

ENGINEERING ACCEPTANCE - TECHNICAL NOTE

Subject: Train Protection Warning System TPWS 'First of Class' test

Advice to: CCBs and VABs

Reference: Standard: GE/RT8030 Issue: 2 Part C, Clause C4.7

Applies when: Assessing the interface requirements of the train sub-systems.

Note's Purpose: To provide clarification on the 'first of class' test to satisfy the requirements of the standard.

Background: The purpose of the 'first of class' test is to check that a design of TPWS installation complies with the requirements of GE/RT8030 issue 2 when installed on a particular design of train. There is therefore a requirement to conduct a 'first of class' test installation check only once per class, unless installation arrangements change over different sub-classes.

The test should verify that the equipment works to the limits specified in the standard. In particular that the TPWS on-board equipment responds to the appropriate arming and trigger frequencies over the full range of operating limits, including all static and dynamic movements of the train.

Requirements: The responsibility of the CCB and EA signatories is to verify that the TPWS train sub system is:

- 1) Able to detect TPWS loop frequencies under all vehicle static and dynamic conditions
- 2) Able to maintain an adequate field strength margin at the Train Stop boundary under worst case conditions, including minimum loop drive, loop at maximum depth, maximum train aerial height and offset, minimum control unit and aerial sensitivity. In those circumstances when the tests to predict the worst case margin are not conclusive, an additional test may be required using a Buffer Stop Mini-Loop.

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