

Chiltern Route Train Protection - Railway Safety Regulations 1999 Exemption Operational Safety Plan

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1 Executive Summary

Network Rail and Chiltern Railways are applying for an Exemption to the Railway Safety Regulations 1999 (RSR99) for the removal of SELCAB ATP due to system obsolescence. This is justified by the roll out of Enhanced TPWS and an on-train upgrade of TPWS.

This Operational Safety plan details how the train protection risk mitigated by SELCAB ATP will be managed during the Exemption period from January 2023 to December 2027. During this period the plan is to operate with Enhanced TPWS and have fully removed SELCAB ATP from service.

This Operational Safety plan supports the Exemption report (Reference Document 1)

For the area covered by the Exemption application this operational safety plan contains commitments from both Chiltern Railways and Network Rail to:

1. Jointly assess and manage train protection risk
2. Jointly agree removal of SELCAB ATP.
3. Maintain the Enhanced TPWS infrastructure.
4. Apply Enhanced TPWS infrastructure to any changes.
5. Maintain the on-train TPWS equipment across the Chiltern Railways fleet as Mk4 TPWS.
6. Review train protection arrangements near the end of the Exemption period to determine whether a further exemption is required.

2 Definitions

ATP Automatic Train Protection
ALARP As Low as Reasonably Practicable
ETCS European Train Control System
DfT Department for Transport
ORR Office of Rail and Road
RSR99 Railway Safety Regulations 1999
SORAT Signal Over-Run Assessment Tool
SPAD Signal Passed at Danger
TPWS Train Protection & Warning System

3 Reference Documents

1. Chiltern Route Train Protection -Railway Safety Regulations 1999 Exemption Application Report, Network Rail, April 2020.
2. GE/RT8000, Rule Book, RSSB, December 2019.

4 Introduction

Network Rail and Chiltern Railways are applying for an Exemption to the Railway Safety Regulations 1999 (RSR99) for the removal of SELCAB ATP due to system obsolescence. This is justified by the roll out of Enhanced TPWS and an on-train upgrade of TPWS.

This Operational Safety plan supports the main Exemption report (Reference Document 1). The Operational Safety plan details how the train protection risk mitigated by SELCAB ATP will be managed during the Exemption period. This is the period from January 2023 to the end of Exemption in December 2027 when Enhanced TPWS will be fully operational and SELCAB ATP will be removed from service.

A key milestone is the point at which SELCAB ATP will be withdrawn from service and the equipment can be removed from the trains and infrastructure. This plan includes the criteria for this decision.

5 Operational Safety Plan

5.1 Train Protection System Operation

No additional controls are required when operating with Enhanced TPWS.

Controls for operation with TPWS are covered in Railway Rule book GE/RT8000 (Reference Document 2) and other group standards.

The Chiltern route will operate in accordance with these requirements during the Exemption period.

5.2 Train Protection Risk Monitoring

Network Rail and Chiltern Railways will meet annually as a minimum to monitor the train protection risk on the Chiltern route. This meeting shall determine the train protection risk profile and propose any additional controls or interventions that are required to manage the risk to ALARP level. The meeting shall consider:

1. Whether the modelling assumptions in the Exemption are still valid.
2. Train Protection precursor incidents such as SPADS, adverse SORAT scores and adverse reliability of train protection equipment.

Network Rail and Chiltern will submit to the ORR the findings of this annual review.

5.3 SELCAB Removal from use

The decision when ATP is withdrawn from use will be made by Chiltern Railways and Network Rail in consultation with the ORR.

As a minimum the following conditions will need to be met to proceed with removal of the ATP system:

1. Enhanced TPWS infrastructure is largely commissioned across the current ATP area . (There are some locations where it is not possible to fit additional TPWS equipment without first de-commissioning the ATP equipment).
2. Train upgrade to Mk4 TPWS is complete across the Chiltern Railways fleet.
3. The CSM-REA process for ATP withdrawal for use is complete.

5.4 Changes to the Chiltern Fleet

Chiltern Railways commits that any fleet cascades or new fleets that it undertakes during the Exemption period will include Mk4 4 TPWS cab equipment to maintain the higher level of protection provided by this TPWS upgrade.

Important Note: The current Chiltern franchise terminates on 31st December 2021 and Chiltern Railways cannot commit a future franchisee, that is not Chiltern Railways, to make this commitment in the future franchise. However it is expected that the DfT/ORR may require this for any new franchisee.

5.5 Changes to the Network Rail Infrastructure

Network Rail commits that any changes to the infrastructure during the Exemption period will maintain the Enhanced TPWS fitment.

5.6 Exemption End Point

It is expected that after 2025 that there will be more clarity on the future of the Chiltern franchise, future fleet and the signalling on the route. This will allow the franchisee and Network Rail to consider whether a new Exemption is required and for how long.

6 Conclusion

This document presents the Operational Safety plan to support Network Rail and Chiltern Railways RSR99 Exemption application for the removal of SELCAB ATP from operation by the upgrade of on train TPWS equipment to Mk4 TPWS and the roll out of Enhanced TPWS on the existing SELCAB ATP infrastructure between London Marylebone and Aynho Junction.

This operational safety plan contains commitments from both Chiltern Railways and Network Rail to:

1. Jointly assess and manage train protection risk
2. Jointly agree removal of SELCAB ATP.
3. Maintain the Enhanced TPWS infrastructure.
4. Apply Enhanced TPWS infrastructure to any changes.
5. Maintain the on-train TPWS equipment across the Chiltern Railways fleet as Mk4 TPWS.
6. Review train protection arrangements near the end of the Exemption period to determine whether a further exemption is required.