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frontiers.

OPINION

2022-6

OF THE EUROPEAN UNION AGENCY FOR RAILWAYS regarding

Order n 1361 – 28/09/2022 of Denmark on operating pocket wagons with semi-trailers and two new draft safety rules notified in the Single Rules Database as DK-SA-289-1-D and DK-SA-295-1-D.

Disclaimer:

The present document is a non-legally binding opinion of the European Union Agency for Railways. It does not represent the view of other EU institutions and bodies, and is without prejudice to the decision-making processes foreseen by the applicable EU legislation. Furthermore, a binding interpretation of EU law is the sole competence of the Court of Justice of the European Union.

1. General Context

The European Union Agency for Railways (“the Agency”) became aware that the Danish Civil Aviation and Railway Authority (NSA DK) adopted a legal act (published on 30 September 2022 in the Danish Official Gazette A 2022 -“Lovtidende A - 2022 - Udgivet den 30. september 2022”) In the form of a national Order on operating pocket wagons with semi-trailers (**Order n 1361 – 28/09/2022**).

The Agency decided to follow Article 26 (6) of Regulation (EU) 2016/796 (ERA Regulation) and to assess this provisions of the Order against the relevant EU law requirements.

In addition, Denmark notified in the Single Rules Database (SRD) the following two **draft** safety rules :

- SRD ref: **DK-SA-289-1-D** amending the Danish railway act (Act no. 686 of May 27th 2015) and introducing a new § 57 a. and § 116, para. 1, no. 4;
 - The draft rule has been notified on 12 July 2022; on 13 October 2022 the Agency had negatively assessed the draft rule in line with Article 25 of Regulation (EU) 2016/796 but did not timely submit the results of the assessment to the Submitter. At this stage after the adoption of the rule, the Agency confirms in this opinion that the content of the published rule is out of the scope of Article 8 of Directive (EU) 2016/798 on railway safety.
- SRD ref: **DK-SA-295-1-D** including provisions on the transportation of pocket wagons with semi-trailers on the railnetwork in Denmark.
 - The draft rule has been notified on 9 August 2022; on 24 August 2022 the Agency negatively assessed the draft rule in line with Article 25 of Regulation (EU) 2016/796.

At this stage after the adoption of the Order n. 1361 by Denmark, the Agency confirms in this opinion that the content of the published national Order n 1361 on operating pocket wagons with semi-trailers is not in line with EU law.

Pursuant to Articles 25 and 26 of Regulation (EU) 2016/796, this opinion is addressed to Denmark with a copy to the European Commission.

2. Background

The accident on the Great Belt bridge of 2 January 2019 and the following incident of 13 January 2021 have triggered among others two urgent and one normal procedures of the Joint Network Secretariat (JNS) with the aim of finding EU-wide harmonised solutions.

The purpose of the JNS procedures was to maintain a high level of railway safety at the same time as to secure interoperability across the EU regarding the transport of semi-trailers on pocket wagons. Even though the results of the JNS procedures are not legally binding, they still constitute an expert group’s conclusion on the topic.

Within this context, despite the time and efforts spent by all involved actors on the analysis and development of several proposals, it can be noted that the results of the JNS procedure did not lead to the reintroduction of normal train traffic operations on the Great Belt bridge in Denmark, indeed restrictions were still in place: operational requirements introduced by a first order dd. 5 February 2021 (i.e. Påbud om supplerende sikkerhedsforanstaltninger og indsendelse af dokumentation ved transport af trailere på lommevogne, herunder begrænsning af driften i forhold til transport af trailere på lommevogne med skammeltypen MAZ80800, på det danske jernbanenet) and specified and extended as such pursuant to the second order (order with the same name) and published in the beginning of 2022, remain valid. In particular, the Danish legislation as applied among others by the the Civil Aviation and Railway Authority (NSA DK) impose:

- a minimum gross weight requirement of 14 tons for trailers transported on pocket wagons

- a minimum 85kN locking force of the hitch of the pocket wagon
- the systematic application by railway undertakings of the Action Plan on safe loading that resulted from the JNS 2019 procedure (and which was updated after the closure of the Normal Procedure in April 2022).

The Agency was not informed about any urgent preventive measures defined by the NSA DK according to the Article 8 (3) (c) of the Directive (EU) 2016/798 on railway safety.

With the publication of national Order n. 1361 on operating pocket wagons with semi-trailers, these requirements are further formalised and even strengthened.

Order n 1361 – 28/09/2022

- **Section 3**, Order n 1361 deals with “Authorisation for the operation of pocket wagons with semi-trailers in Denmark”, where 5 conditions to be respected are defined, which can be summarized as follows:
 1. The railcar hitch used to hold the semi-trailer shall have a vertical locking force of at least 85kN.
 2. The railcar hitch used to maintain the semi-trailer shall be authorised by the Danish NSA
 3. RUs must define procedures in their SMSs to ensure traceability of the conditions defined in points 1 and 2 above.
 4. Freight terminals shall follow the recommendations of the Joint Networks Secretariat (JNS) of the Agency, published on 25 April 2022. There must be an agreement between the RU and the terminal operator in this regard, and documentation of these agreements must be incorporated into the RU’s SMS. This applies also in the case where the RU is also acting as terminal operator. If the RU cannot fulfil this condition, it may instead have another procedure for checking that semi-trailers are correctly attached to the pocket wagon. This must be incorporated into the SMS.
 5. The RU shall document the maintenance activities, including the checking procedure and the lubrication of the railcar hitches and locks.
- **Section 4**, Order n 1361 defines that a RU application for pocket wagon with semi-trailers authorisation to drive in Denmark must be submitted for each type of railcar hitch and maintenance unit separately and must be accompanied by evidence such as:
 1. Evidence that the conditions laid down in Section 3 (2) and (3) have been met.
 2. Proof of the identity of the manufacturer of the railcar hitch and of the maintenance unit.
 3. Evidence that an independent professional has examined that the type of railcar hitch used is safe and sufficient to restrain semi-trailers on pocket wagons and has a vertical locks of at least 85kN.
 4. Evidence of the competence of the independent professional.
- **Section 5** of Order n 1361 deals with the operating of pocket wagons with semi-trailers over the Great Belt. It defines 3 conditions of which at least one must be met by RUs in order to obtain the licences for operating pocket wagons with semi-trailers over-the Great Belt. one of this condition is that the “Semi-trailers shall have a gross weight of at least 14 tonnes”.
 1. In paragraph 2 it states that when operating pocket wagons with semi-trailers over the Great Belt the RU shall have in place a procedure to ensure that the gross weight of the semi-trailer is at least 14 tonnes. There must be an agreement between the RU and the terminal operator in this regard, and documentation of these agreements must be incorporated into the RU’s SMS. This applies also in the case where the RU is also acting as terminal operator. If the RU cannot fulfil this condition, it may instead have another procedure to verify that semi-trailers have a gross weight of at least 14 tonnes when transported over the Great Belt. This must be incorporated into the SMS.

- **Section 6**, Order n 1361 deals with the applications for authorisation to drive pocket wagons with semi-trailers above the Great Belt defining that it must be submitted to the Danish NSA including a list of documents that must accompany the request.
 - **Section 7** Order n 1361 defines that operation between the border of Padborg (border with Germany) and the combined terminal of Padborg may be carried out without complying with the conditions laid down in Section 3 and authorisation under Section 4, subject to the condition that the train does not pass oncoming trains and that the speed is not more than 40 km/h. Procedures to ensure this must be incorporated into RUs SMS.
 - **Section 8** Order n 1361 deals with derogation.
 - **Section 9** Order n 1361t deals with the right of appeal.
 - **Section 10** Order n 1361 defines penalties in case of infringements.
2. Infringements of the provisions of Sections 3, 5 and 7 shall be punishable by a fine or imprisonment of up to 4 months, or, under aggravating circumstances, imprisonment of up to 2 years, unless a more severe penalty is incurred under Sections 116 – 118 of the Railways Act. Companies, etc. (legal person) may be held criminally liable under the provisions of Chapter 5 of the Criminal Code.
- **Section 11** defines that the order enters into force on 1 October 2022.

New draft NSR SRD ref: DK-SA-289-1-D (ERA negative assessment results submitted on 13/10/2022):

On 12/07/2022 DK submitted via SRD a new draft safety rule (SRD ref: DK-SA-289-1-D) under the conditions defined by Art 25 of ERA Regulation (Regulation (EU) 2016/796).

Aim of the draft rule is to amend the Danish railway act (Act no. 686 of May 27th 2015) by introducing a new § 57 a. and § 116, para. 1, no. 4:

“§ 57 a:

Goods must be placed in such a way that they cannot present a danger to persons or cause damage to property. Furthermore, goods must not be able to drag or fall off, cause disturbing inconveniences or be able to move outside the profile of the train while driving.

§ 116, para. 1, No. 4:

A fine or imprisonment for up to 4 months will be inflicted to anyone who:

4. violates §§ 24 or 26, § 42, para. 1, §§ 43-46, § 48, para. 1 and 2, § 57 a, § 80, para. 1 and 2, or § 85 or “

Rule DK-SA-289-1-D received an automatic acceptance in the SRD. Nevertheless, this automatic acceptance of the rule did not correspond to the Agency’s assessment; this is because the Agency did extensive checks and evaluation of the rule and did not timely achieve to log an extension of the deadline in the SRD and the deadline for the Agency expired. The Agency shared this information with NSA DK by email. NSA DK did not accept the Agency’s justification for the delay and did not accept the Agency’s assessment on the content of the rule and so NSA DK acknowledges the rule as accepted by the Agency as per the automatic acceptance received via SRD.

However, in substance, the Agency ERA encoded a negative assessment for the rule in SRD on 13/10/2022 and shared it with NSA DK with the following justification:

“The set requirement is covered by point 4.2.2.4.1. “Safety of load” of Commission Implementing Regulation (EU) 2019/773 on the technical specification for interoperability relating to the operation and traffic management subsystem of the rail system within the European Union (TSI OPE), stating that: “The railway undertaking shall make sure that freight vehicles are safely and securely loaded and remain so throughout the journey.”

Furthermore, by aiming only at one particular type of risk, this approach dilutes the whole concept of Railway Undertakings (RU) and Infrastructure Managers (IM) controlling the risks of (all) their operations through the implementation of a Safety Management System (SMS).

In other words, it is the role of the railway undertaking and not of the Member State to make sure that the RU controls all its risks. This shall be done in its SMS, which “shall ensure the control of all risks associated with the activity of the infrastructure manager or railway undertaking”. Under this light, the proposed rule does not comply also with the requirements of Article 4 (“the responsibility for the safe operation of the Union rail system and the control of risks associated with it is laid upon the infrastructure managers and railway undertakings”) and Article 9 (4) of the Directive (EU) 2016/798.

The proposed rule also contradicts the requirements in the Commission Delegated Regulation (EU) 2018/762, to the extent that the RU is substituted in its role under point 3.1.1.1. Furthermore, rules setting the legal framework to secure that the liability of railway undertakings also becomes punishable under criminal legislation fall outside the scope of Article 8 of Directive (EU) 2016/798 on railway safety. As such the Agency has no power to assess them under the CSMS the TSIs or the relevant EU railway Directives.”

Once the Agency has submitted its negative assessment with the delay as explained above, SRD gives the Submitter the option of accepting or rejecting the Agency’s assessment, such acceptance/rejection by the Submitter must take place within two months of the submission of the assessment.

DK has not yet submitted its opinion on the Agency’s assessment via SRD.

The content of draft rule DK-SA-289-1-D is however similar to the requirements of Section 10 of Order n 1361 described above.

New draft NSR SRD ref: DK-SA-295-1-D (ERA negative assessment submitted on 24/08/2022):

On 09/08/2022 DK submitted via SRD a new draft safety rules (SRD ref: DK-SA-295-1-D) under the conditions defined by Art 25 of ERA Regulation.

Aim of the draft rule is to issue a NSA Order dealing with the transportation of pocket wagons with semi-trailers on the rail network in Denmark.

New draft safety rule DK-SA-295-1-D defines some requirements that must be met and controlled by RUs:

- Minimum 85 kN vertical locking force on the hitch
- Compliance with the JNS "urgent procedure" recommendations from April 2022 on the control and loading of semi-trailers on pocket wagons
- Validation of technical requirements etc. by an independent third party
- Requirements for operators regarding agreements at terminals etc.

In addition to these requirements, at least one of the following requirements must also be met for transportation across the Great Belt Bridge:

- 1) Semi-trailers on pocket wagons must have a gross weight of at least 14 tons
- 2) The transport is carried out using a supplementary fastening method approved by the NSA DK in addition to the fastening by king pin and lock. The applicant’s procedures for the use of the supplementary fastening method must be adopted in the safety management system of the applicant.
- 3) Transport is carried out using a supplementary control method that has been validated by an independent third party and approved by the NSA DK - in addition to a visual inspection, including marks on the trailer and hitch - to ensure that the king pin is in the lock of the pocket wagon and that the lock has engaged.

ERA submitted a negative assessment on 24/08/2022 with the following justification:

“Article 4, 1. (d) of the RSD is clear that Member States shall “ensure that the responsibility for the safe operation of the Union rail system and the control of risks associated with it is laid upon the infrastructure managers and railway undertakings, each for its part of the system, obliging them to implement necessary risk control measures ... where appropriate in cooperation with each other”. Still according to the principles established in the RSD, the appropriate means to achieve the above is the establishment of safety management systems that are subject to certification (for Railway Undertakings) /authorisation (for Infrastructure Managers) and supervision by the National Safety Authorities (NSAs).

In addition, requirement 4.2.2.4.1 “Safety of load” of Regulation (EU) 2019/773 (TSI OPE) stipulates that: “The railway undertaking shall make sure that freight vehicles are safely and securely loaded and remain so throughout the journey.”

Same Regulation stipulates in point 4.2.3.3.1 that: “The railway undertaking shall define the checks and tests to ensure that any departure is undertaken safely (e.g., doors, load, brakes).”

Reflected on the specific problem of transport over the Great Belt bridge, this gives rise to the following concerns.

Regarding the measures to ensure secure loading of semi-trailers on pocket wagons, there appears to be a shared experts’ consensus that the proposed action plan that results from the work in Cluster I of the normal JNS procedure, when correctly implemented, can serve as a reliable set of risk control measures.

The responsibility lies as per RSD art 4 with railway undertakings, wishing to transport semi-trailers on pocket wagons over the Great Belt bridge, to demonstrate that these (or equivalent) measures are taken to ensure the safe loading of semi-trailers on pocket wagons. It is not an issue to be regulated by national rules – but it shall be left to the operators and the manager of the infrastructure.

Under this light, as part of their safety management system and in application of Commission Regulation (EU) 1078/2012 on a common safety method on monitoring (CSM MO), these railway undertakings need also to put in place all necessary arrangements to “check the correct application and the effectiveness” of the implemented risk control measures.

In practice, this means that the railway undertakings need to ensure and demonstrate the capability to detect and timely correct any unsafe loading by the means of their own SMS.

In application of the provisions of the RSD, the risks of trains running over the Great Belt bridge under crosswind exposure is a risk that should be controlled jointly by the infrastructure manager and the operating railway undertakings.

An holistic view on crosswind safety should lead in the Agency’s opinion to the identification of a balanced mix of operational, infrastructural, rolling stock or loading related risk control measures: the infrastructure manager lays down operational rules, which in turn determine the requirements that railway undertakings should meet. Here, a right balance needs to be found and all exported risks between parties need to be transparently discussed and mutually accepted.

In the concrete case of operating trains on the Great Belt bridge with crosswinds, the correct application of infrastructure manager related (i.e. speed restriction and traffic stop limits) and rolling stock related risk control measures (i.e. proper loading incl. adequate hitch locking force), there appears to be no rational justification for the additional requirements imposed by the proposed national rule.”

DK did not react to the Agency’s negative assessment via SRD and now the new draft safety rule DK-SA-295-1-D is flagged as rejected.

Despite the Agency’s negative assessment and the rejection, the rule has been issued by DK contradicting Art 25 of ERA Regulation. Indeed, the content of the draft rule in question is exactly the same as the content covered by Order n 1361 as described above.

NSA DK reacted on ERA negative assessment via formal letter n. 2022-064625 of 28/11/2022 concluding that in their opinion the Danish executive Order n. 1361 is appropriate to the purpose of ensuring railway safety in the current absence of specific European regulation.

This opinion confirms the negative assessment as described above.

3. Application of relevant EU legislation

The EU legislation which is relevant for this opinion is:

- Directive (EU) 2016/798 of 11 May 2016 on railway safety (the RSD);
- Commission delegated Regulation (EU) 2018/762 of 8 March 2018 establishing common safety methods on safety management system requirements pursuant to Directive (EU) 2016/798 of the European Parliament and of the Council and repealing Commission Regulations (EU) No 1158/2010 and (EU) No 1169/2010;
- Commission Regulation (EU) No 1078/2012 of 16 November 2012 on a common safety method for monitoring to be applied by railway undertakings, infrastructure managers after receiving a safety certificate or safety authorisation and by entities in charge of maintenance;
- Commission Delegated Regulation (EU) 2018/761 of 16 February 2018 establishing common safety methods for supervision by national safety authorities after the issue of a single safety certificate or a safety authorisation pursuant to Directive (EU) 2016/798 of the European Parliament and of the Council and repealing Commission Regulation (EU) No 1077/2012;
- Commission Implementing Regulation (EU) 2019/773 of 16 May 2019 on the technical specification for interoperability relating to the operation and traffic management subsystem of the rail system within the European Union and repealing Decision 2012/757/EU

4. Analysis

In accordance with Article 8, (3) c) of Directive (EU) 2016/798 on railway safety, *“Member States may lay down new national rules ... as an urgent preventive measure, in particular following an accident or an incident”*.

Against the described background, the requirement of a minimum gross weight of 14 tons, imposed by NSA DK after the incident in 2021, can be considered as such as an urgent measure under Article 8 of the Directive (EU) 2016/796, awaiting by its nature a more “permanent” regulatory solution which could be based on the outcome of the JNS procedures. However, to be recognised as urgent, “That rule shall be notified in accordance with Article 27 (2) of Regulation (EU) 2016/796 and subject to the assessment of the Agency in accordance with Article 26 (1), (2) and (5) of Regulation (EU) 2016/796.” Since this was not done, the actual situation is in breach of Article 8 (5) RSD.

Furthermore, Article 4 (1) d) RSD is clear that Member States shall *“ensure that the responsibility for the safe operation of the Union rail system and the control of risks associated with it is laid upon the infrastructure managers and railway undertakings, each for its part of the system, obliging them to implement necessary risk control measures ... where appropriate in cooperation with each other”*. Still according to the principles established in the RSD, the appropriate means to achieve the above is the establishment of safety management systems that are subject to certification (for Railway Undertakings) /authorisation (for Infrastructure Managers) and supervision by the National Safety Authorities (NSAs). In addition, requirement 4.2.2.4.1 *“Safety of load” of Regulation (EU) 2019/773 (TSI OPE) stipulates that: “The railway undertaking shall make sure that freight vehicles are safely and securely loaded and remain so throughout the journey.”*

Reflected on the specific problem of transport over the Great Belt bridge, this gives rise to the following concerns.

Regarding the measures to ensure secure loading of semi-trailers on pocket wagons, there appears to be a shared experts' consensus that the proposed action plan that results from the work in Cluster I of the normal JNS procedure, when correctly implemented, can serve as a reliable set of risk control measures.

The Agency herewith reminds of the experts' judgment on the issue.

Indeed, the responsibility then lies as per RSD with railway undertakings, wishing to transport semi-trailers on pocket wagons over the Great Belt bridge, to demonstrate that these (or equivalent) measures are taken to ensure the safe loading of semi-trailers on pocket wagons. It is not an issue to be regulated on a permanent basis by a Member State – but it shall be left to the operators and the manager of the infrastructure.

Under this light, as part of their safety management system and in application of Commission Regulation (EU) 1078/2012 on a common safety method on monitoring (CSM MO), these railway undertakings need also to put in place all necessary arrangements to “*check the correct application and the effectiveness*” of the implemented risk control measures.

In practice, this means that the railway undertakings need to ensure and demonstrate the capability to detect and timely correct any unsafe loading. The Agency believes the existing legal framework to be robust enough to allow the above to serve as a reference for NSA DK to assess and or supervise safety management system of railway undertakings operating on the Great Belt bridge and to act decisively on any identified deviation. Further to this, to create higher visibility to the JNS action plan, an explicit reference in the already [published Acceptable means of compliance \(AMOC\) on safety of load](#) is envisaged.

In application of the provisions of the RSD, the risks of trains running over the Great Belt bridge under crosswind exposure is a risk that should be controlled jointly by the infrastructure manager and the operating railway undertakings.

An holistic view on crosswind safety should lead in the Agency's opinion to the identification of a balanced mix of operational, infrastructural, rolling stock or loading related risk control measures: the infrastructure manager lays down operational rules, which in turn determine the requirements that railway undertakings must meet. Here, a right balance needs to be found and all exported risks between parties need to be transparently discussed and mutually accepted.

In the concrete case of operating trains on the Great Belt bridge with crosswinds, the correct application of infrastructure manager related (i.e. speed restriction and traffic stop limits) and rolling stock related risk control measures (i.e. proper loading incl. adequate hitch locking force) , there appears to be no rational justification for the requirement of 14 tons gross weight. Here as well, it is important that the respective IM and RUs are capable of checking and demonstrating “*the correct application and the effectiveness*” of the implemented risk control measures, each for their part, which in turn should be subject of the supervision of their SMS by NSA DK, in application of Article 17 of the RSD and supported by Commission Delegated Regulation (EU) 2018/761 establishing common safety methods for supervision by national safety authorities after the issue of a single safety certificate or a safety authorisation (CSM SU).

5. The opinion

Order n 1361 – 28/09/2022 & New draft NSR SRD ref: DK-SA-295-1-D

The requirement to impose by law additional measure for semi-trailers on pocket wagons operating on the Great Belt bridge constitutes a national operational rule requiring railway undertakings to make specific arrangements regarding train composition.

The Agency's opinion is that the aforementioned requirements contradict with the following EU legislation:

- Directive (EU) 2016/798; more precisely against Article 8 requiring new national rules, developed as an urgent preventive measure and in particular following an accident or an incident, to be notified to the Commission,

- Directive (EU) 2016/798; more precisely against Article 4 reserving the roles and responsibilities of railway actors while managing risk is a responsibility of the infrastructure manager and railway undertakings, where appropriate in cooperation with each other, not to be decided at the level of a Member State.
- Point 4.2.2.4.1 “Safety of load” of Regulation (EU) 2019/773 (TSI OPE) stipulates that: “The railway undertaking shall make sure that freight vehicles are safely and securely loaded and remain so throughout the journey.”
- Point 4.2.3.3.1 of Regulation (EU) 2019/773 (TSI OPE) stipulates that: “The railway undertaking shall define the checks and tests to ensure that any departure is undertaken safely (e.g. doors, load, brakes).”

The Agency’s opinion is also that it is:

- at the level of the infrastructure manager to define, in its Safety Management System, the operational rules for operating on its network in accordance with its specific risk and specificities as well as to check the correct application and the effectiveness of the defined rules;
- at the level of each individual railway undertaking, in its Safety Management System, to define its operational arrangements to ensure safe loading and transport of its trains in accordance with its specific risk and the specificities of the network it will be using, as well as to check the correct application and the effectiveness of the defined arrangements;
- at the level of the NSA-DK, through the certification/authorisation and in particular supervision of the Safety Management Systems of the respective infrastructure manager and railway undertaking, to monitor its effectiveness, including operational activities that aim at controlling the transport of semi-trailers on pocket wagons under crosswind exposures over the Great Belt bridge.

Finally it should be underlined that, despite the negative assessment issued by the Agency in due time to the new draft rule DK-SA-295-1-D, DK issued the relevant national Order n. 1361 contradicting Art 25 of the Agency regulation. This is considered as a deliberate non application of the EU legislation.

New draft NSR SRD ref: DK-SA-289-1-D

The Agency Opinion is that the requirement of defining general principle on the safety of load (proposed § 57 a) is covered by point 4.2.2.4.1. “Safety of load” of Commission Implementing Regulation (EU) 2019/773 (TSI OPE), it is then a repetition of what defined in the EU legislation and this cannot be regulated at national level.

The Agency Opinion is that the requirement setting the legal framework to secure that the liability of railway undertakings also becomes punishable under criminal legislation (proposed § 116, para. 1, no. 4) fall outside the scope of Article 8 of Directive (EU) 2016/798 on railway safety

Valenciennes, 06/12/2022

Signed

Josef DOPPELBAUER
Executive Director

Light Impact Assessment

Order n 1361 – 28/09/2022 of Denmark on operating pocket wagons with semi-trailers and two new draft safety rules notified in the Single Rules Database as DK-SA-289-1-D and DK-SA-295-1-D.

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1. Context and problem definition

1.1. Problem and problem drivers

Following the incident on the Great Belt west Bridge on 13 January 2021 where a semi-trailer moved out of the hitch on its way across the Great Belt, a ban for the use of semi-trailers on pocket wagons was introduced by NSA DK in Denmark with particular focus on the Great Belt Bridge. This ban was lifted on 5 February 2021 for the entire Danish network except for the Great Belt Bridge subject to additional safety measures being introduced. The ban for the use of semitrailers on pocket wagons on the Great Belt Bridge was lifted on 20 April 2021 and instead a series of safety measures were introduced, notably that semi-trailers loaded on pocket wagons must have a gross weight of at least 14 tons along with the requirement of 85kN locking force of the hitch and application of the 2019 JNS Action Plan on safe loading (which was updated after the closure of the Normal Procedure in 2022). With the publication of National Order n 1361 (28-09-22) on operating pocket wagons with semi-trailers, these requirements are further formalised and even strengthened.

The Railway Safety Directive Article 8 (3) c) states that *“Member States may lay down new national rules ... as an urgent preventive measure, in particular following an accident or an incident”*. However, it is also mentioned at Article 8 (5) that the *“...rule shall be notified in accordance with Article 27(2) of Regulation (EU) 2016/796 and subject to the assessment of the Agency in accordance with Article 26(1), (2) and (5) of Regulation (EU) 2016/796.”*

Furthermore, Article 4 (1) d) of RSD is clear that Member States shall also *“ensure that the responsibility for the safe operation of the Union rail system and the control of risks associated with it is laid upon the infrastructure managers and railway undertakings, each for its part of the system, obliging them to implement necessary risk control measures ... where appropriate in cooperation with each other”*.

According to the principles established through the RSD, the appropriate mean to achieve the above is the establishment of safety management systems by RUs and IMs that are subject to certification/authorisation and supervision by the national safety authorities. In contradiction with this Article, the 14 tons requirement for the use of semi-trailers loaded on pocket wagons on the Great Belt Bridge would shift the responsibility from the RUs / IMs to a Member State.

The Agency decided to follow Article 26 (6) of Regulation (EU) 2016/796 (Agency Regulation) and to assess this legal situation for rail freight transportation on the Danish network against the relevant EU law requirements, resulting in an Agency opinion. According to Art. 8(1) of Regulation (EU) 2016/796, this impact assessment is accompanying the Agency Opinion.

1.2. Evidence of the problem

Evidence of the problem is provided in the analysis contained in the TO demonstrating that the 14t requirement is not in line with the EU legal framework. As further documentation of relevance would also be the documentation and work carried out as part of the JNS TF (1 Normal Procedure and 2 Urgent Procedures).

1.3. Baseline scenario

The baseline scenario (Option 0) is the current situation of the EU and national legal framework in Denmark, where the Danish Civil Aviation and Railway Authority (NSA DK) continues to impose a minimum weight requirement of 14 tons and other conditions for the use of use of semitrailers on pocket wagons on the Great Belt Bridge as provided for in National Order n 1361. If no action is taken the problem will persist, negatively affecting interoperability, and rail competitiveness incl. generating extra costs for rail freight operators using this part of the Danish railway network.

1.4. Main assumptions

It is assumed that the Danish authorities perceive a particular risk associated with the use of semi-trailers loaded on pocket wagons in transport across the Great Belt Bridge which from their perspective appear to require this national rule. From the Agency's perspective the existing EU legal framework is sufficiently robust to serve as a reference for the NSA DK to assess and/or supervise the safety management system of railway undertakings operating on the Great Belt bridge and to act decisively on any identified deviation without the need to have in place this particular requirement.

1.5. Stakeholders affected

Railway undertakings (RU)	<input checked="" type="checkbox"/>	Member States (MS)	<input checked="" type="checkbox"/>
Infrastructure managers (IM)	<input checked="" type="checkbox"/>	Third Countries	<input type="checkbox"/>
Manufacturers	<input type="checkbox"/>	National safety authorities (NSA)	<input checked="" type="checkbox"/>
Keepers	<input checked="" type="checkbox"/>	European Commission (EC)	<input checked="" type="checkbox"/>
Entity Managing the Change (EMC)	<input type="checkbox"/>	European Union Agency for Railways (ERA)	<input checked="" type="checkbox"/>
Notified Bodies (NoBo)	<input type="checkbox"/>	Citizens living nearby railway tracks	<input type="checkbox"/>
Associations	<input type="checkbox"/>	Persons with reduced mobility (PRM)	<input type="checkbox"/>
Shippers	<input checked="" type="checkbox"/>	Passengers	<input type="checkbox"/>
Ticket vendors	<input type="checkbox"/>	Other (Please specify) ...	<input type="checkbox"/>

Apart from authorities the main stakeholders affected would be rail freight operators using or planning to use the Great Belt Bridge for the transport of goods as well as their customers and subcontractors.

1.6. Subsidiarity and proportionality

In order to preserve interoperability and ensure a harmonised legal framework for the rail sector, according to Art. 8(6) of Directive (EU) 2016/798 and Art. 26(6) of Regulation (EU) 2016/796, if the Agency becomes aware of any national rule, whether notified or not, which has become redundant or is in conflict with the CSMs or any other Union law in the railway field or creates an unjustified barrier to the single railway market, the procedure provided for in Article 26 of Regulation (EU) 2016/796 (i.e. examination of the existing national rules) shall apply.

2. Objectives**2.1. Specific objectives**

The specific objective of this initiative is to provide Denmark with an assessment of the problem defined above with regards to the Danish Civil Aviation and Railway Authority (NSA DK) imposing a minimum weight requirement of 14 tons and other provisions for rail traffic operating the Great Belt bridge which is having an impact on interoperability, market access and rail competitiveness.

3. Options**3.1. List of options**

Option 0 is the baseline scenario as described above, representing the current situation of the EU and national legal framework in Denmark, where the NSA is imposing a minimum weight requirement of 14 tons and other provisions for rail traffic operating the Great Belt bridge.

Option 1 is the sole alternative option and consists in the scenario where, following the negative assessment by the Agency, Denmark revokes this operational rule for railway undertakings using the Great Belt Bridge.

4. Impacts of the options			
4.1. Qualitative analysis			
Stakeholder assessment			
Option 0 (Baseline)			
Category of stakeholder	Impact type	Description	Overall Impact
RUs	Positive	N/A	Rather negative
	Negative	The requirement that semi-trailers loaded on pocket wagons must have a gross weight of at least 14 tons in order to be used for rail freight transport across the Great Belt Bridge and other conditions complicates the practical logistics for RUs as well as other involved parties such as terminal operators. As a result, it is likely that RUs will incur additional costs that may result in rail freight customers to consider alternatives (incl. other modes). While the requirement could control the risk associated with this type of transportation it is considered unjustified provided the correct application of infrastructure manager related (i.e. speed restriction and traffic stop limits) and rolling stock related risk control measures (i.e. proper loading incl. adequate hitch locking force)	
IMs	Positive	The identified risk associated with the use of semi-trailers on pocket wagons on the Great Belt Bridge is controlled although more optimal solutions exist that are in line with the EU legal framework	Neutral
	Negative	The additional costs incurred by freight RUs could result in lower traffic on this part of the Danish network and thereby having adverse impacts on revenue from infrastructure access charges	
Keepers / Shippers	Positive	N/A	Rather negative
	Negative	The requirement that semi-trailers loaded on pocket wagons must have a gross weight of at least 14 tons in order to be used for rail freight transport across the Great Belt Bridge and other conditions complicates the practical logistics for RUs as well as other involved parties such as terminal operators. As a result it is likely that these stakeholders will incur additional costs that may result in rail freight customers to consider alternatives (incl. other modes).	
MS / NSA	Positive	The current legal framework is maintained and no additional efforts are needed to revoke the requirement of at least 14 tons and other conditions for pocket wagons in order to be used for rail freight transport across the Great Belt Bridge	Neutral
	Negative	Additional effort to ensure the enforcement of the national rule on top of all other existing oversight requirements pertaining to EU law. Further negative implications associated with the rule being in contradiction with the Railway Safety Directive and the related CSMS.	
Commission / Agency	Positive	N/A	Very negative
	Negative	The policy goal of reducing national rules is not preserved, with a negative impact on interoperability, competitiveness and market access. Furthermore, the risks of trains running over the Great Belt bridge under crosswind exposure would not be controlled jointly by the infrastructure manager and the operating railway undertakings through their SMS and	

		therefore not be in accordance with the Railway Safety Directive and the relevant CSMs.	
<i>Option 1</i>			
<i>Category of stakeholder</i>	<i>Impact type</i>	<i>Description</i>	<i>Overall Impact</i>
RUs	Positive	The adverse effects of the imposed requirement for using semi-trailers loaded on pocket wagons on the Great Belt Bridge are avoided resulting in less complex transport logistics, lower costs for rail freight operators and reduced risk of modal shift towards other modes (road)	Rather positive
	Negative	N/A	
IMs	Positive	The identified risk associated with the use of semi-trailers on pocket wagons on the Great Belt Bridge is controlled in a more optimal way that is in line with the EU legal framework (Railway Safety Directive and the relevant CSMs)	Neutral
	Negative	Effort required to adjust and implement approach for controlling risk at IM level	
Keepers / Shippers	Positive	The adverse effects of the imposed requirements for using semi-trailers loaded on pocket wagons on the Great Belt Bridge are avoided resulting in less complex transport logistics, lower costs for rail freight operators and other stakeholders involved in the transport operations as well as reduced risk of modal shift towards other modes (road)	Rather positive
	Negative	N/A	
MS / NSA	Positive	The Danish legal framework for rail freight becomes more aligned with the EU Legislation, with no additional effort needed to ensure the enforcement of the national rule on top of all other existing oversight requirements pertaining to EU law.	Neutral
	Negative	Efforts needed to revoke the requirement re. 14t for pocket wagons used for rail freight transport across the Great Belt Bridge and related conditions	
Commission / Agency	Positive	The policy goal of reducing national rules is preserved, with a positive impact on interoperability, competitiveness and market access. Furthermore, the risks of trains running over the Great Belt bridge under crosswind exposure would be controlled jointly by the infrastructure manager and the operating railway undertakings through their SMS and supervised by the NSA in accordance with the Railway Safety Directive and the relevant CSMs.	Very positive
	Negative	N/A	

Railway system assessment

The following table provides a quick overview of the impact of the options on key aspects for rail safety and interoperability assessment.

	<i>Option 0 (baseline)</i>	<i>Option 1</i>
<i>Safety</i>	Very high	Very high
<i>Interoperability</i>	Rather low	Very high
<i>Market access</i>	Rather low	Rather high
<i>Competitiveness</i>	Rather low	Rather high
<i>Effectiveness</i>	Rather low	Very high

Coherency assessment

	<i>Option 0 (baseline)</i>	<i>Option 1</i>
Coherence	Very low	Very high

4.2. Quantitative analysis (optional)

While a Full Impact Assessment (FIA) has not been possible at this stage some quantification of the likely costs for railway undertakings have been undertaken. In particular, the following elements were considered:

1. On the basis of available information about monthly freight trains on the Great Belt Bridge since the lifting of the ban in April 2021 it would be realistic to assume a recovery of 50% of the cancelled trains over the Great Belt Bridge compared to the situation when the ban was in force.
2. In particular, the available statistics suggest that while the ban for the use of semi-trailers on pocket wagons was in force from January 2021 to April 2021 there were approximately 6 trains less on average per day compared to before the ban was introduced. In the subsequent period the situation improved with the daily average of trains increasing somewhat such that on average there would be 3 trains less per day compared to the period before January 2021
3. On the basis of the estimated average number of daily trains that have been cancelled (3) it is then possible to estimate the costs for railway undertakings in terms of revenue loss as a result of the introduced requirements. The estimation of lost revenue is based on information from IRG-Rail (2022)¹ regarding EU-average unit values for revenue for freight railway undertakings per train kilometre and per tonne kilometres respectively along with information about average distance for freight transportation in Denmark and tonnes per train.
4. It would then follow, that the situation with the 14 tonnes restriction in place (along with other additional measures) could translate into a revenue loss of **0.12 mln EUR and 0.16 mln EUR per week**. With these values the total revenue loss incurred by the freight railway undertakings since the new requirements were introduced would amount to between **5.9 and 7.6 mln EUR** (calculated over a 47-week period, from 21/04/21 until mid-March 2022). These estimates would be higher at this point (November 2022) considering the additional weeks for which the requirements have been in place. Under the assumption that the daily average of freight trains crossing the Great Belt Bridge has remained similar to the period until March 2022 there would still be about 3 fewer trains per day compared to before January 2021. Therefore, an estimate of total revenue loss extended until November 2022 would be in the range from **10 to 13 mln EUR**. These estimates of costs for railway undertakings are not considering impacts on other stakeholders, e.g. impacts on competing modes of transport. Moreover, the implications on changes in external costs due to the use of modes of transport with poorer environmental performance than rail has not been included.
5. Overall, these values should be considered as indicative only and not precise measures of the overall economic impacts.

Given the assumptions involved these findings should be interpreted with care and are indicative only. It was noted in an article from July 2021 that *'Since 20 April, volumes are gradually returning back to normal'* see this link: [Pocket wagons return to Great Belt Bridge on the way to Sweden | RailFreight.com](https://www.railfreight.com/news/pocket-wagons-return-to-great-belt-bridge-on-the-way-to-sweden). However, the cancellation of approximately 3 trains per day since the ban would seem realistic given the

¹ <https://www.irg-rail.eu/download/5/922/IRG-Rail-10thMMReport-WorkingDocument.pdf>

available data for the Great Belt Bridge link on number of freight trains covering the period January 2018 to February 2022.

5. Comparison of options and preferred option

5.1. Comparison of options

Below a quick comparison of the options with impact on the key stakeholders, as noted in chapter 4 above, is provided.

	<i>Option 0 (baseline)</i>					<i>Option 1</i>				
<i>Stakeholder impact</i>	RU	IM	Keeper	MS	ERA/EC	RU	IM	Keeper	MS	ERA/EC
<i>Effectiveness</i>	Rather low					Very high				
<i>Coherence (optional)</i>	Very low					Very high				

Colour legend

Very low/neg.	Rather low/neg.	Neutral	Rather high/pos.	Very high/pos.
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5.2. Preferred option(s)

Option 1 is the preferred option. It implies that the requirement of 14t gross weight load for the use of semi-trailers on pocket wagons on the Great Belt Bridge along with additional conditions would be revoked. This would ensure that the legal framework in place in Denmark is aligned with the EU legislation, notably the Railway Safety Directive and the relevant CSMs. As such this would also contribute towards rail freight competitiveness vis-a-vis other modes through reduced costs of operations without resulting in additional risks.

5.3. Risk assessment

This light impact assessment is mainly based on expert opinion and evidence submitted by the Danish authorities. The risk variables are therefore low risk for all options.

Risk variables	Option 0	Option 1
IA Inputs	Low risk	Low risk
IA Outcomes	Low risk	Low risk

5.4. Further considerations

As highlighted in the TO the risks of trains running over the Great Belt bridge under crosswind exposure is a risk that should be controlled jointly by the infrastructure manager and the operating railway undertakings. A holistic view on crosswind safety should lead to the identification of a balanced mix of operational, infrastructural, rolling stock or loading related risk control measures: the infrastructure manager lays down operational rules, which in turn determine the requirements that railway undertakings must meet. Here, a right balance needs to be found and all exported risks between parties need to be transparently discussed and mutually accepted.

6. Monitoring and evaluation

6.1. Monitoring indicators

N/A

6.2. Future evaluations
N/A

7. Sources and methodology

7.1. Sources

Desk research	<input checked="" type="checkbox"/>	Interviews	<input type="checkbox"/>
ERA database	<input type="checkbox"/>	Meetings	<input checked="" type="checkbox"/>
External database	<input type="checkbox"/>	Survey	<input type="checkbox"/>

Sources used for this LIA have mainly consisted of the documents provided as part of the assessment of the GBB rules along with exchanges with Danish authorities. Moreover, the documentation from the related JNS procedures has also been utilised.