PRINOS

Interface Description:
Reception of TAF TSI Train Composition Message (TCM)

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Bremen Port Railway

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PRINOS
Port Railway Information and Operating System

1 General

The Bremische Hafeneisenbahn (BHE) requires data on the composition, loading and sequence of the arriving and departing trains for effective scheduling of its track infrastructure and for operational safety issues. The obligation to provide this data by railway undertakings is or will be part of the special part of the BHE Terms of Use for Service Facilities (NBS-BT).

In addition to the option of delivering data via BHE's own PRINOS customer portal, BHE offers its customers the option of transferring data based on the TAF TSI (EU Regulation 1305/2014 "Technical Specification for Interoperability - Telematics Applications for Freight (TAF TSI)") in the form of a Train Composition Message (TCM).

Message format and content correspond to the specifications of the TAF TSI. Until probably December 2023 (timetable change), the train number is to be used for identification in the messages, after which the TAF/TAP identifier is to be used. The possibility of further use of the train number as well as the exact modalities and migration concepts are to be coordinated timely. In this respect BHE is orientated towards the schedule of DB Netz AG for the implementation of TAF TSI.

The BHE intends to extend receiving TCM later by introducing the VDV publication 464 "Standardisierter Datenaustausch zwischen Eisenbahnverkehrsunternehmen und Eisenbahnen öffentlicher Häfen (als Eisenbahninfrastrukturunternehmen) bei Vormeldungen von Zügen und Rangierfahrten in/aus See- und Binnenhäfen (EöH-IT-Schnittstelle) - EIS".

2 Common Interface

The BHE receives TAF TSI messages exclusively via its own Common Interface (CI) integrated in PRINOS, which covers the functions of the CI required by the TAF TSI. In this respect, it meets the requirements of the document TAF TSI - ANNEX D.2: APPENDIX E - COMMON INTERFACE (ERA-TD-104) in the final version 2.5.0 of December 15, 2020 (https://www.era.europa.eu/sites/default/files/filesystem/taf/technical_documents/baseline_2.5.0/era_technical_document_taf-td-104_d_2_appendix_e.pdf).

For encrypted communication with the BHE Common Interface, the customer requires an X.509 certificate.

3 Setting up the customer interface

The following information must be communicated with the BHE before the start of data exchange via the common interface:

1. TAF TSI Company ID (assigned by the UIC Union Internationale des chemins de fer)
2. IP address or a public DNS resolvable hostname
3. Contact person (operational/technical)

The interface for sending the TCM to the BHE Common Interface is to be provided and set up by the customer. Use https as the transport protocol (port 443 by default).

4 Content of messages

The message content corresponds to the European specifications of the TAF TSI. A detailed description can be found in the European "TAP TSI and TAF TSI Sector Handbook for the Communication between Railway Undertakings and Infrastructure Managers (RU/IM Telematics Sector Handbook)" in the version of October 29, 2020. It is published on the RU/IM Telematics Joint Sector Group website (http://taf-jsg.info/).

The message scheme 3.0.2.0 ("TAF TSI XSD scheme") applies. The scheme and the relevant technical document "TAF TSI - ANNEX D.2: APPENDIX F - TAF TSI DATA AND MESSAGE MODEL" in the version of December 15, 2020 can also be found on the website of the RU/IM Telematics Joint Sector Group (http://taf-jsg.info/).

The customer provides BHE with the data elements listed in Appendix 2. The fields marked in the "Optional" column should be reported by the customer where applicable, but are not mandatory.

The BHE will not reject TAF TSI-compliant message content that goes beyond the scope defined in Appendix 2, but will not process it either.

The BHE will not process messages that are not compliant with the TAF TSI, but will send the sender a negative acknowledgment ("NACK"). Separate error messages ("Error Messages") are not sent.

5 Sending messages

The TAF TSI provides for the specification of a route section (journey section) within the TCM. The following cases are possible for sending the TCM to the BHE:

1. **train journey** begins or ends in BHE operating points, the message refers to the journey section from or to this operating point (see Appendix 1).
2. If infrastructure areas of the BHE are used by a **shunting movement** from or to a DB Netz AG transfer station (see Appendix 1), the BHE receives the TCM for the journey section of the train journey from or to this transfer station. If the composition of this shunting movements in the WagonData data area (see Appendix 2) deviates from the transmitted TCM, the customer immediately corrects the data manually in the PRINOS customer portal.
3. In order to enable an overall scheduling of the Bremerhaven Seehafen railway station coordinated with DB Netz AG, the BHE customer also sends the TCM for all train journeys to or from the **Bremerhaven - Speckenbüttel operating point** (see Appendix 1).

According to Section 14 of the Sector Handbook, the customer should always send the TCM before the train departs at the relevant primary location, as well as an updated version in the event of any changes to the train content data. In the case of outgoing trains, changes that occur after leaving the BHE infrastructure shall not be reported.

The time at which the TCM should be available at the latest depends on the special part of the Terms of Use of the Bremen Port Railway (NBS-BT, https://bremenports.de/en/hafeneisenbahn/nutzung-und-entgelte/).

6 Other framework conditions

The following general conditions apply:

- The transmission of the train content data does not result in a transfer of responsibility for safety -related obligations.
- Sending the TCM does not release the RU from the obligation to immediately inform the BHE of the data specified in the NBS-BT that go beyond the scope of the TCM or to request deviations from the granted use. This includes, in particular, notification of the train number and traffic day (also in the case of subsequent changes) and other uses of the BHE's service facilities that deviate from the agreement.
- The terminals and sidings named by the customer in PRINOS for a train and, if applicable, the shunting service provider receive client-specific access to the delivered train content data by using the PRINOS customer portal.
- Until the PRINOS system is introduced, data is received at BHE as a test operation without a service level and fixed deadlines for setting up a customer interface after it has been applied for. The specific start date for receiving a message from a customer is agreed upon when the order is processed. The transmission of the TCM as part of the test

operation does not release the customer from the obligation to transmit the train composition information in the conventional way.

- The reliability of the data and data delivery is essential for acceptance in operational management. In the event of repeated incorrect data deliveries that are not immediately corrected by the customer, BHE reserves the right to refrain from further electronic processing of the data delivered. From BHE's point of view, incorrect data delivery occurs for example, if a train length is specified that does not correspond to the actual train composition or if the reported train composition, wagon composition or loading with dangerous goods differs from the actual one.

Annex 1

BHE operating points relevant for train journeys BHE

Country_ ISO_Code	Primary_ Location_Code	Responsible_ IM_Code	Location_Name
EN	61000	3847	Bremen-Grolland
EN	61001	3847	Bremerhaven Kaiserhafen
EN	61002	3847	Bremerhaven Nordhafen
EN	61003	3847	Bremerhaven Imsumer Deich
EN	61004	3847	Bremerhaven Weddewarder Tief
EN	61005	3847	Bremen Inlandshafen

Corresponding infrastructure boundary DB Netz AG

Country_ ISO_Code	Primary_ Location_Code	Responsible_ IM_Code	Location_Name
EN	11655	80	Bremen-Neustadt DB-Grenze
EN	11670	80	Bremerhaven Seehafen DB-Grenze
EN	11670	80	Bremerhaven Seehafen DB-Grenze
EN	15216	80	Imsum DB-Grenze
EN	15216	80	Imsum DB-Grenze
EN	11631	80	Bremen Inlandshafen DB-Grenze

Other BHE infrastructure areas

Country_ ISO_Code	Subsidiary_ Location_Code	Subsidiary_Location_Name
pending	pending	Industriestammgleis Bremen Hemelingen
pending	pending	Industriestammgleis Bremen GVZ
pending	pending	Industriestammgleis Bremerhaven Fischereihafen
pending	pending	Zugbildung BHE Bremerhaven-Speckenbüttel

Corresponding transfer station DB Netz AG

Country_ ISO_Code	Primary_ Location_Code	Responsible_ IM_Code	Location_Name
EN	11650	80	Bremen-Hemelingen
EN	11655	80	Bremen-Neustadt DB-Grenze
EN	11678	80	Bremerhaven-Wulsdorf
EN	11675	80	Bremerhaven-Speckenbüttel

Annex 2

TrainCompositionMessage									Optional
ME	E1	E2	E3	E4	E5	Type	range of values	remark	
MessageHeader						-			
	MessageReference					-			
		MessageType				integer	3003	3003 - Train Composition Message	
		MessageTypeVersion				string	3.0.2.0	Must be version 3.0.2.0	
		MessageIdentifier				free text		Technically unique (e.g. UUID)	
		MessageDateTime				dateTime			
	Channel					numerical 4-4		Sender of the message: company code of the RU	
	recipient					numerical 4-4	3847	Recipient of the message: BHE company code	
MessageStatus						-			
	MessageStatus					number	1=new, 2=changed	Only 1 (new) and 2 (changed) are supported.	
OperationalTrainNumberIdentifier						-			
	OperationalTrainNumber					string		Train number	
	ScheduledTimeAtHandover					dateTime		Time according to the DB Netz AG timetable of the train departure or the first crossing of the BHE at the infrastructure border	
	ScheduledDateTimeAtTransfer					dateTime		Time according to the DB Netz AG timetable of the train arrival or departure from the BHE at the infrastructure border	
TrainCompositionJourneySection						-			
	JourneySection					-			
		JourneySectionDestination				-			
			CountryCodeISO			CountryIdentISO		Country code	
			LocationPrimaryCode			numerically 1-5		Destination code	
		JourneySectionOrigin				-			
			CountryCodeISO			CountryIdentISO		Country code	
			LocationPrimaryCode			numerically 1-5		Origin code	

TrainCompositionMessage									Optional
ME	E1	E2	E3	E4	E5	Type	range of values	remark	
		ResponsibilityActualSection				-			
			ResponsibleRU			numerical 4-4		Responsible RU code	
			ResponsibleIM			numerical 4-4		Code of the responsible IM	
	TrainRunningData					-			
		TrainRunningTechData				-			
			TrainType			integer		Type of train	
			TrainWeight			integer	in tons	Total weight	
			TrainLength			numerically 4-4		Total length	
			NumberOfVehicles			integer		Number of vehicles in the train (wagons and traction units)	
	LocoIdent					-		per vehicle	
		TractionType				integer	11, 21, 31	Type of locomotive	
		LocoNumber				string		Vehicle number	x
		TractionMode				integer	11, 12, 31, 32	Use of the locomotive for traction	
	WagonData					-		Per wagon	
		WagonNumberFreight				WagonIdent		Wagon number	
		WagonTrainPosition				integer		Position of the wagon in the train	
		WagonOperationalData				-			
			DangerousGoodsDetails			-			
				Dangerous Goods Indication		-			
					UN_Number	string		If applicable UN number (RID, chapter 3.2, column 1)	
					danger label	integer		If applicable, danger labels (RID, Chapter 3.2, Column 5)	
					RID_Class	integer		If applicable dangerous goods class (RID, chapter 3.2, column 3a)	
					LimitedQuantityIndicator	true / false		Indicator for limited dangerous goods quantities	x
					DangerousGoodsWeight	integer	in kg	Weight of the dangerous goods	x
					DangerousGoodsVolume	integer	in cbm	Volume of the dangerous goods	x

TrainCompositionMessage									Optional
ME	E1	E2	E3	E4	E5	Type	range of values	remark	
			RestrictionsDueToLoadOrDamage			integer	Extraordinary shipment: 63	Coding of exceptional consignments in accordance with UIC 920-13, optional for combined transport loading units	(x) for inter-modal transport
			TotalLoadWeight			integer	in kg	total load weight of the wagon	
		WagonTechData				-			
			LengthOverBuffers			integer	in cm	Length over buffer	
			WagonWeightEmpty			integer	in kg	empty weight of the wagon	

Legend
message element
level 1
Level 2
Level 3
level 4
level 5