



Permanente Vertegenwoordiging van het
Koninkrijk der Nederlanden

Deputy Permanent Representative
of the Kingdom of The Netherlands
to the European Union

Brussels, 26 May 2008

Dear Vice-President,

Please allow me to draw your attention to the following.

At this moment the maximum speed for conventional trains in the Netherlands is 140 km/h. This has been the maximum speed for several decades. The Dutch signalling system as implemented on the majority of the Dutch railway network does not allow for speeds above 140 km/h. This signalling system ("ATB eerste generatie") is specified in Annex B of the Technical Specification for Interoperability for Control Command and Signalling related to the Conventional Rail Network.

In recent years some new lines have been constructed for train speeds up to 160 km/h or even higher and also modern rolling stock is capable of speeds well above 140 km/h. This results in specific situations where only the limitations of our present signalling system prevent improvements by raising the maximum speed for the benefit of train passengers.

In the discussions with the Dutch Parliament about the timetable for the year 2007 it became clear that there is a wish to raise the maximum speed for conventional trains to 160 km/h on some recently constructed lines. This will lead to an improvement of the quality of the service and will make more distant parts of the country more accessible. Large numbers of train passengers (about 145,000 daily) may thus benefit from reduced travelling times. This concerns in particular the lines:

- Schiphol - Den Haag
- Amsterdam - Utrecht
- Lelystad - Weesp
- Boxtel - Eindhoven

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This increase of the maximum train speed on these lines can be realised in different ways and is a.o. related to the interpretation of European legislation concerning Control Command and Signalling systems. I therefore would appreciate to receive your advice on this subject. Please find herebelow successively:

- Description of the technically possible upgrades of the ATB system.
- Questions about these modifications in relation to European legislation: these questions are being put forward in order to learn the opinion of the European Commission.

In the appendix the legal aspects of modifications on Class B Control Command and Signalling systems that we consider relevant are summarised.

Description of the technically possible upgrades of the ATB system

Research into the possibilities for such an increase of the maximum train speed shows that there are two technically possible upgrades of the ATB system in order to support train speeds of 160 km/h:

1. ATB code 147 option

The ATB eerste generatie system contains a spare code ("ATB code 147") which may specifically be dedicated to a maximum speed of 160 km/h. At this moment this specific code is not in use in the infrastructure. In the on board units it will be interpreted as a code similar to the one corresponding to a maximum allowed train speed of 80 km/h. By modifying the ATB code 147 in the on board units of all trains that have access to the Dutch railway network and afterwards adding or modifying this code in the infrastructure signalling system of the relevant lines the maximum speeds on those lines are increased from 140 km/h to 160 km/h. The scope of work to be performed in order to realise this increase of the maximum train speed consists of the following 5 categories.

a. Modifications on trains equipped with "ATB fase 4" on board units

These relatively modern on board units have plug-in programmable memories in which most of the relevant parameters can be updated and modified easily. Also the modification of the ATB code 147 from 80 km/h to 160 km/h (for trains that will increase the maximum speed to 160 km/h) or to a lower speed (for trains that do not change their maximum speed) can be done easily by reprogramming this memory at regular services in the workshop (once every 7 months). The cost of this modification is estimated at about € 3,500 per on board unit. Most of the trains that make use of the Dutch railway network are equipped with this unit. The cost of modifications for all these trains together are estimated at about € 2,7 mln.

b. Modifications on trains equipped with "ATB fase 3" on board units and intended to increase their maximum speed from 140 km/h to 160 km/h

These more old fashioned on board units consist of various printed circuit boards. The necessary modification consists of the installation of some additional printed circuit boards and a modification of the communication system between the ATB fase 3 on board unit and the Driver Machine Interface. These modifications can also be done at regular services in the workshop (once every 7 months), but extend the time of withdrawal of the train from operations by about one day. The design of this modification is available, but a safety case still has to be made and assessed by an Independent Safety Assessor. Also trial runs for type approval and certification will have to be performed. The cost of this modification is estimated at about € 36,000 per on board unit. The cost of modifications for all trains of this category on the Dutch railway network are estimated at about € 8 mln.

c. Modifications on trains equipped with "ATB fase 3" on board units and intended to keep their maximum speed at or below 140 km/h

Not all trains that are equipped with ATB fase 3 on board units are able to increase their present maximum speed. Nevertheless modifications are necessary in order to "disconnect" ATB code 147 from the present 80 km/h step. These modifications are less extensive than the ones mentioned here above under b. Because there is no change of the maximum train speed no modifications of the communication system between the ATB fase 3 on board unit and the Driver Machine Interface have to be performed. The additional work for this modification on top of the regular services in the workshop (once every 7 months) is estimated to take about 2 hours. The cost of this modification is estimated at about € 7,000 per on board unit. The cost of modifications for all trains of this category on the Dutch railway network are estimated at about € 1,8 mln.

d. Modifications on trains equipped with other ATB on board units or with ERTMS and STM-ATB on board units

A minority of the trains on the Dutch railway network is equipped with other ATB on board units than the fase 3 or fase 4 units mentioned here above or with ERTMS and STM-ATB on board units. They require modification as well, either in order to increase their maximum speed to 160 km/h or to keep this as it is and "disconnect" ATB code 147 from the present 80 km/h step. Because of the lower number of trains and the greater variety of types it is not yet clear what the impact of these modifications and its cost will be. It is expected that these modifications can also be done at regular services in the workshop (once every 7 months). The type approval and certification of some of these train types however may take a longer period of time because of international operations and therefore mandatory admission in other countries. It seems realistic to estimate the cost of this modification between € 3,500 and € 10,000 per on board unit. The cost of modifications for all trains of this category on the Dutch railway network are estimated at about € 3 mln.

e. Modifications on the infrastructure

After all trains have been modified as specified under a. - d. the signalling system in the infrastructure has to be modified. The activities to be performed consist of the replacement of a number of vital safety relays with a speed code for 140 km/h by those with code 147 (from then onwards corresponding to a maximum speed of 160 km/h). In some specific situations the infrastructure signalling system also requires small additional modifications. Preliminary cost indications of this scope of work are about € 1 - 2 mln. per line.

Please note that this option requires that all trains that have access to the Dutch railway network will have to be modified, including for example slower freight trains, in order to correct and tune the use of ATB code 147 on the entire Dutch railway network on both rolling stock and infrastructure. For this reason the organized Dutch freight operators ("Belangenvereniging Rail Goederenvervoerders") oppose against this modification that does not give them any operational benefit. They will only accept it if they receive full financial compensation for costs and loss of income they have as a result of this, including those for withdrawal from operational services, (international) type approval, certification and trial runs of rolling stock and the possible loss of infrastructure capacity due to larger differences between train speeds. Please also note that the Dutch freight operators make use of trains that fall into the above mentioned categories a., c. and d.

2. ATBL(-NL) option

This option makes use of beacons that are specified as "ATB nieuwe generatie" in Annex B of the TSI. If those beacons are installed in infrastructure which is equipped with an ATB eerste generatie signalling system then trains that are equipped with ATBL, ATBL-NL, ATB nieuwe generatie or ERTMS and STM-ATBL-NL on board units will be able to increase their maximum speed from 140 km/h to 160 km/h. The additional beacons will transmit a signal to the on board unit that the speed code that normally corresponds to a maximum speed of 140 km/h may be interpreted as a maximum speed of 160 km/h. This system has already been implemented and put into service on several trains on the line Hoofddorp - Den Haag before the Commission Decision 2006/679/EC concerning the TSI on 28 March 2006. Preliminary cost indications of these upgrades are about € 100.000 per train and (additionally) about € 0,5 - 1,5 mln. per line (infrastructure).

Questions about these modifications in relation to European legislation

1. The above mentioned ATB code 147 option is very cost-effective for NS because it is merely the activation of a spare code in the majority of the on board units. This code is also mentioned in the Dutch "Regeling keuring spoorvoertuigen", a lower level regulation for the admission of trains. It can be regarded as if NS has pre-invested in this option. If however European legislation forces the implementation of another option than ATB code 147 then NS has to invest again. Is there a possibility for the European Commission or the Dutch government to compensate and support NS and other railway companies for these additional investments in rolling stock? Which conditions have to be met to get the approval of the European Commission for the state aid measure if the Dutch government wants to support NS and other railway companies?
2. Do you consider the above mentioned ATB code 147 and ATBL(-NL) options as upgrades and as changes of the functionality of the ATB eerste generatie legacy Class B system as described in Annex B to the TSI?
3. I understand that there are intentions in Belgium to modify their legacy Class B system TBL to TBL1+ by adding standard Eurobalises. What is your opinion about a possible similar modification of the ATBL(-NL) option, which will use these standard Eurobalises instead of ATB nieuwe generatie beacons? Such a modification may be considered as a change of functionality according to article 4 of the Commission Decision 2006/679/EC, but is also a significant first step towards ERTMS which improves interoperability and reduces cost for both the railway companies and the infrastructure manager. Such a modification also seems in line with the regulations for pre-fitment of ERTMS.
4. I understand that the creation of unjustified barriers or competitive advantages for railway companies plays an important role in the assessment of a possible derogation from the TSI. The above mentioned ATBL(-NL) option does not force railway companies to invest in it if they do not get any benefit from it. Thus for example freight operators who are not interested in a speed increase will not suffer from the implementation of this option. NS has the exclusive right for passenger transport on the four concerned lines until 2015 on the basis of a concession. Do you agree therefore that the possible use of this option by NS can by no means be interpreted as the creation of unjustified barriers or competitive advantages?
5. Article 7 sub d of Directive 2001/16/EC states that a TSI does not have to be applied by a Member State if the economic viability of a project is compromised. Which conditions have to be met in order to get the permission of the European Commission for the derogation of the TSI on the basis of article 7 sub d?

6. There is a short term wish to use other technology than ERTMS for this specific increase of the maximum train speeds on the four concerned lines. On the short term we search for infrastructural expansions that can be realized quickly for increases in train intensity and improvements in the quality of the service. For the long term the Netherlands and the Dutch railway sector (ProRail, NS and the Belangenvereniging Rail Goederenvervoerders) are committed to ERTMS. At this moment ERTMS is in service on the Betuweroute (part of the European corridor Rotterdam - Genoa) and it will soon be taken into service on the HSL-Zuid Railway Line (Amsterdam - Rotterdam - Brussels). It will also be implemented on the lines Amsterdam - Utrecht and Lelystad - Zwolle (Hanzeline). At this moment the Dutch Ministry of Transport, Public Works and Water Management is working together with the Dutch railway sector on the realization of a definitive ERTMS implementation plan, which is planned to be finalized by the end of this year. A draft version has been sent to you in October 2007. There is no doubt about the drive for all parties involved to continue the implementation of ERTMS. The implementation of the above mentioned ATB modifications on only a maximum of four lines is only a temporary measure for the improvement of the existing rail network and will cause by no means a delay in the further implementation of ERTMS on the Dutch railway network. We look for possibilities to raise the maximum train speed on specific lines to 160 km/h in order to achieve such an improvement of the quality of the service and to make more distant parts of the country more accessible. Large numbers of train passengers (about 145,000 daily) may thus benefit from reduced travelling times. The present ATB eerste generatie signalling system as implemented on the majority of the Dutch railway network does not allow for speeds above 140 km/h. However this system contains a spare code (ATB code 147) which may specifically be dedicated to a maximum speed of 160 km/h. Because the four concerned lines have been constructed for train speeds up to 160 km/h only limited additional investments are required. These investments are relatively small in comparison with the benefits for train passengers. This ATB code 147 option may be used in the next 15 years. The necessary investments for this option may be written off in this period. Do you agree that the short term implementation of other technology than ERTMS on the four concerned lines does not prevent a dynamic implementation of ERTMS on the Dutch railway network?
7. Can you inform me about the derogations on the basis of article 14 sub 3 of Directive 2001/16/EC that have been notified by other Member States?
8. Can you inform me about the derogations on the basis of article 7 sub d of Directive 2001/16/EC that have been granted by the European Commission?

Due to commitments to the Dutch Parliament, I very much would appreciate to receive your answer on the above mentioned questions within four weeks. Please do not hesitate to contact me if you have any further queries.

~~Peter~~ Kok

Appendix

Legal aspects of modifications on Class B Control Command and Signalling systems

In order to assess the legal aspects of modifications on the Dutch Class B Control Command and Signalling systems the following extracts of the European legislation seem relevant.

1. It is of importance to assess if the modifications are to be regarded as an "upgrade" according to Directive 2001/16/EC. In article 2 sub 1 of this Directive the word "upgrade" is defined as follows:

"Upgrading" means any major modification work on a subsystem or part subsystem which improves the overall performance of the subsystem"

If the modifications are not considered as an upgrade according to this definition then there is no objection against its use.

2. If the modifications however are considered as an upgrade according to this definition then the following extract from article 4 of the Commission Decision 2006/679/EC¹ related to the Conventional Rail Network is of importance:

"Member States shall ensure that the functionality of the legacy Class B systems referred to in Annex B of the TSI as well as their interfaces are kept in terms of scope as currently specified excluding those modifications that might be deemed necessary in order to mitigate safety-related flaws of these systems."

Section 7.2.2.5 of the TSI attached to this Commission Decision reinforces this statement and requires as regards the so-called legacy systems that *"Member States shall ensure that the functionality of the legacy systems referred to in Annex B to the TSI as well as their interfaces is to remain as currently specified, excluding those modifications that might be deemed necessary in order to mitigate safety-related flaws of these systems"*.

3. Even if the modifications are not allowed on the basis of the above mentioned extracts of the Commission Decision 2006/679/EC and the TSI a Member State has the possibility to derogate from the TSI on the basis of article 14 sub 3 of Directive 2001/16/EC, which states the following:

¹ Commission Decision 2006/679; OJ L 284, 16.10.2006, p.1.

"3. In the event of renewal or upgrading, the infrastructure manager or the railway undertaking shall send the Member State concerned a file describing the project. The Member State shall examine this file and, taking into account of the implementation strategy indicated in the applicable TSI, shall decide whether the size of the works means that a new authorisation for placing into service within the meaning of this directive is needed. Such new authorisation for placing into service shall be required each time the overall safety level of the subsystem concerned may be affected by the works envisaged. If a new authorisation is needed, the Member State shall decide to what extent the TSI's need to be applied to the project. The Member State shall notify its decision to the Commission and the other Member States."

The decision of the Member State of the application of TSI's should be based upon arguments which are technical instead of economical.

4. If there is no possibility for a derogation on the basis of the above mentioned article 14 sub 3 of Directive 2001/16/EC then still a derogation for the application of the TSI may be possible on the basis of article 7 sub d of the same Directive, which states the following:
"A Member State need not apply one or more TSI's, including those relating to rolling stock, in the following cases and circumstances:

d. for any proposed renewal, extension or upgrading of an existing line, when the application of these TSI's would compromise the economic viability of the project and/or the compatibility of the rail system in the Member State."

The derogation on the basis of article 7 sub d requires a preparatory decision of the European Commission. The European Commission shall take a decision in accordance with the procedure in the articles 5 and 7 of decision 1996/468/EC.