

(c) Each employer shall have in place and follow written procedures to assure prompt and equitable resolution of challenges resulting from good-faith determinations made in accordance with this section. The procedures shall include specific steps to be taken by the employer to investigate each good-faith challenge, as well as procedures to follow once the employer finds a challenged machine or vehicle does not comply with this subpart or is otherwise unsafe to operate. The procedures shall also include the title and location of the employer's designated official.

**§ 214.505 Required environmental control and protection systems for new on-track roadway maintenance machines with enclosed cabs.**

(a) The following new on-track roadway maintenance machines shall be equipped with enclosed cabs with operative heating systems, operative air conditioning systems, and operative positive pressurized ventilation systems:

- (1) Ballast regulators;
- (2) Tampers;
- (3) Mechanical brooms;
- (4) Rotary scarifiers;
- (5) Undercutters; and

(6) Functional equivalents of any of the machines identified in paragraphs (a)(1) through (a)(5) of this section.

(b) New on-track roadway maintenance machines, and existing on-track roadway maintenance machines specifically designated by the employer, of the types identified in paragraphs (a)(1) through (a)(5) of this section, or functionally equivalent thereto, shall be capable of protecting employees in the cabs of the machines from exposure to air contaminants, in accordance with 29 CFR 1910.1000.

(c) An employer shall maintain a list of new and designated existing on-track roadway maintenance machines of the types identified in paragraphs (a)(1) through (a)(5) of this section, or functionally equivalent thereto. The list shall be kept current and made available to the Federal Railroad Administration and other Federal and State agencies upon request.

(d) An existing roadway maintenance machine of the type identified in paragraphs (a)(1) through (a)(5) of this section,

or functionally equivalent thereto, becomes "designated" when the employer adds the machine to the list required in paragraph (c) of this section. The designation is irrevocable, and the designated existing roadway maintenance machine remains subject to paragraph (b) of this section until it is retired or sold.

(e) If the ventilation system on a new on-track roadway maintenance machine or a designated existing on-track roadway maintenance machine of the type identified in paragraphs (a)(1) through (a)(5) of this section, or functionally equivalent thereto, becomes incapable of protecting an employee in the cab of the machine from exposure to air contaminants in accordance with 29 CFR 1910.1000, personal respiratory protective equipment shall be provided for each such employee until the machine is repaired in accordance with § 214.531.

(f) Personal respiratory protective equipment provided under paragraph (e) of this section shall comply with 29 CFR 1910.134.

(g) New on-track roadway maintenance machines with enclosed cabs, other than the types identified in paragraphs (a)(1) through (a)(5) of this section or functionally equivalent thereto, shall be equipped with operative heating and ventilation systems.

(h) When new on-track roadway maintenance machines require operation from non-enclosed stations outside of the main cab, the non-enclosed stations shall be equipped, where feasible from an engineering standpoint, with a permanent or temporary roof, canopy, or umbrella designed to provide cover from normal rainfall and midday sun.

**§ 214.507 Required safety equipment for new on-track roadway maintenance machines.**

(a) Each new on-track roadway maintenance machine shall be equipped with:

(1) A seat for each operator, except as provided in paragraph (b) of this section;

(2) A safe and secure position with handholds, handrails, or a secure seat for each roadway worker transported on the machine. Each position shall be

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protected from moving parts of the machine;

(3) A positive method of securement for turntables, on machines equipped with a turntable, through engagement of pins and hooks that block the descent of turntable devices below the rail head when not in use;

(4) A windshield with safety glass, or other material with similar properties, and power windshield wipers or suitable alternatives that provide the operator an equivalent level of vision if windshield wipers are incompatible with the windshield material;

(5) A machine braking system capable of effectively controlling the movement of the machine under normal operating conditions;

(6) A first-aid kit that is readily accessible and complies with 29 CFR 1926.50(d)(2); and

(7) An operative and properly charged fire extinguisher of 5 BC rating or higher which is securely mounted and readily accessible to the operator from the operator's work station.

(b) Each new on-track roadway maintenance machine designed to be operated and transported by the operator in a standing position shall be equipped with handholds and handrails to provide the operator with a safe and secure position.

(c) Each new on-track roadway maintenance machine that weighs more than 32,500 pounds light weight and is operated in excess of 20 mph shall be equipped with a speed indicator that is accurate within  $\pm 5$  mph of the actual speed at speeds of 10 mph and above.

(d) Each new on-track roadway maintenance machine shall have its as-built light weight displayed in a conspicuous location on the machine.

**§214.509 Required visual illumination and reflective devices for new on-track roadway maintenance machines.**

Each new on-track roadway maintenance machine shall be equipped with the following visual illumination and reflective devices:

(a) An illumination device, such as a headlight, capable of illuminating obstructions on the track ahead in the direction of travel for a distance of 300

feet under normal weather and atmospheric conditions;

(b) Work lights, if the machine is operated during the period between one-half hour after sunset and one-half hour before sunrise or in dark areas such as tunnels, unless equivalent lighting is otherwise provided;

(c) An operative 360-degree intermittent warning light or beacon mounted on the roof of the machine. New roadway maintenance machines that are not equipped with fixed roofs and have a light weight less than 17,500 pounds are exempt from this requirement;

(d) A brake light activated by the application of the machine braking system, and designed to be visible for a distance of 300 feet under normal weather and atmospheric conditions; and

(e) Rearward viewing devices, such as rearview mirrors.

**§214.511 Required audible warning devices for new on-track roadway maintenance machines.**

Each new on-track roadway maintenance machine shall be equipped with:

(a) A horn or other audible warning device that produces a sound loud enough to be heard by roadway workers and other machine operators within the immediate work area. The triggering mechanism for the device shall be clearly identifiable and within easy reach of the machine operator; and

(b) An automatic change-of-direction alarm which provides an audible signal that is at least three seconds long and is distinguishable from the surrounding noise. Change of direction alarms may be interrupted by the machine operator when operating the machine in the work mode if the function of the machine would result in a constant, or almost constant, sounding of the device. In any action brought by FRA to enforce the change-of-direction alarm requirement, the employer shall have the burden of proving that use of the change-of-direction alarm in a particular work function would cause a constant, or almost constant, sounding of the device.