# SAFETY BULLETIN
# 2024-02

**SUBJECT:   Positive Train Control Error and Malfunction –** Train May Not be Protected

The Federal Railroad Administration (FRA) is currently investigating an updated notification it received on February 6, 2024, under Title 49 Code of Federal Regulations (CFR) 236.1023, *Errors and malfunctions*, about a software defect present in the Interoperable Electronic Train Management System's (I-ETMS) onboard software.  The software defect may cause a speed restriction within a zone not to be enforced by the positive train control (PTC) system (referred to in this Safety Bulletin as the "exclusion zone").  FRA understands that this software defect was found during lab testing and has not yet occurred in the railroad operating environment.  Further, given the unique series of circumstances that must occur for this defect to materialize, the risk associated with this software defect is considered low at this time.

The industry's fix for this software defect is currently in process.  Until this fix is fully implemented by the railroad industry, FRA reminds railroads that the supplier of the onboard I-ETMS software recommends that railroads operating I-ETMS immediately implement the following short-term mitigations to ensure safe PTC operations:

- Instruct crews, once PTC location and direction of travel is established, to avoid manually changing the train's direction of travel through the "Select Direction" soft key when over, or immediately adjacent to, a switch; and
- If necessary to change the train's direction through the "Select Direction" soft key, cut out the PTC system and re-initialize it with the correct timetable direction.  This would allow the onboard system to re-acquire the status of the switch under the train and remove the exclusion zone.

In addition, as a reminder, crews should be aware of this software defect and understand that when the train transitions to an exclusion zone, all track within the exclusion zone will be colored gray on the I-ETMS onboard display.

These recommendations apply to any railroad operating the following I-ETMS onboard software versions:  6.3.20.0 – 6.3.24.6, 6.5.2.1 – 6.5.2.4, 6.5.3.0, and 6.5.4.0, and I-ETMS Protect onboard software versions 7.0.2.1 and earlier.

The purpose of this Safety Bulletin, which is informal in nature, is to ensure the railroad industry, including railroad employees and contractors, are aware of this safety-relevant software defect and to remind railroads to brief their employees and contractors about the specific short-term mitigations recommended by the applicable I-ETMS supplier.

For further information, please contact Calvin Viser, PTC Deputy Staff Director, at calvin.viser@dot.gov or (630) 338-2762.

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