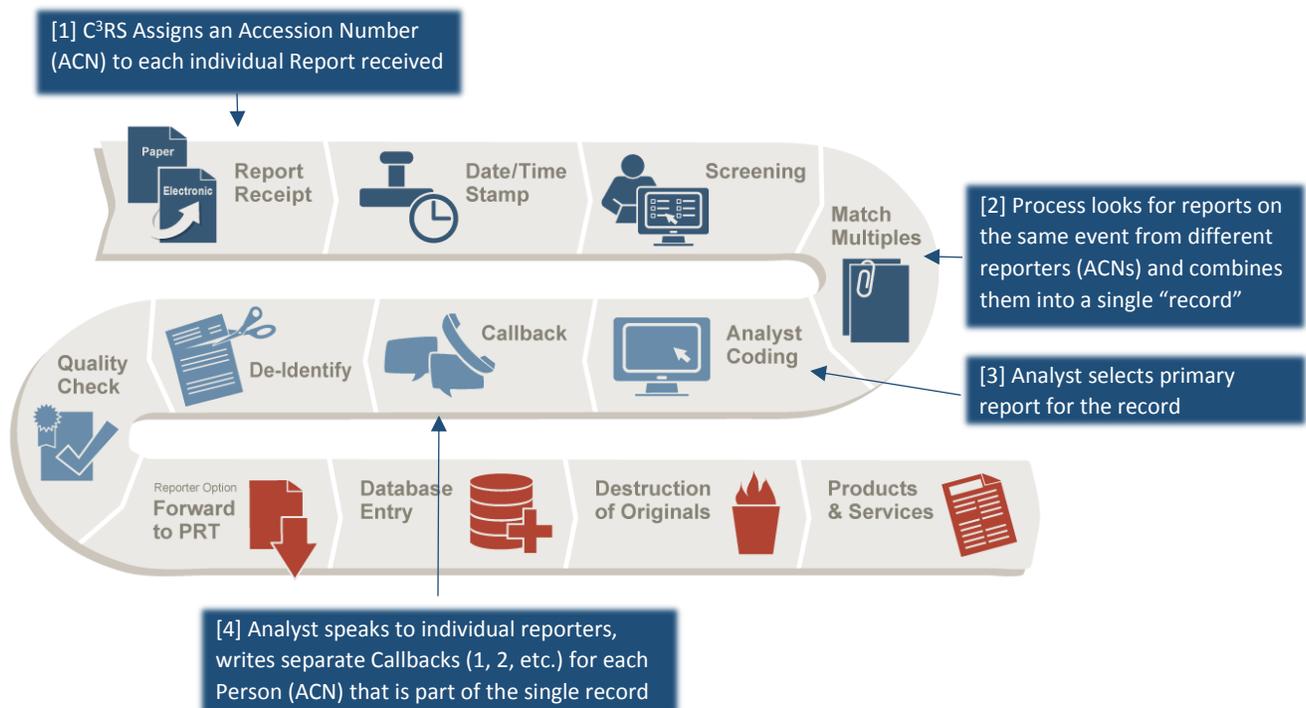
- **Fixed** fields contain information such as Types of Track Authority, Method of Operations, Speed Restrictions, etc.
- **Text** fields include the reporter's Narrative, Callback and Expert Analyst Synopsis.

Multiple Reports

One of the great strengths of C³RS is the ability to combine information from multiple reports on the same event that provides each person's unique perspective, experience, background and knowledge. In a hypothetical example, a train arrives at a station with one or more of the cars off the platform and one of the crew opens the door. Reports may be received from the Engineer, the Conductor, and the Assistant Conductor; all who have been involved in or observed the event. In this example, C³RS could have three reports that describe the same incident. All reports are combined into a single database record. Each person who reported is coded in the report record by reference number (PERSON 1, 2, etc.). Every report to C³RS receives a unique Accession Number (ACN). Each person's narrative is entered as NARRATIVE 1, 2, etc. The C³RS Expert Analysts may perform a telephone Callback to clarify or confirm information. A summary of the Callback is written by the analysts and included in the CALLBACK 1, 2, etc. section of the report record.

Alert Messages (Alert Bulletin & FYI Notices)

The ACN number presented on the Alert Message is the primary ACN in the single or multiple report record. Each Alert Message includes a front-page introduction and relevant report records. See the graphic below for a summary of the matching and C³RS report record processing steps.



ALERT BULLETIN

AB 2023:1/1-1

2/14/2023

27401, 27062, 27098, 27287

TO: FRA-RRS

INFO: FRA-RCC, PRT, AAR, APTA, ARASA, ASLRRR, ATDA, BLET, BMWED, BRS, IAMAW, IBEW, NRC, NTSB, NYA, SLSI, SMART, TCU, VOLPE

FROM: Becky L. Hooley, Director
NASA Confidential Close Call Reporting System (C³RS)

SUBJ: Blue Signal Protection

We recently received C³RS reports 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.

Summary: C³RS is issuing Alert Bulletin 2023:1/1-1 to inform the rail industry of recent close call events that were voluntarily reported involving Blue Signal Protection. In the following reports, rail employees reported protection and operational deviations related to 49 CFR Subtitle B Chapter II Part 218, Subpart B (Blue Signal Protection of Workers). These deviations can subject employees who inspect, test, repair, or service rolling equipment to close call events and the possibility of personal injury or danger. We feel you should be aware of the following deidentified reports:

(ACN 27401) An Engineer reported safety concerns with inconsistent Mechanical Department's procedures for establishing Blue Signal Protection in the yards and terminals.

(ACN 27062) Mechanical Employees reported Blue Signal Protection being dropped by a Mechanical Foreman without notification, resulting in multiple workers working on equipment without protection.

(ACN 27098) A Mechanical Foreman reported working between equipment after dropping Blue Signal Protection on the car.

(ACN 27287) A Mechanical Foreman and Laborer reported that a manager stated Blue Signal Protection was required for car washing despite another supervisor's direction that it was not necessary and thus not originally applied.

(Keywords: Blue Flag, Blue Light, Blue Signal, Blue Signal Protection)

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 Becky Hooley at (408) 541-2854 or email at Becky.L.Hooley@nasa.gov



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



ACN 27401

DATE / TIME

| | |
|--------------------|-------------|
| Date of Occurrence | 2022-12 |
| Local Time Of Day | 0601 - 1200 |

ENVIRONMENT

| | |
|---------|-------|
| Weather | Clear |
|---------|-------|

TRAIN / EQUIPMENT A

| | |
|---------------------------------|-----------------------------------|
| Operation Type | Passenger / Commuter |
| Operation Type | Pulling |
| Train / Equipment Location | Passenger Station |
| Train Activity at Time of Event | Arrival |
| Train Activity at Time of Event | Passenger Boarding / Disembarking |

PERSON

| | |
|------------------|----------|
| Accession Number | 27401 |
| Function | Engineer |

EVENTS

| | |
|--------------------|--|
| Anomaly | On Track Protection Deviation - Visual Or Audible Protection |
| Anomaly | Procedural Deviation - Operations Policy |
| Anomaly | Procedural Deviation - Mechanical Regulations |
| Anomaly | Safety Concern |
| Detected by Person | Train Crew |
| General Result | No Action Taken |

NARRATIVE

Lower level blue lights are turned on prior to Mechanical placing a blue flag on the console of the engine. Mechanical employees violating safety rules fouling equipment before Blue Signal Protection is secured; including, taking/installing back-up hoses on rear before Head End Power (HEP) is dropped. Transportation Crews have not completed the station stop/securement before Blue Signal Protection is secured. Blue Signal Protection is taken down before the flag is removed from the engine. Multiple uses of Blue Signal Protection (flag in window vs light on side of engine) makes it confusing and demonstrates inconsistency when establishing protection. Often times the blue flag is placed on the side of the engine without the Train Crew's knowledge. Mechanical employees rushing through brake tests, not allowing the train's air brake system to fully charge before brake test procedures.

Employees lack necessary training/experience of Blue Signal Protection rules. Terminal on-time-performance has ruled over safety precautions of Transportation, Mechanical, and Customer Service Departments as those who are at "fault" for delaying the train are penalized.

Simplify the process and require only a blue flag on the console of the engine. Request Blue Signal Protection after it has been secured on the engine, and employee acknowledges over the recorded radio. Consider securing Blue Signal Protection from Local Dispatcher over the radio for more efficient/recorded service.

CALLBACK

The reporter, an Engineer, stated there is no consistency when the Mechanical Department is establishing Blue Signal Protection. Sometimes the blue flags will be placed on the engine or track and not have a blue light on the control stand or vice versa. The Engineer believes Mechanical is being pressed to maintain on-time

performance and are cutting corners with Blue Signal Protection as a result. The Engineer also stated each yard or terminal establishes Blue Signal Protection a little differently and believes if Blue Signal Protection were more uniform across the carrier, it would be safer and easier to recognize for all crafts.

SYNOPSIS

An Engineer reported safety concerns with inconsistent Mechanical Department's procedures for establishing Blue Signal Protection in the yards and terminals.

ACN 27062

DATE / TIME

| | |
|--------------------|-------------|
| Date of Occurrence | 2022-11 |
| Local Time Of Day | 1201 - 1800 |

ENVIRONMENT

| | |
|---------|-------|
| Weather | Clear |
|---------|-------|

TRAIN / EQUIPMENT A

| | |
|----------------------------|-----------------------------|
| Operation Type | Passenger / Commuter |
| Operation Type | Yard Assignment |
| Train / Equipment Location | Yard |
| Train / Equipment Location | Repair Facility |
| Methods Of Operation | Other Than Main Track Rules |

COMPONENT 1

| | |
|-----------------|-------------|
| Track Component | Flags/Signs |
|-----------------|-------------|

PERSON 1

| | |
|------------------|-------------|
| Accession Number | 27062 |
| Function | Electrician |

PERSON 2

| | |
|------------------|---------|
| Accession Number | 27059 |
| Function | Foreman |

PERSON 3

| | |
|------------------|---------|
| Accession Number | 27060 |
| Function | Foreman |

PERSON 4

| | |
|------------------|-------------|
| Accession Number | 27061 |
| Function | Pipe Fitter |

EVENTS

| | |
|--------------------|--|
| Anomaly | On Track Protection Deviation - Manual Protection |
| Anomaly | On Track Protection Deviation - Visual Or Audible Protection |
| Anomaly | Procedural Deviation - Mechanical Regulations |
| Detected by Person | Mechanical |
| General Result | Maintenance / Repair Action |
| General Result | Requested Assistance / Clarification |

NARRATIVE 1

[I was] assigned to work Car A on the Track by Mechanical Foreman at XA:00 AM.

I started work after moves were made, and track [was] flagged at about XC:00 AM. I verified south derail was up, and blue stick flag [was] illuminated. Also, [I] verified south blue light [was] illuminated, confirming track was locked out and protected.

I went to lunch at XE:15 AM and returned to work area car at about XF:00 AM. I assumed protection was still applied because I did not receive notice from the Mechanical Foreman that protection was dropped.

At about XG:00 PM, I went for more soap bubbles and when I returned, I noticed blue light was off, indicating Blue Signal Protection was dropped.

I asked Mechanical Foreman if he dropped Blue Signal Protection, and he said, "no, it should still be applied, maybe the light burned out". I asked another Mechanical Foreman if he dropped Blue Signal Protection and he said, "yes, he dropped flags at XD:50 AM".

NARRATIVE 2

Blue Signal Policy was changed once again. Today around XG:15 PM, Blue Signal Protection policy had a close call. Blue Signal Protection was dropped on workers working on the south end of the Track, Car A. Employee that was working [on the] car after lunch came back to see if blue light on the south end of the Track was down for any reason. I told the employee no, but [I] will check. We have been having problems with the Blue Signal Protection because [the] Signal System has been having issues with the lights not working, [and] the communication between the two Mechanical Foremen in charge of the workers. One Mechanical Foreman dropped the Blue Signal Protection on the whole Track, because the bad ordered car [was placed] on the north end of the Track.

NARRATIVE 3

There were workers working on the south end of the Track. There was a miscommunication between the Mechanical Foremen, and flag was dropped. The employee that was working Car A came back from lunch and was asking if flag was dropped.

NARRATIVE 4

I was working on a car and someone dropped the Blue Signal Protection while I was working, without me knowing. An Electrician told me we had a freon leak. I went out to the track and fixed the leak. Two hours later, I was told the flags were down.

CALLBACK 1

The reporter, an Electrician, stated that there is a procedure in place at the location which states that before Blue Signal Protection is dropped, any workers that were assigned to work that location must be notified. The reporter was never notified that the protection had been dropped, and there was no reason to re-confirm it was still up after lunch, because the reporter would have been notified had there been any changes with the established protection, per the procedure. The reporter noted that the Blue Signal Protection procedures have been changed multiple times within the past few months, and there is still no confirmed/written policy established.

SYNOPSIS

Mechanical Employees reported Blue Signal Protection being dropped by a Mechanical Foreman without notification, resulting in multiple workers working on equipment without protection.

ACN 27098

DATE / TIME

Date of Occurrence 2022-11
Local Time Of Day 1201 - 1800

ENVIRONMENT

Weather Clear

TRAIN / EQUIPMENT A

Operation Type Passenger / Commuter
Operation Type Yard Assignment
Train / Equipment Location Yard
Train / Equipment Location Shop
Methods Of Operation Other Than Main Track Rules
Train Activity at Time of Event Switching In Yard

COMPONENT 1

Track Component Flags/Signs

COMPONENT 2

Track Component Derail

PERSON

Accession Number 27098
Function Foreman

EVENTS

Anomaly On Track Protection Deviation - Manual Protection
Anomaly On Track Protection Deviation - Visual Or Audible Protection
Anomaly Procedural Deviation - Mechanical Regulations
Detected by Person Mechanical
General Result No Action Taken

NARRATIVE

While working with [the] Switching Crew as assigned, a move [was] added during a scheduled move. The equipment they were coming to get [was] inside the shop [and] had a brake pipe valve closed that needed to be opened. I opened the valve; however, at the time, the shop derail had been dropped.

CALLBACK

The reporter, a Mechanical Foreman, stated the blue flags had been dropped on this car. When the Mechanical Foreman saw the brake pipe valve closed, there were no locomotives near the car. The Mechanical Foreman cited there was a loss in judgement. The Mechanical Foreman fully understands the Blue Signal Protection policy. The Mechanical Foreman conveyed trying to save time and not delaying the Switching Crew. Moving forward, the Mechanical Foreman will always follow Blue Signal Protection rules.

SYNOPSIS

A Mechanical Foreman reported working between equipment after dropping Blue Signal Protection on the car.

ACN 27287

DATE / TIME

| | |
|--------------------|-------------|
| Date of Occurrence | 2022-12 |
| Local Time Of Day | 1201 - 1800 |

ENVIRONMENT

| | |
|---------|-------|
| Weather | Clear |
|---------|-------|

TRAIN / EQUIPMENT A

| | |
|----------------------------|-----------------------------|
| Operation Type | Passenger / Commuter |
| Operation Type | Yard Assignment |
| Train / Equipment Location | Shop |
| Methods Of Operation | Other Than Main Track Rules |

COMPONENT 1

| | |
|-----------------|-------------|
| Track Component | Flags/Signs |
|-----------------|-------------|

PERSON 1

| | |
|------------------|---------|
| Accession Number | 27287 |
| Function | Foreman |

PERSON 2

| | |
|------------------|---------|
| Accession Number | 27289 |
| Function | Laborer |

EVENTS

| | |
|--------------------|--|
| Anomaly | On Track Protection Deviation - Manual Protection |
| Anomaly | On Track Protection Deviation - Visual Or Audible Protection |
| Anomaly | Procedural Deviation - Mechanical Regulations |
| Detected by Person | Oversight |
| General Result | Requested Assistance / Clarification |

NARRATIVE 1

Myself (Mechanical Foreman), Laborer, and an On-Board Service employee were cleaning [the] outside of a Car on the Track of [the] Shop under of the directive of [the] Supervisor. The need for Blue Signal Protection was discussed with [the] Supervisor and deemed not necessary, due to the fact that we would not be fouling equipment with physical contact. Tools being used were a gas-powered power washer and a car washing Brush with a 5-foot handle. I was then advised by [the] Supervisor that Blue Signal Protection was needed as per [the] Supervisor's Manager half way through cleaning.

NARRATIVE 2

I was outside cleaning a train, as instructed by my Mechanical Foreman. I did not believe that Blue Signal Protection was required. Someone from Management walked by and took exception to there being no blue lights up. We were instructed by my Supervisor to put up blue lights on the track.

CALLBACK 1

The reporter, a Mechanical Foreman, stated that there was substantial confusion on the issue of Blue Signal Protection procedures between the reporter, supervision, and the unqualified employee assigned to assist with the task. The reporter explained that the people involved in the initial discussion believed that since no one would be physically on or making direct contact with the equipment, there was no need for Blue Signal

Protection. The reporter stated that the employees involved did not realize that there was an issue until a Manager observed the incident. The Manager explained that the rule for Blue Signal Protection stated, "on, under, or about the equipment," including simply breaching the plane of the equipment. Blue Signal Protection was then applied to the area, and the task was completed without exception. The reporter noted that the unqualified employee that was assisting had no idea about the rule infraction. The reporter also noted that in the future, if there are any doubts whatsoever, Blue Signal Protection will be applied.

SYNOPSIS

A Mechanical Foreman and Laborer reported that a manager stated Blue Signal Protection was required for car washing despite another supervisor's direction that it was not necessary and thus not originally applied.