DCA11FR002
Collision - BNSF
Red Oak, Iowa
April 17, 2011

Excerpts BNSF
Air Brake and Train Handling Rules
No. 5
Effective April 7, 2010

BNSF Railway Safety Vision

We believe every accident or injury is preventable. Our vision is that BNSF Railway will operate free of accidents and injuries. BNSF Railway will achieve this vision through:

A culture that makes safety our highest priority and provides continuous self-examination as to the effectiveness of our safety process and performance...

A work environment, including the resources and tools, that is safe and accident-free where all known hazards will be eliminated or safe-guarded...

Work practices and training for all employees that make safety essential to the tasks we perform...

An empowered work force, including all employees, that takes responsibility for personal safety, the safety of fellow employees, and the communities in which we serve.

This version contains the following revised, deleted or added pages:

May 21, 2010: 11, 12.

October 1, 2010: 115, 116.

October 29, 2010: 111, 112.

December 14, 2010: 125, 126.

March 1, 2011: Title Page, 2, 9, 10, 53, 54, 113, 114.

BNSF SM
RAILWAY

Air Brake and Train Handling Rules

No. 5

In Effect at 0001
Central, Mountain and Pacific
Continental Time

April 7, 2010
(Including revisions through
March 1, 2011)

101.9 Control Switches

Position electrical switches and control equipment in the cab according to instructions on the badge plate or stenciling.

101.10 Locomotive Safety Devices

To the extent possible, make sure these locomotive safety devices are cut in and operating at all times:

- Alerters (consider defective if device fails to provide visual and audible warnings)
- Automatic cab signals
- Automatic train stop equipment
- Automatic train control equipment
- Event Recorder Equipment
- Locomotive Camera System

However, safety devices do not have to be operating on non-controlling locomotives, distributed power remote controlling locomotives, or:

a. When a safety device becomes defective en route,

or

b. During drag loading/unloading operations under 5 MPH.

If a safety device becomes defective en route, inform the train dispatcher and mechanical department as soon as possible. Do not cut out, tamper with, or defeat a safety device without proper authorization. When a locomotive is en route, this authorization may come from the train dispatcher, mechanical supervisor, or other manager.

101.10.1 Cab Signal Equipment-Foreign Locomotives

Cab signal equipment on foreign locomotives operating on BNSF may inadvertently activate and cause a penalty application if no action is taken by the engineer. These false activations are often related to the additional electrical current in the rails when train is near road crossings equipped with automatic warning devices. When operating a foreign locomotive equipped with cab signal equipment that cannot be cut out, should cab signal equipment inadvertently activate, depressing the button labeled "Cab Signal Acknowledge" during the warning period will prevent a penalty application. If a penalty application has occurred from the Cab Signal System it will be necessary to depress the "Cab Signal Acknowledge" button before moving the automatic brake valve from suppression position to recover from the penalty brake application.

101.11 Operative Speed Indicator

A locomotive used as a controlling unit at speeds above 20 MPH must be equipped with an operative speed indicator. Follow these speed indicator requirements:

1. Locomotive speed indicators must be accurate within:
   - ±3 MPH at speeds between 10 and 30 MPH
   - ±5 MPH at speeds above 30 MPH

   Speed indicator that exceeds the above tolerances must be handled as a non-complying condition found en route.

104.11 Charging Time Chart

When the brake system is uncharged and not equipped with an air flow meter, use the following chart to determine the minimum and maximum charging times:

Minimum and Maximum Charging Times When Brake System is Empty		
Brake Pipe Length (in feet)	Minimum Charging Time (in minutes)	Maximum Charging Time (in minutes)
2,500 or less	8	25
3,000	10	30
4,000	15	35
5,000	20	40
6,000	26	55
7,000	35	65
8,000	45	75
9,000	57	100
10,000	71	125
11,000	80	160

104.12 Electronic Alertness Device

An electronic alertness device stops the train with a service rate brake application if the engineer does not respond properly.

It functions as follows:

1. The device begins functioning when locomotive brake cylinder pressure falls below 25 psi.
2. At this point, the device monitors the operator's alertness.
3. It resets when the operator changes the position of or operates one of these locomotive controls:
   - Throttle
   - Horn
   - Bell
   - Dynamic brake

   or
   - Device reset button
   - Radio transmit (on some alerter types)
4. If the device is not reset within the reset cycle (varies relative to speed):
5. A warning light flashes.
6. A warning horn sounds off and on for 10 seconds and then continuously for 10 seconds.
7. If the device is not reset within 20 seconds after the warning light and horn begin operating, the train brakes will automatically be applied at a service rate (Penalty Brake).

104.12.1 Deactivate Device Temporarily

To temporarily deactivate the electronic alertness device temporarily for unit train loading/unloading, the following three procedures must be used. (Listed in preferred order.)

Procedure 1

Newer BNSF and UPRR locomotives are equipped with the following alerter nullification procedure and this is the preferred procedure for setting locomotive consist for unattended unloading operations involving a car positioner.

1. Close throttle.
2. Center reverser.
3. Place remote consist(s) in REMOTE MODE IDLE, if DP train.
4. Isolate controlling locomotive.

Note: Alerter will remain nullified as long as speed remains below 2 MPH.

Procedure 2

1. WARNING: If distributed power train, first place remote consist(s) in REMOTE MODE - IDLE to prevent undesired loading of remote consist during loading/ unloading operation.
2. Isolate all units in the LEAD consist except the controlling unit. (Controlling unit will be isolated after completing all steps below.)
3. Select slow speed control on operating screen. (Leave speed setting to lowest speed setting available or 0 MPH)
4. Move reverser to the direction of travel.
5. Open throttle as commanded if using Slow Speed to load or Run 1 to simply nullify alerter during automatic car positioner unloading operation.
6. Isolate lead unit. (Only if nullifying alerter with Slow Speed feature active.)
7. Release independent brakes when ready for movement.

Note: Alerter will remain nullified as long as speed remains below 4 MPH.

Procedure 3

If the above steps do not nullify alerter, complete the following steps:

On 26C, 30CDW equipped locomotives

1. WARNING: If distributed power train, first place DP remote(s), if any, in REMOTE MODE – ISOLATE to prevent undesired loading of remote consist during loading/ unloading operation and to allow adjustment to regulating valve setting at lead DP unit)
2. Cut out the automatic brake valve.
3. Adjust the regulating valve to 114 psi or highest setting available.
4. Move the automatic brake valve handle to SUPPRESSION.
5. Cut in the automatic brake valve to PASS.
6. Make sure the brake pipe pressure is at the required 90 psi.

Restore Electronic Alertness Device Control on 26C and 30CDW

To restore the electronic alertness device control:

1. Cut out the automatic brake.
2. Move the automatic brake handle to RELEASE.
3. Adjust the regulating valve to the required pressure.
4. Cut in the automatic brake.

104.13 Overspeed Control

The over speed control prevents the train from running at speeds higher than the safe mechanical limits of the traction motors. It functions as follows:

- If train speed increases to an unsafe level, the safety control device sounds a warning.
- If the train does not slow within 6 to 12 seconds of the first warning sound, the overspeed control device applies the train brakes and trips the PC switch.

Slow Train

To slow the train when the safety control device sounds a warning, comply with the following:

1. On locomotives with 26L, 30CDW, and CCB brake equipment, move the automatic brake handle to SUPPRESSION within the 6- to 12-second warning period.
2. On some locomotives from former Santa Fe railroad, reduce the brake pipe pressure 6 to 8 psi, or more if necessary. (see note below)

Recover

To recover when the overspeed control applies the train brakes:

1. On locomotives with 26L, 30CDW, and CCB brake equipment, move the automatic brake handle to SUPPRESSION.
2. On locomotives with other brake equipment, move the automatic brake handle to LAP.
3. Move the throttle to IDLE and wait 60 seconds.
4. As with any full service brake pipe reduction, operating conditions may require stopping the train before releasing the brakes (signal indication, grade conditions, train size/length, etc.). When operating conditions allow, move the automatic brake handle to RELEASE and note that:
   - Brake pipe pressure is restored.
   - PC light goes out.
   - Brakes release.

Note: Some former Santa Fe locomotive equipment allows slowing the train during the warning period with the automatic brake valve in MINIMUM REDUCTION. Unless it is known that the locomotive being operated includes this modification, the SUPPRESSION position should be used.

Note: Cutting out Overspeed – if improper Overspeed setting causes penalty brake applications at 10 MPH lower than your maximum authorized speed, you may cut out overspeed provided mechanical desk is notified in order to record a defect.