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Certification of Rail Validation Equipment (POSTs)

1 Introduction

This document defines the Interim and likely future ITSO certification requirements for UK Rail Validation Equipment that are Fixed Devices and are to be used within a Closed System and with the functionality of an ITSO POST. This specifically relates to devices that are to be used on, or in conjunction with, devices on the UK National Rail Network.

It is up to the Supplier and/or Scheme Operator to determine if functionality over and above that specified here is required and to meet the requirements of RSP Accreditation. The Rail Validation equipment described encompasses validators and gates; it does not encompass the requirements for retailing POST equipment performing the sale of Shells or IPEs

Acronyms, Abbreviations and Definitions

TOC	Train Operating Company
ATOC	Association of Train Operating Companies
RSP	Rail Settlement Plan
LENNON	RSP System: <i>Latest Earnings Networked Nationally Over Night</i>
Closed System	A system where your ticket must be presented at the start and end of your journey.
Fixed Device	A device that is permanently mounted. Typically used on Station Platforms.
Interim Requirements	Those ITSO UK Rail Sector requirements pending changes to usage including TYP24 structure and Message Processing changes which are likely to be implemented with ITSO Specification v2.1.4.

2 ITSO Interim Rail Fixed Device Certification Requirements

Rail Validation Equipment shall be considered fully compliant with the Interim Rail Requirements, with respect to the Operating License and the Certification Process against version 2.1.3 of the ITSO specification if it meets or exceeds the following requirements:

2.1 Rail Validation Equipment shall be capable of recognising and processing ITSO Shells loaded onto all CMD. For the avoidance of doubt, individual schemes may choose to issue specific CMD with their own branding, but all POSTs must be capable of recognising and loading Products onto any CMD presented.

2.2 Rail Validation Equipment shall not be required to be able to create or delete ITSO shells, except where the Rail Validation Equipment is being used as a Personalisation POST.

2.3 Rail Validation Equipment shall be capable of recognising and identifying all IPEs from their directory entry.

2.4 Rail Validation Equipment shall be capable of recognising the following IPEs and where appropriate, processing usage by amending the IPE, as required by the ITSO Specification:

- Ticket IPEs TYP22 and 23
- All other IPEs shall be recognised but do not need to be processed.



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2.5 Additionally, Rail Validation Equipment performing the ITSO Operating License function of Product Retailing shall be capable of creating, and where appropriate deleting, the following IPEs:

- Ticket IPEs TYP22 and 23

2.6 For the avoidance of doubt, Rail Validation Equipment shall be capable of recognising all other IPEs but shall not be required to be capable of processing (i.e. create, update and delete), as required by the Specification.

2.7 For the avoidance of doubt, Rail Validation Equipment shall be capable of recognising and processing Action Lists and Hot Lists as required by the ITSO Specification.

2.8 For the avoidance of doubt, Rail Validation Equipment shall contain a minimum of one ISAM as defined by ITSO.

2.9 For the avoidance of doubt, Rail Validation Equipment shall be capable of correctly processing and utilising the Log and generating Transient Tickets according to the requirements of the ITSO Specification version 2.1.3 relating to UK Rail Processing.

2.10 Rail Validation Equipment shall not be required to be capable of generating and sending back office query messages.

2.11 Rail Validation Equipment, performing the ITSO Operating License function of Product Retailing, shall be capable of recognising and processing Auto Renew requests, including the [initial] setting up of Auto Renew functions. For the avoidance of doubt, the device should support the instruction to setup or modify Auto Renew. No User Interface is required as this request is constructed elsewhere in the Rail retail chain.

2.12 Rail Validation Equipment shall be compliant with all other requirements of version 2.1.3 of the Specification at the time of submission for Certification.

2.13 Rail Validation Equipment shall be considered suitable for certification if it transacts the benchmark transactions as described in the Specification Part 10

- For each CMD that meets or exceeds the target requirements (i.e. the transaction time is less than or equal to the target time for the CMD) in the Specification that CMD shall be certificated with no endorsement.
- For each CMD that fails to meet the target requirements but by less than a factor of two times the target transaction time (i.e. the transaction time fails to meet the requirements in (a) above but is less than two times the target time for that CMD) in the Specification shall be granted a certificate but that certificate will be endorsed with the transaction times.
- For the avoidance of doubt, equipment that fails to meet the target requirements by more than a factor of two times the benchmark transaction timing targets in the Specification for any CMD shall not be granted a certificate.

Detail is provided in Appendix 1.

3 Likely future ITSO Fixed Device Rail Certification Requirements

These requirements will be developed by the ITSO UK Rail Sector for approval by the ITSO Board and will replace the Interim Requirements. They are provided here solely for information purposes.

Rail Validation Equipment shall be considered compliant against the latest version of the ITSO Specification if it meets or exceeds the following requirements:

3.1 Rail Validation Equipment shall be capable of recognising and processing ITSO Shells



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loaded onto all CMD.

3.2 Rail Validation Equipment shall not be required to be able to create or delete ITSO shells, except where the Rail Validation Equipment is being used as a personalisation POST.

3.3 Rail Validation Equipment shall be capable of recognising and identifying all IPEs from their directory entry.

3.4 Rail Validation Equipment shall be capable of recognising the following IPEs and where appropriate processing usage by amending the IPE, as required by the Specification:

- Stored Travel IPE TYP2
- Ticket IPEs, TYP22, 23 and 24
- All ID and Entitlement IPEs TYP14,16
- All other IPEs shall be recognised but do not need to be processed.

3.5 Additionally, Rail Validation Equipment performing the ITSO Operating License function of Product Retailing shall be capable of creating, and where appropriate deleting, the following IPEs:

- Stored Travel IPE TYP2
- Ticket IPEs TYP22, 23 and 24

3.6 For the avoidance of doubt, Rail Validation Equipment shall be capable of recognising all other IPEs but shall not be required to be capable of processing (i.e. create, update and delete), as required by the Specification.

3.7 For the avoidance of doubt, Rail Validation Equipment shall be capable of recognising and processing Action Lists and Hot Lists as required by the ITSO Specification.

3.8 For the avoidance of doubt, Rail Validation Equipment shall contain a minimum of one ISAM as defined by the ITSO Specification.

3.9 For the avoidance of doubt, Rail Validation equipment shall be capable of correctly processing and utilising the Log and generating Transient Tickets according to the requirements of the latest version of the ITSO Specification relating to UK Rail Processing. In addition, the Rail Validation Equipment must also conform to the published processing requirements for a UK Rail Validation Device as agreed with ATOC/RSP.

3.10 Rail Validation equipment shall not be required to be capable of generating and sending back office query messages.

3.11 Rail Validation Equipment, performing the ITSO Operating License function of Product Retailing, shall be capable of recognising and processing the Auto Top Up requests, including the [initial] setting up of Auto Top Up. For the avoidance of doubt, the device should support the instruction to setup or modify Auto TopUp. No User Interface is required as this request is constructed elsewhere in the Rail retail chain.

3.12 Rail Validation Equipment, performing the ITSO Operating License function of Product Retailing, shall be capable of recognising and processing Auto Renew requests, including the [initial] setting up of Auto Renew functions. For the avoidance of doubt, the device should support the instruction to setup or modify Auto Renew. No User Interface is required as this request is constructed elsewhere in the Rail retail chain.



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3.13 Rail Validation Equipment shall be compliant with all other requirements of the version of the Specification current at the time of submission for Certification.

3.14 Rail Validation Equipment shall be considered suitable for certification if it transacts the benchmark transactions as described in the Specification Part 10 as follows:

- For each CMD that meets or exceeds the target requirements (i.e. the transaction time is less than or equal to the target time for the CMD) in the Specification that CMD shall be certificated with no endorsement.
- For each CMD that fails to meet the target requirements but by less than a factor of two times the target transaction time (i.e. the transaction time fails to meet the requirements in (a) above but is less than two times the target time for that CMD) in the Specification shall be granted a certificate but that certificate will be endorsed with the transaction times.
- For the avoidance of doubt, equipment that fails to meet the target requirements by more than a factor of two times the benchmark transaction timing targets in the Specification for any CMD shall not be granted a certificate.

Detail is provided in Appendix 2.



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Appendix 1: ITSO – Interim Certification Requirements: Detail

In addition to the ITSO Certification Requirements noted above, changes referenced from the ITSO specification are noted below.

With reference to Part 3 of the ITSO specification, the UK Rail Validator is required to support or otherwise the following:

#	Section	Description	Support Required
1.	2.1	Media	Full
2.	2.2	Platform	Full
3.	2.5	Data Entity Support	Full
4.	2.6	IPE Support	Only, , 22, 23,
5.	3.2	Mandated message set	Limited no 209 on check in
6.	3.3	Transmission methods and data formats	Extended. Required support for Full tag set XML and Transmission format as defined in ITSO TS 1000-9Error! Reference source not found.using HTTPS.
7.	3.4	Loss Less data transmission	Extended. Full support. Non-Mobile POSTs performing Validation Operations are required to be permanently connected to the HOPS network. Off-Line support is required in the event of network failure. The POST should operate for a minimum of 2 days without connectivity.
8.	4.	POST to ISAM Interface	Full
9.	5	Human Interface	Partial. Optional no Keyboard Support. Optional Varying Audio Indicator for Check-in , Check-out and error Indication.
10.	6.1	Media Handling	Partial. Supported as specified except the noted sub-sections below.
11.	6.1.1.1	Compact ITSO Shell Processing	Compact ITSO Shells are required to be recognised however they are not required to be processed.
12.	6.1.6.2	Throughput	Rail Validation Equipment is to have a minimum throughput of 1 transaction per second.
13.	6.2	IPE handling	Partial. Supported as specified except the noted sub-sections below.
14.	6.2.2	IPE Instance Creation	Extended. Rail Validation Equipment is required to support IPE instance creation via actionlist.
15.	6.2.5	Auto-Renew	Extended. Rail Validation Equipment is required to support Auto-Renew.
16.	6.2.6	Stored Travel Rights Processing	Excluded



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#	Section	Description	Support Required
17.	6.3	Message generation and processing	Extended. Transaction Session batches are to remain open no longer than 30 hours
18.	6.4	Configuration Handling	Extended. Hotlist and Actionlist storage shall not utilise ISAM storage. Hotlist or Actionlist storage shall cater for a minimum of 50,000 records each. Actionlist Searching by IPE Reference is not supported. POST Operator Notifications are not required.
19.	Annex A	Product selection by Customer Media holder required	Not supported



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Appendix 2: ITSO – Full Certification Requirements: Detail

In addition to the ITSO Certification Requirements noted above, changes referenced from the ITSO specification are noted below.

With reference to Part 3 of the ITSO specification, the UK Rail Validator is required to support or otherwise the following:

#	Section	Description	Support Required
20.	2.1	Media	Full
21.	2.2	Platform	Full
22.	2.3	AFI	Full
23.	2.5	Data Entity Support	Full
24.	2.6	IPE Support	Only, 2, 14, 16, 22, 23, 24
25.	3.2	Mandated message set	Full
26.	3.3	Transmission methods and data formats	Extended. Required support for Full tag set XML and Transmission format as defined in ITSO TS 1000-9 Error! Reference source not found. using HTTPS.
27.	3.4	Loss Less data transmission	Extended. Full support. Non-Mobile POSTs performing Validation Operations are required to be permanently connected to the HOPS network. Off-Line support is required in the event of network failure. The POST should operate for a minimum of 2 days without connectivity.
28.	4.	POST to ISAM Interface	Full
29.	5	Human Interface	Partial. Optional no Keyboard Support. Optional Varying Audio Indicator for Check-in , Check-out and error Indication.
30.	6.1	Media Handling	Partial. Supported as specified except the noted sub-sections below.
31.	6.1.1.1	Compact ITSO Shell Processing	Compact ITSO Shells are required to be recognised however they are not required to be processed.
32.	6.1.6.2	Throughput	Rail Validation Equipment is to have a minimum throughput of 1 transaction per second.
33.	6.2	IPE handling	Partial. Supported as specified except the noted sub-sections below.
34.	6.2.2	IPE Instance Creation	Extended. Rail Validation Equipment is required to support IPE instance creation via actionlist.
35.	6.2.5	Auto-Renew	Extended. Rail Validation Equipment is required to support Auto-Renew.
36.	6.2.6	Stored Travel Rights Processing	Optional
37.	6.3	Message generation and	Extended. Transaction Session batches are to



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#	Section	Description	Support Required
		processing	remain open no longer than 30 hours
38.	6.4	Configuration Handling	Extended. Hotlist and Actionlist storage shall not utilise ISAM storage. Hotlist or Actionlist storage shall cater for a minimum of 50,000 records each. Actionlist Searching by IPE Reference is not supported. POST Operator Notifications are not required.
39.	Annex A	Product selection by Customer Media holder required	Not supported

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