NS-1

RULES FOR EQUIPMENT OPERATION AND HANDLING

EFFECTIVE APRIL 15, 2023

NS-1
RULES FOR EQUIPMENT OPERATION AND HANDLING

NORFOLK SOUTHERN CORPORATION

Further instructions may be issued by proper authority.

PAUL DUNCAN
Executive Vice President and Chief Operating Officer

EFFECTIVE: APRIL 15, 2023

This page is intentionally left blank.

This page is intentionally left blank.

TABLE OF CONTENTS

TABLE OF CONTENTS *(continued)*

TABLE OF CONTENTS *(CONTINUED)*

TABLE OF CONTENTS *(CONTINUED)*

APPENDIX TABLES AND DIAGRAMS

GENERAL NOTICE

Employees whose duties are prescribed by these rules must provide themselves with a copy and have it accessible to them while on duty. Conditions not covered by these rules demand the exercise of sound judgment to maintain safety, efficiency and economy. Past practices not in conformity with these rules are unacceptable as an excuse for noncompliance.

Paul Duncan

Executive Vice President and Chief Operating Officer

C-102. EQUIPMENT LEFT UNATTENDED

Air brakes must never be depended upon to hold unattended standing equipment.

When equipment is left unattended, the following procedure must be performed to determine that the applied hand brakes will secure the equipment with the air brakes released.

Prior to leaving the equipment unattended, all crewmembers must have verbal communication to confirm that the equipment has been properly secured."

EXCEPTION: Division or Terminal instructions will govern where it has been verified that the required number of operative hand brakes will secure the equipment with the air brakes released. However, this provision does not apply to Key Trains or cars meeting the definition of a Key Train. When securing Key Trains or cars meeting the definition of a Key Train, a test must always be performed to determine the applied hand brakes will secure the equipment with the air brakes released.

(a) Securing unattended cars with locomotives detached.

1. When cars are left unattended, at least 1 end angle cock must remain open to ensure that an undesired brake release does not occur.

2. Make a brake pipe reduction sufficient to hold the equipment if the cars are being handled with operative air brakes.

3. Apply sufficient number of hand brakes to secure the cars left standing.

4. Test the effectiveness of the hand brakes on the cars left standing:

a. On a grade descending AWAY from the location where the train separation will be made, or on level grade:

1) Release the automatic brake, if applicable, and locomotive brakes and advance throttle, if necessary, to slowly bunch or push the slack in at the coupler where the uncoupling is to be made.

2) Apply the locomotive brakes when slack has been observed bunched.

3) Observe the car(s) to be left standing for 1 minute to determine that the slack does not pull out or stretch indicating that the hand brake(s) is effective and the car(s) will remain secured.

b. On a grade descending TOWARDS the location where the train separation will be made:

1) Release the automatic brake, if applicable, and advance throttle, if necessary, to slowly stretch or pull the slack out at the coupler where the uncoupling is to be made.

2) Apply the locomotive brakes when slack has been observed stretched.

3) Observe the car(s) to be left standing for 1 minute to determine that the slack does not push in or bunch indicating that the hand brake(s) are effective and the car(s) will remain secured.

c. When grade or tonnage will not permit releasing the automatic brake, after stopping with the slack positioned as required:

1) Close the angle cock in front of the cars to be left standing.

2) Bleed the brake system on the cars behind the closed angle cock.

3) Observe the car(s) to be left standing for 1 minute to determine that the slack does not adjust indicating that the hand brake(s) are effective and the car(s) will remain secured.

d. When grade or tonnage will not permit releasing the automatic brake, after stopping and unable to position the slack as required:

1) Sufficient hand brakes must be applied on the cars that will NOT be left standing to permit the release of the automatic brake to adjust the slack as required.

2) Apply the locomotive brakes when slack has been observed adjusted as required.

3) Observe the car(s) to be left standing for 1 minute to determine that the slack does not adjust with the grade, indicating that the hand brake(s) is effective and the car(s) will remain secured.

5. After determination is made that the hand brakes are effective, the equipment may be uncoupled from the cars to be left standing.

6. When grade and tonnage conditions permit, Engineers will reduce brake pipe pressure to 20 PSI above zero (0) with the automatic brake before locomotive is cut off or any angle cock is turned, when:

a. Trains or cuts of cars being handled with operative air brakes arrive at a terminal where facilities are available and instructions provide for immediate brake inspection.

b. Locomotive is to be detached from any train when the temperature is below 32°F.

(b) Securing unattended cars with locomotives attached.

When cars are left unattended with locomotives attached:

1. Make a brake pipe reduction sufficient to hold the equipment if the cars are being handled with operative air brakes.

2. Apply sufficient number of hand brakes to secure the cars left standing. All locomotive parking brakes must remain in the off or unapplied position until the completion of the testing.

3. Release the automatic brake, if applicable, and allow the train slack to adjust.

4. Gradually release the Independent brake allowing slack between locomotives and cars to adjust according to grade conditions.

5. After the slack has fully adjusted, observe the equipment for 1 minute to determine that there is no movement indicating that the hand brakes are effective and the equipment will remain secured.

6. After determination is made that the hand brakes are effective, the independent and automatic brakes must be fully applied and all locomotives properly secured.

EXCEPTION: If there are an equal number or more locomotives than cars in the equipment to be tested, or if locomotive tonnage is greater than train tonnage where hand brakes on cars will not hold the entire consist, after applying a sufficient number of hand brakes to hold the cars the instructions in part (c) "Securing unattended locomotives without cars attached" will govern the test.

(c) Securing unattended locomotives without cars attached. NOTE: Locomotives that are shut down or otherwise unable to move under their own power must be secured and tested in accordance with C102(a) above.

Before locomotives are left unattended on any track the effectiveness of the parking brakes must be tested as follows:

1. Apply the parking brake on each locomotive.

2. Place the Independent and the Automatic brakes in the RELEASE position. The locomotive consist must remain stationary for 10 seconds.

3. Place throttle in the No. 1 power position or higher, if necessary, until movement occurs.

NOTE: If the locomotive(s) is standing on a grade, the movement must be in a descending direction.

4. Place the throttle in IDLE when the locomotive consist begins to move. Locomotive consist must stop within 25 feet.

If the locomotive consist:

- stops within 25 feet, reapply the Independent and the Automatic brakes (Consider the parking brake(s) effective)
- does NOT Stop within 25 feet, place the Independent brake in FULL APPLICATION.

If the locomotive consist does not:

- stand for the required 10 seconds
- stop within 25 feet

immediately notify the Network Operations Center and arrange for an alternate means of securement or a different location to leave the locomotive consist.

(d) Securing and Testing Remote Control Locomotives

To test the effectiveness of hand brakes on Remote Control Locomotives:

1. Apply parking brake(s) on locomotive(s).
2. Leave the locomotive in Remote status while performing this test.
3. Place locomotive isolation switch to isolate position.
4. Place reverser in desired direction, then:
   - depress reset button
   - move OCU speed selector from stop position to couple speed position
   - verify locomotive(s) brakes release
   - locomotive(s) must remain stationary for 10 seconds
5. Move OCU speed selector from COUPLE speed position to STOP position.
6. Place locomotive isolation switch to “run” position.
7. Depress reset button, move OCU speed selector from stop position to couple speed position or higher, if necessary, until movement occurs.
8. Move OCU speed selector from the couple speed or higher position to coast position (no power and no brakes), applied hand brake(s) must stop locomotive(s) within 25 feet.
9. Move OCU speed selector from coast position to stop position (independent brakes apply) when locomotive(s) stop.

(e) Securing unattended Triple Crown trains (with locomotives attached).

1. Apply the parking brake on each locomotive.
2. Place the Independent and Automatic brakes in the RELEASE position, allowing slack to adjust according to grade conditions.
3. After the slack has fully adjusted, observe the equipment for 1 minute to determine that there is no movement, indicating that the locomotive parking brakes are effective and the equipment will remain secured.

4. If the equipment remains stationary, consider the locomotive parking brakes effective to secure the equipment left standing.

5. Fully apply the independent brake and make a full service automatic brake pipe reduction.

6. If the equipment does not remain stationary, immediately notify the Manager Train Operations and arrange for an alternate means of securement or a different location to leave the train.

C-103. HAND BRAKE RELEASE

While checking train at initial terminal or along line-of-road, employees will see that all hand brakes are released. If painted hand brake chain links are not visible, then it must be determined if the hand brake is released. Painted links hidden from view is not an indication of a fully applied hand brake.

Hand brakes must be released before cars are moved unless necessary to control movement. When handling cars with air, the hand brakes must not be released until it is known that the air brake system is properly charged.

Many types of cars are equipped with a hand brake wheel or lever at more than one location on the car. When checking to determine if hand brakes are released on such cars, all locations must be observed.

C-107. RAPID DISCHARGE DUMP SYSTEM

(a) All dump system air hoses on trains consisting entirely of air-operate quick-dump (rapid discharge) hopper cars operating in unit train service, loaded or empty, must be coupled.

EXCEPTION: Unit trains received without dump system air hoses coupled may continue to a location designated by special instructions where the dump system air hoses will be coupled.

(b) Prior to departing any loading or unloading facility with an air-operated quick-dump (rapid discharge) unit coal train, loaded or empty, crews must ensure the locomotive cut-out cock is closed by cutting out the main reservoir hose connected to the dump line. The dump system will not be charged until the loaded train arrives at the unloading facility.