American Railway Engineering and Maintenance of Way Association
Letter Ballot

1. **Committee and Subcommittee:** Committee 5 Track, Subcommittee 7 - Track Construction and Maintenance

2. **Letter Ballot Number:** 05-21-10

3. **Ballot Item:** Review and update of Section 5.7 - Track tamping

4. **Rationale:** This ballot updates both Section 5.7.1 and 5.7.2 by adding instruction on maximum insertion depth of tamping tools, clarification on steel tie tamping requirements, recommendation on lining and surfacing track, tools to be leveraged for spot surfacing and recommendation for dynamic track stabilization.

SECTION 5.7 TAMPING (2023)

5.7.1 TAMPING TOOLS (2023)

a. Tamping tools should be inspected and have sufficient head and face area, based on manufacturer's specifications, to compact ballast under the tie and should be repaired or replaced when worn.

b. Tamping tools should be chosen on the basis of their durability, availability, type of ballast to be tamped, and the amount of ballast to be placed under the tie.

c. Maximum insertion depth of the tamping tools must be adjusted for the type of tie being tamped. The top of the tamping tool paddle should be 1/2" to 3/4" below the bottom of the tie.

5.7.2 METHODS OF TAMPING (2023)

a. Tamping tools should be inserted simultaneously on opposite sides of the same tie to prevent the tie from cocking, to ensure that the ballast under the tie is completely compacted and that the rail is firmly seated on the tie plate.

b. When using power tampers in tandem, the machines should be of the same type and have identical tamping heads to produce uniform compaction.

c. In all tamping, except for steel ties, ties should be tamped from 12 inches inside of the rail to the end of the tie. Tamping should not be permitted at the center of the tie to avoid centerbound track. Steel ties require tamping at the rail seat and at the center of the tie. Additional tamping tools can be added to the work heads in order to tamp the centers of the steel ties. Inspection holes within steel ties facilitate validating adequate ballast presence.

d. Regardless of the kind of ballast or the kind of power tamper used, two tamping tools should always be worked opposite each other on the same tie.

e. Lining track should be done while lifting and tamping and should be completed prior to the final surfacing lift to sustain achieved compaction. On the final lift, the track should be raised to the desired elevation, including superelevation in curves if any, and the ties tamped to a tight bearing against both rails.

f. For spot tamping, tamping picks, ballast forks, ballast spades, shovels, tamping bars, or power tampers may be used.

g. After all tamping operations, the cribs must be properly filled in and the track finished/regulated in accordance with the standard ballast section.

h. Depending on operating requirements, dynamic track stabilization should be employed to minimize temporary speed restrictions.