Memorandum

U.S. Department
of Transportation

**Federal Railroad
Administration**

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Reply to Attn of: **MP&E 10-01**

Subject: Technical Bulletin MP&E 10-01, Enforcement Guidance Regarding Securement of Equipment with Title 49 Code of Federal Regulations Section 232.103(n)

From: Edward W. Pritchard
Director, Office of Safety Assurance and Compliance

To: All Regional Administrators and Deputy Regional Administrators, Motive Power and Equipment (MP&E) and Operating Practices (OP) Specialists, Chief Inspectors, Railroad Safety Oversight Managers, State Program Managers, and all Federal and State MP&E and OP Inspectors

The purpose of this technical bulletin (TB) is to provide inspectors with guidance in the application of Title 49 Code of Federal Regulations (CFR) Section 232.103(n), *Securement of unattended equipment.* A recent Railroad Safety Board ruling reiterates that the application of no hand brakes on unattended equipment will not meet the securement requirements of 49 CFR 232.103. However, the Federal Railroad Administration (FRA) recognizes that it is necessary to have unsecure equipment at times in the switching of trains within classification yards. Therefore, this TB provides guidance in railroad usage of alternate forms of securement including where they may be appropriate and what constitutes effective use of alternate forms of securement. It also provides guidance in the application of securement on repair tracks.

Title 49 CFR 232.103(n) addresses the securement of unattended equipment by means of applying hand brakes, venting the brake pipe to zero and leaving the angle cock open on one end of a cut of cars, and requiring the railroad to develop and implement procedures to verify that the equipment is secure. Unattended equipment is equipment left standing and unmanned in such a manner that the brake system of the equipment cannot be readily controlled by a qualified person. When assessing this situation for compliance, the inspector should take into account the following factors:

- Can an individual take corrective action if the equipment should start to roll away?
- Can the individual readily mount the car and apply the hand brake, or can the individual safely open an angle cock should the equipment start to roll away?
- Can the individual readily mount the locomotive and either apply the hand brake or operate the brake handles or emergency brake valve to stop the unexpected movement?
- Is a qualified person focused on the situation?
  - If the individual is eating lunch or in the bathroom, full attention is not being given to the equipment.
  - If the individual is in a crew room or talking on the phone, full attention is not being given to the equipment.

If an engineer and crew get off of their train to watch a passing train, and remain in close proximity to their locomotive consist, hand brakes would not have to be applied on the locomotives as long as someone is close enough to readily mount the locomotive and apply an emergency brake or hand brake, should the locomotives or train start to roll away. If the engineer and crew get off their train and position themselves with the passing train between them and their train, hand brakes have to be applied, as their train would be considered unattended.

FRA will not take exception to a train crew cutting away from a cut of cars, initiating an emergency brake application on the cut of cars, and then closing the angle cock for the sole purpose of taking the locomotives to the opposite end of the cut of cars to either: (1) couple the locomotives to the cars or (2) open the angle cock at the other end and leave the angle cock open and vented to the atmosphere, as required under 49 CFR 232.103(n)(2). However, if the locomotive cuts away from the cars and closes the angle cock without going "directly" to the other end to either open the angle cock or couple the locomotives to the cars, the railroad would be in violation of 49 CFR 232.103(n)(2). The emphasis is on **"directly"** because even though it may be the train crew's intent to go directly to the opposite end of the cars to take the appropriate action, if a train dispatcher, or whoever, directs the crew to perform another job task before they directly go to the opposite end of the cars, a violation is committed. It is only with the understanding that the train crew goes directly to the other end of the cars to take the appropriate action that FRA will permit this type of activity.

Paragraph (n)(1) of 49 CFR 232.103 includes a performance-based requirement that a sufficient number of hand brakes be applied to hold the equipment and that railroads have to develop and implement a process or procedure to verify that the applied hand brakes will sufficiently hold the equipment when the air brakes are released. This requires a railroad to develop appropriate operating rules to verify the sufficiency of the hand brakes applied, which can be tailored to the specific territory and equipment operated by the railroad. This can be as elaborate as the use of a sophisticated matrix or some other type of "set calculations" that specify exactly how many hand brakes have to be applied on specific numbers of cars; or it can be as simple as having the engineer release the pneumatic brakes after the hand brakes have been applied (and before uncoupling from

the cars), to determine if the equipment is secure. To simply have instructions that state "a sufficient number of hand brakes have to be applied" does not satisfy the intent of the regulation, unless there is the provision that the pneumatic brake has to be released to determine the equipment is secure. When observing this practice, it is important that the pneumatic brakes fully release. This can be accomplished by observing piston travel on the rearmost car, or observing and ensuring that the end-of-train brake pipe pressure returns to its original setting

Unless alternate forms of securement are permitted (as discussed below), it is FRA's enforcement policy that one or more hand brakes will have to be applied to a car in order to sufficiently secure equipment in accordance with the regulation. The application of *no hand brakes* on a car or a block of unattended freight cars *will not meet the securement requirements* of 49 CFR 232.103(n).

Unattended equipment in hump classification yards, classification yards with bowl tracks, or flat switching classification yards present situations where alternate forms of securement are allowed. In these situations, *skates* and *retarders* are considered securement, if they are used *within their design criteria* and *as intended*. Local conditions such as grades, prevailing winds, and possible severe weather should be considered by the railroad in developing its instructions for using alternate forms of securement. The burden of proof is on the railroad in the use of alternate securement. If alternate securement is not effective, securement defaults to the application of a sufficient number of hand brakes.

- A *skate* (or *rail skid*) is a portable sliding device placed on the rail to engage with a car wheel so as to provide continuous braking by sliding friction.

The following applies for the use of skates:

- The railcar shall be constructively placed at rest, *fully engaged*, with at least one skate, preventing movement away from the actively switched direction of the yard track (Fig. 1).
- Unengaged skates placed near the clearance points of yard tracks (without a railcar in place) are *not* considered securement (Figs. 2 and 3).
- A single railcar secured by a skate that is overwhelmed by the mass of following railcars shall be considered the same as an insufficient quantity of hand brakes, and a violation may be taken.

Figure 1. Skate is engaged.

Figure 2. Skates at clearance points. Noncompliant for securement.

Figure 3. Skate is not engaged. Noncompliant for securement.

- A *retarder* is a braking device, powered or unpowered, permanently built into a railway track to reduce the speed or secure railcars by means of brake shoes that press against the lower sides of railcar wheels. When installed at the exit of a hump yard, they are often referred to as *inert retarders* or *skate retarders* (not to be confused with a *skate* defined earlier). It is not necessary to have the first car in each block engaged by the retarder during active switching (Fig. 4).

Figure 4. Inert retarder is engaged.

- If a railcar or following railcars are switched into a retarder in a manner that overwhelms the capacity of the device, it shall be considered the same as an insufficient quantity of hand brakes, and a violation may be taken.

- Unengaged skates may be placed after retarders to provide additional safety in the event that a retarder is overwhelmed; however, inspectors should use discretion in assessing these skates. If skates are being engaged excessively, the retarders are being overwhelmed or are not being maintained, and a violation may be taken.

In hump classification yards, classification yards with bowl tracks, or flat switching classification yards, securement is not required for the end of the yard that is actively being switched and is attended by the switch crew or hump tower operator. At these locations, FRA does not require securement for cars or blocks of cars on the yard tracks, as long as the equipment on the opposite end of those tracks being actively switched are secure. If the operations at these locations do not work 24/7, then the equipment at each end of the track would have to be secured, but cars in between the secured equipment would not have to be secured. At these locations, if a train crew removes a car or block of cars, the railroad shall have instructions in place to ensure any car remaining in the track is secure. This could be accomplished by either placing the burden on the train crew making the pickup, or by having carmen in place to secure the remaining equipment. Inspectors should routinely monitor their inspection territories for compliance with the railroad's instructions.

At all other locations outside of actively switched yards, such as sidings, storage yards, or the mainline; each car and/or each individual block of unattended equipment must be secure in compliance with the regulation.

Discretion must be exercised when applying securement enforcement within locomotive and car repair track areas, as the alternate methods of Blue Signal Protection (49 CFR 218.29) are the primary methods of ensuring safety in these areas. However, once repair tracks become unattended and the blue signals are removed, securement will be required in these areas subject to the limitation that under certain repair and servicing situations it will be impractical or unnecessary to require the application of a hand brake.

If there are any other questions or concerns in the application of securement, please contact the Staff Director of the MP&E Division in the Office of Safety Assurance and Compliance at (202) 493-6241.