Operational Close Calls

Learning from Events Week

1 – 7 June 2020

SCOTLAND'S RAILWAY

BETTER IN THE MAKING

Overview

- What is an Operational Close Call?
- Process following an OCC
  - Preliminary Investigation
  - Risk Ranking
  - 72 hour Review
- Risk Rankings 2019/20
- A closer look at incidents

What is an Operational Close Call (OCC)?

*"An unplanned and/or uncontrolled event which **occurs on or affects the operational railway** and **has the potential** to cause damage, loss or injury to persons, plant, equipment, property, infrastructure."*

Examples include;

- Near miss (between person and train)
- Inadequate safe system of work / protection in place
- Accessing on or near the line outside of protection limits
- Line blockage authorised with a train in section
- Incorrect placement or type of earthing equipment used for OLE isolation
- Vehicles, plant, equipment or materials falling onto or fouling a running line
- Plant or trolley runaway
- Damage to track or infrastructure caused by works

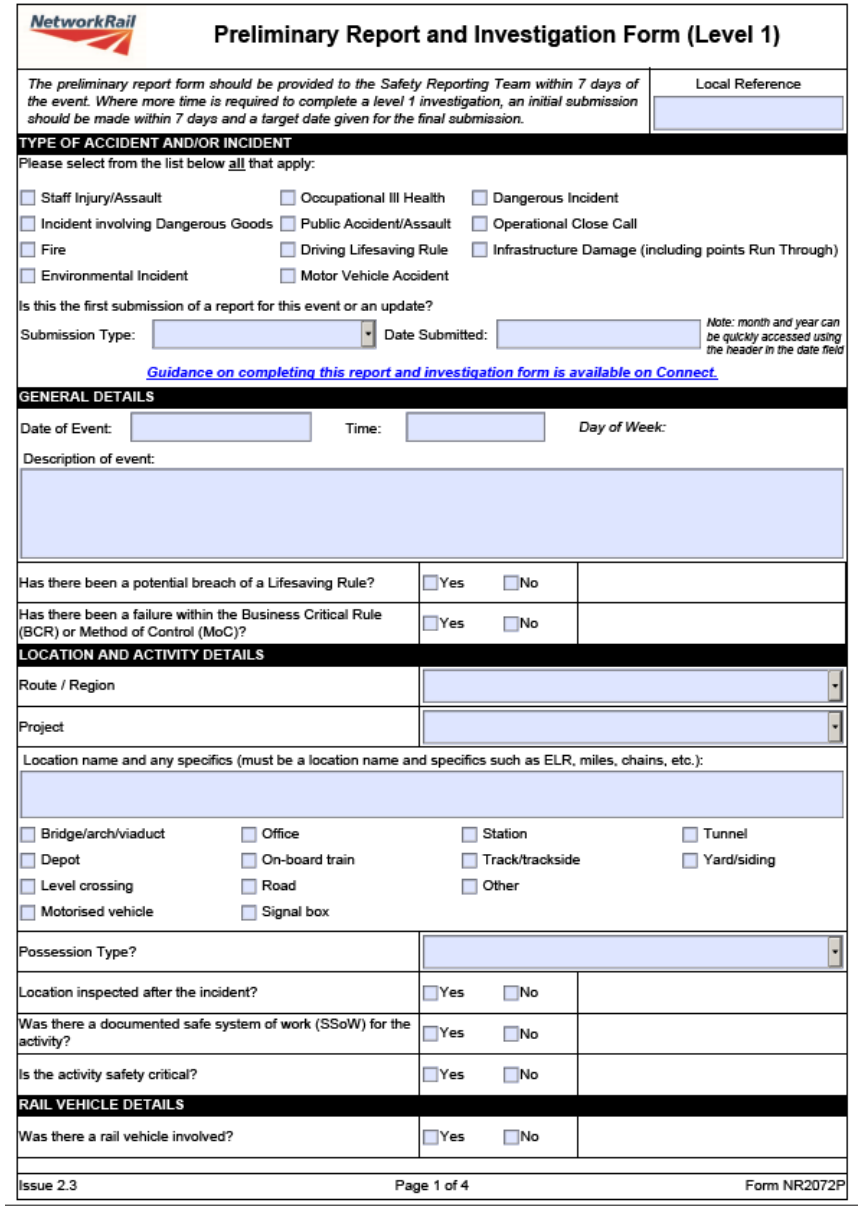
Preliminary Investigation

When an Operational Close Call occurs a Preliminary Investigation must take place as soon as possible, this is led by a suitable manager, usually within the same function or contractor, with support from the safety team.

The purpose of the Level 1 investigation;

- identify underlying causes
- identify actions to address
- prevent OCC reoccurring

Click here to access the form.



Preliminary Report and Investigation Form (Level 1)

The preliminary report form should be provided to the Safety Reporting Team within 7 days of the event. Where more time is required to complete a level 1 investigation, an initial submission should be made within 7 days and a target date given for the final submission.

Local Reference

TYPE OF ACCIDENT AND/OR INCIDENT

Please select from the list below all that apply:

Staff Injury/Assault | Occupational Ill Health | Dangerous Incident
Incident involving Dangerous Goods | Public Accident/Assault | Operational Close Call
Fire | Driving Lifesaving Rule | Infrastructure Damage (including points Run Through)
Environmental Incident | Motor Vehicle Accident

Is this the first submission of a report for this event or an update?

Submission Type: | Date Submitted: | *Note: month and year can be quickly accessed using the header in the date field*

Guidance on completing this report and investigation form is available on Connect.

GENERAL DETAILS

Date of Event: | Time: | *Day of Week:*

Description of event:

Has there been a potential breach of a Lifesaving Rule?	Yes No	
Has there been a failure within the Business Critical Rule (BCR) or Method of Control (MoC)?	Yes No	

LOCATION AND ACTIVITY DETAILS

Route / Region

Project

Location name and any specifics (must be a location name and specifics such as ELR, miles, chains, etc.):

Bridge/arch/viaduct | Office | Station | Tunnel
Depot | On-board train | Track/trackside | Yard/siding
Level crossing | Road | Other
Motorised vehicle | Signal box

Possession Type?		
Location inspected after the incident?	Yes No	
Was there a documented safe system of work (SSoW) for the activity?	Yes No	
Is the activity safety critical?	Yes No	

RAIL VEHICLE DETAILS

Was there a rail vehicle involved?	Yes No	

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Risk Ranking

As part of the Preliminary Investigation, a Risk Ranking must take place using the Risk Ranking Matrix, which looks at both the Worst Credible Outcome and the Closeness to happening.

Worst credible outcome / Closeness to happening		No foreseeable safety loss O	Injury L	Major Injury M/L	Single Fatality M	Multiple Fatalities H
High chance of happening	D		Low risk	Medium risk	Potentially Significant	Potentially Severe
Medium chance of happening	H		Low risk	Low risk	Medium/High Risk	Potentially Significant
Low chance of happening	J		Low risk	Low risk	Low risk	Medium risk
No foreseeable safety loss	K	Nil				

Risk Ranking Guidance

Foreseeable Outcome		Ranking
Multiple Fatalities includes	▪ High speed collision (> 40 mph) or ▪ Derailment > 15 mph, train outside the kinematic envelope (potential for roll-over, secondary collision with another train or collision with a line side structure)	H
Single Fatality includes	▪ Multiple major injuries or ▪ Collision (> 15 mph but < 40 mph) ▪ Derailment > 15 mph, train inside the kinematic envelope (low likelihood of roll-over, secondary collision with another train or a collision with a line side structure) ▪ Level crossing collision with road vehicle or pedestrian	M
Major Injury includes	▪ Low speed collision or derailment (< 15 mph) ▪ Minor reportable injuries	M/L
Injury includes	▪ Low speed collision or derailment (< 15 mph) ▪ Non reportable injuries	L
No foreseeable safety loss	▪ No consequences identified - The design of the railway or controls in place prevented the possibility of consequences arising	O

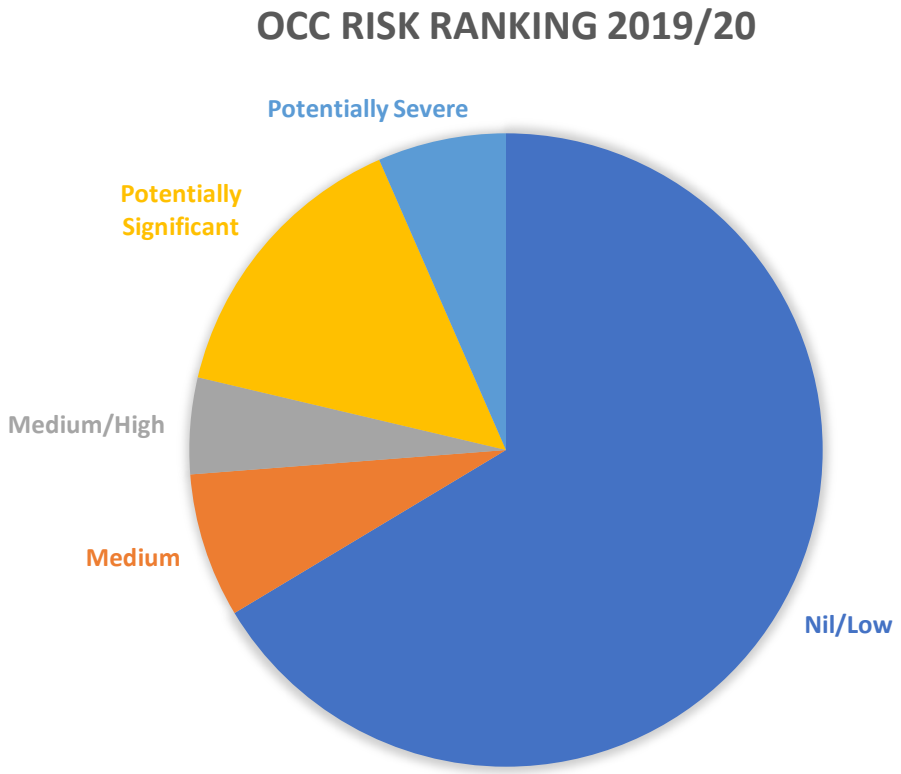
There is guidance available by using the link on the Level 1 form, which gives an explanation of the criteria included under each outcome.

It gives guidance on how to determine the closeness to happening, by taking into account what measures were in place to stop the incident from escalating.

Closeness to happening		Ranking
High chance of happening	▪ Potential accident only prevented by restricted time window for accident or recovery action	D
Medium chance of happening	▪ Potential accident prevented by some intervention	H
Low chance of happening	▪ Potential accident prevented by automatic intervention	J
No foreseeable safety loss	▪ Escalation to accident highly unlikely – The design of the railway or controls in place prevented the possibility of an accident occurring	K

What is the Risk?

On Scotland's Railway in 2019/20 we had 122 Operational Close Calls.



18 Potentially Significant OCCs
High chance of a single fatality or medium chance of multiple fatalities

8 Potentially Severe OCCs
High chance of multiple fatalities

This is with the backdrop in the last year of three workers being struck and fatally injured by trains whilst working on the operational railway (two maintenance workers at Margam (June 2019) and one contracted worker at Roade (February 2020).

72 Hour Review

Following the completion of the Preliminary Investigation, a conference call should be arranged within 3 working days (72 hours) of the event.

This must involve

- Investigating manager
- Designated Competent Person (DCP)
- Representative from Safety Team

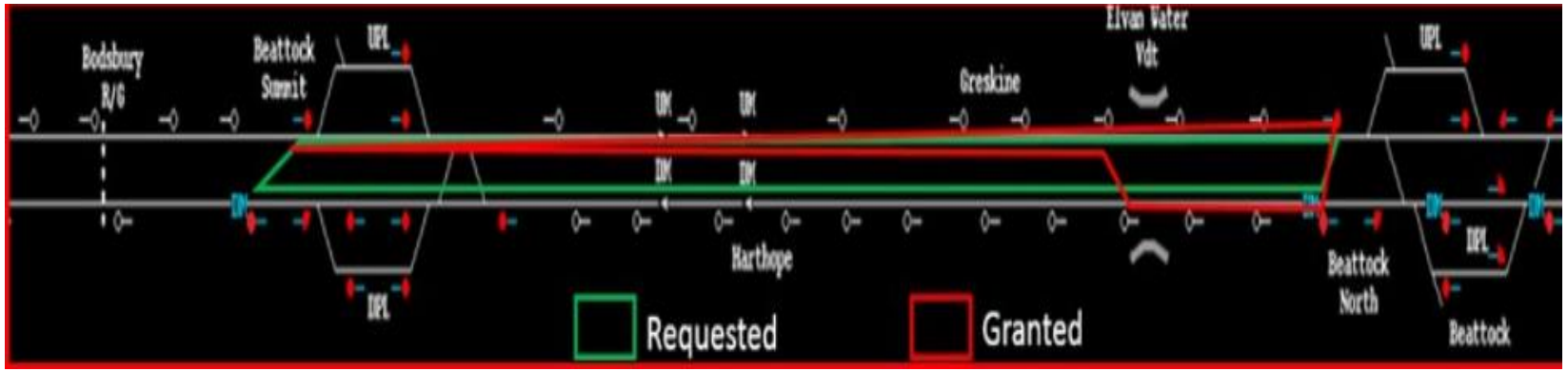
The main objectives of the call are

- review the Risk Ranking
- establish the immediate cause
- agree underlying causes and appropriate remedial actions
- agree outcome for behavioural causes and appropriate remedial actions
- agree the next step

OCC – Beattock – 25/02/2020

Line blockage granted while train was in section. Risk Ranking – Potentially Severe.

- The signaller operating Carstairs workstation at West of Scotland Signalling Centre granted a booked line blockage at Beattock.
- The limits were misheard and the signaller protected the wrong portion of line. The Up line was correct but the exit signal for the Down line was incorrectly repeated back, thus making the Down line blockage considerably shorter than it should have been.
- The track staff had authority to go on the line but had questioned this as they believed there was a train in the section. All staff were in a position of safety when a train passed through the portion of line that should have been under line blockage.



OCC – Beattock – 25/02/2020

Underlying causes

- The signaller failed to identify the correct limits of the blockage and did not repeat back the correct signal to the PC.
- The signaller did not break down the conversation into manageable chunks of information.
- The PC failed to realise that the signaller had not repeated back the correct limits.
- The signaller was not adequately rested for the shift.

Actions

LOM

  - development action plan for the signaller, to include voice communications monitoring and assessment of non-technical skills.
  - discuss with the signaller the importance of being adequately rested for a shift and taking responsibility for lifestyle and fatigue management; to include reporting procedures if not fit for duty.
  - ensure that the Signaller does not undertake training for any new signallers on the workstation for a period of 6 months.
  - Shift signalling managers at WSSC (Motherwell) to undertake active monitoring of the signaller when granting line blockages.
- Protection Controller to undergo direct surveillance by a section manager or section supervisor in order to determine if further training or mentorship is required.

OCC – Niddrie – 07/07/2019

Isolation team accessed the site in order to put in place earthing equipment and were outwith the possession limits therefore unknowingly crossed open lines. The earthing and isolation limits were outside the possession limits. The team also used the incorrect access point. Risk Ranking – Potentially Significant.

Underlying causes

Planning;

- The potential for a conflict between the Possession Limits being published sub-standard and the Isolation Limits was not picked up during the planning process.
- There was no site visit by the PC as part of the pre-planning process.
- The Safe System of Work Packs (SSOW) were not provided at least 24 hours in advance of the shift and so staff were not allowed enough time to check the SSOW pack provided.
- The ES and NP failed to jointly review the paperwork for the possession and the isolation.

On site;

- The ES and NP failed to reach a clear understanding during the briefing with regards to possession limits and the impact upon isolation limits. The access point to be used was also not made clear.
- The ES failed to recognise that the Isolation would now be outside the possession limits.
- The ES failed to communicate directly with the Controller of Site Safety (COSS) and allowed the information to be relayed by the NP instead.
- The COSS was unfamiliar with the location at where he was due to work.

OCC – Niddrie – 07/07/2019

Actions

- The Principal Contractor will ensure that the planning process from all sub-contracted companies involved will ensure that works are planned so that there are no potential conflicts between Possession limits and Isolation limits.

- The Principal Contractor will manage the planning process to ensure that all staff are familiar with the location before they start work. Site visits prior to the shift are required to ensure that all staff are aware of the geography of the area including access points and any local hazards. The PC will request evidence that all staff have undertaken the required site visits on each occasion to prevent any re-occurrences.

- All SSOW packs are to be issued to all staff working on site at least 24 hours before their shift on every occasion.

- All staff to be present at the briefing with regards to Possession, Worksite and Isolations Limits to ensure compliance with NR/L2/OHS/019 (Safety of People on or Near the Line) and NR/L3/ELP/29987 (Working on or about 25Kv A.C Electrified Lines).

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