

Suffern Paul

From: [REDACTED]
Sent: Monday, March 30, 2020 4:06 PM
To: [REDACTED]
Subject: FW: Requesting Closure for the NTSB Interview Process
Attachments: Severe Weather Response Action Guide _Canada_.pdf

Gentlemen,

I received this e-mail and attachment after our discussion today.

Paul,

I believe this will be helpful? Please let me know if you have any questions and please scroll down through the e-mail trail below—there is characterization of some other railroad practices and procedures, as well.

Troy, Just keeping you in the loop too—doesn't hurt, does it?

You are welcome!

From: [REDACTED]
Sent: Monday, March 30, 2020 3:06 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: FW: Requesting Closure for the NTSB Interview Process

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[These are how other railroads handle alerts.](#)

[I don't see anything they would have done that would have prevented this derailment](#)

From: [REDACTED]
Sent: Tuesday, March 24, 2020 10:18 AM
To: [REDACTED]
Subject: RE: Requesting Closure for the NTSB Interview Process

Here is the benchmark results. NS did not respond. CP's is the attached PDF, everyone else is below:

BNSF

2.9.3 Heavy Rain or Flooding A. Flash Flood "Warnings"

Weather information received by BNSF is categorized as a WARNING when it describes conditions that require immediate action by the Train Dispatcher to notify train crews of imminent danger. These warnings are immediately distributed to the relevant Train Dispatchers. When a "Flash Flood Warning" is received:

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The dispatching center immediately advises all involved trains of the specific conditions.

When crews of these trains are advised and are not operating through areas designated by the Division Engineer as being "critical:"

- Passenger-carrying trains will operate at a maximum of 50 MPH through the limits identified in the warning.
- Freight trains will operate at a maximum of 40 MPH through those limits.

- These restrictions will remain in effect until the track has been inspected and the Inspector deems it appropriate to raise it.

B. Flash Flood "Alerts"

Weather information received by BNSF is categorized as an ALERT when it describes current rainfall conditions that are nearing WARNING levels. When local maintenance personnel are notified of a flash flood ALERT, they will treat it the same as a flash flood WARNING.

C. "Critical Areas"

Division Engineers identify "critical" areas by subdivision, segmented by milepost locations based upon their susceptibility to flooding or their history of being prone to washouts or side-scour wash. In identifying these locations, consideration is given to shallow-foundation bridges, availability of operable culverts, and other conditions as necessary. These locations must be reviewed with the Division General Manager and identified in the Division Timetable.

At least once per year, during the first quarter, General Directors and Division Engineers must review and update, if necessary, critical areas by subdivision in the Division Timetable or associated General Order.

If the "Flash Flood Warning" limits include locations identified as "critical:"

- All trains will be limited to restricted speed until the track structure has been inspected on a priority basis at the dispatching center's request.
- These temporary speed restrictions must remain in place until the track has been inspected and local personnel have assessed the need for speed restriction modifications as conditions warrant.

D. Flash Flood Inspection Process

When local maintenance personnel become aware of current conditions that might produce flash flooding, or when a flash flood ALERT or flash flood WARNING is issued, they:

- Confirm with the Dispatcher that the proper speed restrictions are in place.
- Inspect the track for washouts, side-scour wash, surface irregularities, and/or water over the rail.
- Carefully inspect bridge foundations and drainage structures, paying careful attention to bridges with mud sills, erosion behind abutment walls and head walls, erosion around piers and footings, and obstructions from drift and debris.

Note: If water level, turbulence, or other conditions make a thorough inspection impossible at the site of such a bridge, all train operations will reduce to no more than restricted speed until it is possible to make a proper inspection.

- If, during the initial track inspection, the safety of train operations over bridges is in doubt, immediately call a qualified Structures employee. Any speed restrictions placed on bridges will not be lifted until authorized by the Structures employee.

Track and Bridge Inspectors must continue to patrol past their respective territories if an adjoining territory is likely to have been damaged, and such damage might not have been discovered.

Continue to inspect limits of the flash flood warning until the time limit of the flash flood warning has expired.

Appropriate speed restrictions must be placed to protect trains against unsafe conditions discovered during flash flood inspections.

E. Bridge Inspection During and After Heavy Rains Railroad bridges can fail when erosion lowers the streambed and cuts the toe of channel banks. High waters from a flash flood can scour ballast from the roadbed or wash out fill embankments. Erosion can be gradual or take place rapidly. The following is a checklist of some of the most common indications of channel or embankment erosion. Use when making a special inspection because of possible flash flooding or high water:

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- — — —

Track Geometry. Check for deviation in cross level, alignment, or surface of the track.

Bridge Ends. Check for erosion of the embankment at the ends of a bridge. Scour action can remove embankment material from behind abutment planks/ head walls and from under the track.

Under Bridges. Check for missing piles and piers or leaning out of plumb. Inspect bridges upstream and downstream for evidence of scour or channel obstruction.

Debris or Drift Lodged Against Nose of Piers. Can cause a circular scour hole to develop at the base of the pier.

Partially Blocked Spans. Check for erosion to streambed under adjacent open spans.

Rip Rap. If rip rap is sloughing, it could be undermined and unraveled during periods of heavy storm water runoff.

Cross Walls. Located downstream from some shallow foundation bridges and are essential to the structural integrity of the bridges' substructure. After the runoff has receded, check downstream from cross walls for vertical drops in the streambed or for scour holes.

— **Side Scour.** Watch for cracking or slippage of embankment slopes caused by erosion of the embankment's toe.

— **Culverts.** Check the downstream end of culverts, as well as the upstream opening.

— **Ponded Water Against Railroad Embankment.** Can cause saturation of embankment and eventual landslide.

— **Scour Critical Locations.** A listing of bridges that are scour critical is provided by the Structures Department and available through the Division Engineer. There will be other locations, not necessarily at a bridge, that are scour critical such as side scour locations and areas where water flows over the track.

— **Lag Time.** The maximum flow rate under a bridge will occur some time after the rain has subsided. Check bridges after the rain has stopped and the high flood waters have receded. The delay between the peak of the rainstorm and the maximum flow rate under a bridge can range from minutes to days, depending on the size of the drainage basin. For this reason, Inspectors must be aware of the general size of the drainage basin and what precipitation events are taking place at the far reaches of the drainage basin.

Note: The above checklist is to serve as an aid in detecting common erosion problems. You may observe other forms of erosion that have not been listed. The safe course must prevail, and anytime there is a question about structural integrity during or after a flash flood event, call the NOC Maintenance of Way Desk at Fort Worth and ask them to page the local Supervisor Structures.

UP

8.9.9 Performing Special Inspections

Examples of events that might trigger a Special Inspection include but are not limited to Tornadoes, Earthquakes, Flash Floods, Large Scale Forest Fires.

When a Special Inspection is triggered from an event, the inspector must:

- Begin the inspection when it is safe on the affected territory.
- Have a list of vulnerable structures and components on the territory for reference.
- Give highest priority to Class 4 – 6 track, and track carrying passenger trains.
- Continue to monitor until the event has passed.

While performing special inspections, the inspector must:

- Evaluate the condition of track and structures to ensure compliance with FRA Track Safety Standards or Union Pacific Standards, whichever is more restrictive.
- Follow established safety rules and procedures during the inspection.
- Take every precaution to ensure personal safety, regardless of the time required to safely complete the inspection.
- When conditions warrant, immediately initiate special inspections without waiting for Dispatching Center notification.
- Provide the Dispatching Center with frequent status reports on the condition of track and structures in the affected area.
- If the condition of track or structures is questionable, immediately report the location to the Dispatching Center and the immediate Engineering Department Supervisor.
- When required, the affected track will receive the appropriate speed restrictions or be removed from service until repairs are completed. The inspector will determine the frequency of the inspections if the nature and the intensity of the threat to track and structures persist.
- The inspector will determine the condition of the track and structures and report findings to the Dispatching Center before removing the speed restriction or placing the track back into service.

CN

CN has a third party weather monitoring service which provides weather alerts that are issued as texts/emails to the Track Supervisor, Track Manager and RTC. For Flash flooding the requirement is:

* Flash Flooding, 25 mm/hr (1"/hr) or greater with 75 mm (3 inches) expected in 3 hours or less (most of CN track). For British Columbia and flash flood prone areas only, use 25 mm/hr (1"/hr) rainfall rate with more than 25 mm/hr (1 inch) expected.

The weather action chart for RTC

RTC Weather Warning Action Chart -
United States

Warnings	Process to contact		Engineering Supvr
	Trains	Personnel on track	
Tornado	RTC to contact and apply restrictive tags	RTC to contact	ROC Coordinator/Chief Dispatcher to contact Track Spvr
Flash flooding, river floods and saturated ground.	RTC to contact and apply restrictive tags	RTC to contact	ROC Coordinator/Chief Dispatcher to contact Tr and B+S Supervisor. If a flood statement has been issued, the Manager B&O should be contacted.
Winds >60 mph	RTC to contact and apply restrictive tags	RTC to contact track personnel in the area and will instruct them to inspect the track, prior to the arrival of a train.	ROC Coordinator/Chief Dispatcher to contact Track Spvr

For larger/longer event the decisions on how to protect are made on a case by case basis.

From: [REDACTED]
Sent: Tuesday, March 24, 2020 10:02 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: FW: Requesting Closure for the NTSB Interview Process

Gina What did you find out on the weather data thresholds?
 Is it proprietary?
 All in real time?

Josh what did you find out talking to the other railroads?

From: [REDACTED]
Sent: Tuesday, March 24, 2020 9:33 AM
To: [REDACTED]
Cc: [REDACTED]
Subject: [E] RE: Requesting Closure for the NTSB Interview Process

[E] - EXTERNAL SENDER

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Greg,

Yes, yours, Brett Conn and Aaron's were received timely and in good order. Thank you for supporting this request—everything will work fine. I just did not want to be silent and create a crisis later on that nobody needs.

Any progress on the weather data issue? Also, I heard the exact same area experienced a second or residual slide, any truth to that? If so, would it possible to get a daylight photo of that scene?

From: [REDACTED]
Sent: Tuesday, March 24, 2020 8:44 AM
To: [REDACTED]
Subject: RE: Requesting Closure for the NTSB Interview Process

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They will be told today.
You got mine ok right?
I mailed it in weeks ago.

From: [REDACTED]
Sent: Tuesday, March 24, 2020 8:39 AM
To: [REDACTED]
Subject: [E] Requesting Closure for the NTSB Interview Process

[E] - EXTERNAL SENDER

Use discretion when clicking links, opening attachments, or replying.

Gentlemen,

Although today's mail may contain what I am waiting to receive, I want to bring the interview process to closure. Of the five interviews, I have received three replies, so thank you to those who have made the effort with their follow through, it is appreciated.

Yes, I get it, you all are very busy, and completing the paperwork to close out the interview process is additional work and time that may not be readily available with your work demands. But it has been nearly two weeks into the exchange of the interview document, so even if you have no significant changes to make per the instructions, could you please, at a minimum, send me some communication to that effect?

If you have already addressed my request, please understand that no reply has left me in the void of whether or not you have or may elect to make a response. If you need additional time, please let me know and include a date when you can reasonably complete, sign, date and return the errata sheet (a completed and scanned errata sheet electronically sent is acceptable).

I have work on the factual report to keep me busy for the next few days, but the interview section needs to be completed as well and that cannot happen until I have received responses from all interviewees.

My apology to each of you for interrupting your work, but please give this request some priority if that is possible.

Thank you for your cooperation, support, patience and understanding with this specific request.

Most respectfully,

R. A. Hipskind,
Track & Engineering Group Chairman

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