

no safety sense. FRA agrees that such an exclusion is reasonable, and as explained further the final rule includes the caveat that a change-of-direction alarm or rearward viewing device needs to add some value to the operational safety of the machine, given its function on the roadway. In other words, an employer does not have to retrofit an existing on-track roadway maintenance machine with either a change-of-direction alarm or a rearward viewing device if the machine's design or function is such that a retrofit of this nature would provide no safety value. However, FRA will presume that all existing on-track roadway maintenance machines may be retrofitted with either device in such a way that safety is enhanced. An employer who reaches a different conclusion about retrofitting a particular machine will have to demonstrate, if asked by FRA, that such a retrofit would not improve safety.

Under paragraph (b), an existing on-track roadway maintenance machine covered by this section must also have an operative heater when the ambient temperature is less than 50 degrees Fahrenheit, if the machine is or has been equipped with a heater. Roadway workers typically dress in seasonal clothes appropriate to perform work outdoors, unlike locomotive cab employees who expect to spend most of the workday inside the cab of a locomotive. Therefore, the threshold ambient temperature may be as low as 49 degrees Fahrenheit before triggering the requirement for an operative heater in a roadway maintenance machine.

In preparing the final rule, FRA modified the text of paragraph (b) to make clear that this requirement applies to machines that have previously been equipped with heaters that have since been removed. Heaters that have been removed must be reinstalled. Further, FRA has removed the text that limited the application of this section to heaters equipped by the manufacturers of the on-track roadway maintenance machines. Heaters could have been installed after the machines were manufactured, and it is not evident why heaters installed after manufacturer should not be subject to the requirements of this paragraph.

Paragraph (c) requires that the light weight of an existing on-track roadway maintenance machine covered by this section be stenciled or otherwise clearly displayed on the machine, if the light weight is known. The light weight of a machine is calculated when the machine is not loaded with passengers or extraneous equipment not part of the machine itself. It should be displayed in a conspicuous location on the machine.

The light weight will identify the machine's proper category for the purposes of this regulation, as well as provide essential information to crane operators in the event the machine is lifted on to—or loaded off of—a flatbed truck or rail car for movement from one work site to another. FRA received no comment on the proposed requirement; therefore, paragraph (c) remains as proposed.

Paragraph (d) requires existing on-track roadway maintenance machines covered by this section to be retrofitted with operable brake lights or other reflective devices or material, if not already so equipped. The purpose of this requirement is to enhance the visibility of a machine to operators of other machines and to other rail traffic. FRA received no comment on the proposed requirement; therefore, paragraph (d) remains as proposed.

Paragraph (e) of the NPRM proposed that existing on-track roadway maintenance machines covered by this section be equipped with safety glass when glass is normally replaced on the machines. Because there may be a large number of existing roadway maintenance machines that do not have safety glass, FRA's approach in this paragraph is to enhance the safety of the roadway maintenance machines without creating an onerous burden in retrofitting such existing machines with safety glass. It is not the intent of the regulation to require employers to immediately replace all the glass on all existing machines covered by this section. Rather, the existing glass may remain in place until such time as it would normally be replaced, and then it must be replaced with safety glass. However, if the employer has on hand as of the effective date of this rule replacement glass that is other than safety glass and is specifically intended for use on these machines, the employer may utilize the supply of that replacement glass until it is exhausted.

Although the proposed rule did not specify standards for safety glass, FRA requested comment as to whether the final rule should include specific standards, such as requirements similar to those delineated in 49 CFR part 223 (Safety Glazing Standards) for passenger rail cars, locomotives, and cabooses. Commenters responding to this request were unanimous in believing that this final rule should not require standards similar to those contained in the Safety Glazing Standards. The AAR and Loram suggested that if any safety glass standards were set, or recommendations made, they should be restricted to automotive safety glass or its equivalent, such as Lexan. The AAR pointed out

that not all roadway maintenance machines have the structural strength to accommodate the type of glass required under 49 CFR part 223. The BMW concurred, stating that a similar OSHA standard at 29 CFR 1926.600(a)(5) requires safety glass "or equivalent." The BMW also stated that manufacturers likely follow ANSI recommendations for safety glass. After discussing these comments, the Task Group recommended that FRA not change the requirement as proposed in the NPRM. FRA has elected to follow that recommendation and paragraph (e) remains as proposed. As noted, OSHA has a similar requirement that is no more specific, and FRA does not believe that additional requirements are necessary at this time.

Paragraph (f) of the proposed rule stated that an existing roadway maintenance machine covered by this section that is equipped with a turntable must have a turntable restraint device, such as an arrangement of pins and hooks designed to prevent an undesired lowering of the turntable device, or a warning light that would indicate to the machine operator that the turntable device is not in a normal travel position. In commenting on this proposal and its counterpart for new on-track roadway maintenance equipment in § 214.507, Loram stated that the proposed rule neglected to address other types of roadway maintenance equipment that may also encroach on the track area below the rail. As explained above in the discussion of § 214.507, FRA has not adopted Loram's comment. Yet, as a separate matter, FRA has revised paragraph (f) to make clear that the paragraph applies only to those machines equipped with turntables.

In paragraph (g) of the NPRM FRA proposed to require handholds, handrails, or a secure seat or bench for each roadway worker transported on an existing roadway maintenance machine subject to the requirements of this section. FRA also noted that it was considering specifying regulatory standards for these handholds, handrails, seats and benches, and sought comment on the need for such additional standards. None of the commenters favored the addition of such standards. The AAR stated that the wide variety of roadway maintenance machines would make it very difficult to design standards suitable for all machines, and that standards for handholds and other such safety appliances on freight cars would not be appropriate because roadway maintenance machines are typically constructed of much thinner metal. Without stating a belief that such