

Session 2: Certification and Authorisation - NSA challenges seen from NSA-DK point of view

ERA ERTMS 2026 conference, 22nd April
2026

The background:

Banedanmark invests in a nationwide implementation of ETCS level 2.

Appr. 1.850 km of line are or will be equipped with ETCS level 2

321 vehicles have been equipped with ETCS

Vehicle approvals

Vehicles from both large and small operators

In some cases the vehicle, taken out of service for being refitted with ETCS, is the only reserve.

Stand still period must be as short as possible, a locomotive not in service is waste of money

Avoid additional costs



Vehicle approvals

The approval regime used, which only applies for vehicle authorisations, for which the applicant chooses the Danish NSA as the authorizing entity in OSS, consists of 6 steps:

1. A type approval is issued.
2. A first of class APOM is issued for the first vehicle in the series. At this step, the applicant has also submitted the relevant certificates to demonstrate a suitable quality management system in the project and in the workshop facilities for the series production.
3. Based on step 1 and 2, an intermediate test approval is issued for the remaining vehicles in the series.
4. Based on the approval and a documented quality check of test and commissioning documents along with the conformity to type and declaration of verification, the vehicles can be placed back into service immediately after re-fitment. The quality check is carried out by Banedanmark. Within this step 4, every single vehicle is checked separately before it is placed back into service.
5. Max. six weeks after having implemented the change, an application and its documentation is submitted in OSS
6. The Danish NSA will handle the documentation according to the national case handling target, issue a new APOM and update the vehicle register

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3. Based on step 1 and 2, an intermediate test approval is issued for the remaining vehicles in the series.

4. After a presented quality check of test and commissioning documents along with a successful verification, the vehicles can be placed back into service immediately. The verification is carried out by Banedanmark. Within this step 4, every single vehicle is allowed back into service.

5. Max. six weeks after having implemented the change, a new APOM is submitted in OSS

6. The Danish NSA will handle the documentation according to the national case handling, issue a new APOM and update the vehicle register

WHAT CAN GO WRONG?????

Vehicle approvals

Vehicles that from the outside looked as belonging to one type had to be split into several types, e.g. more type approvals and APOM's

- After installation differences between vehicles belonging to the same type was found

Vehicle approvals, no of types



Vehicle approvals, no of types



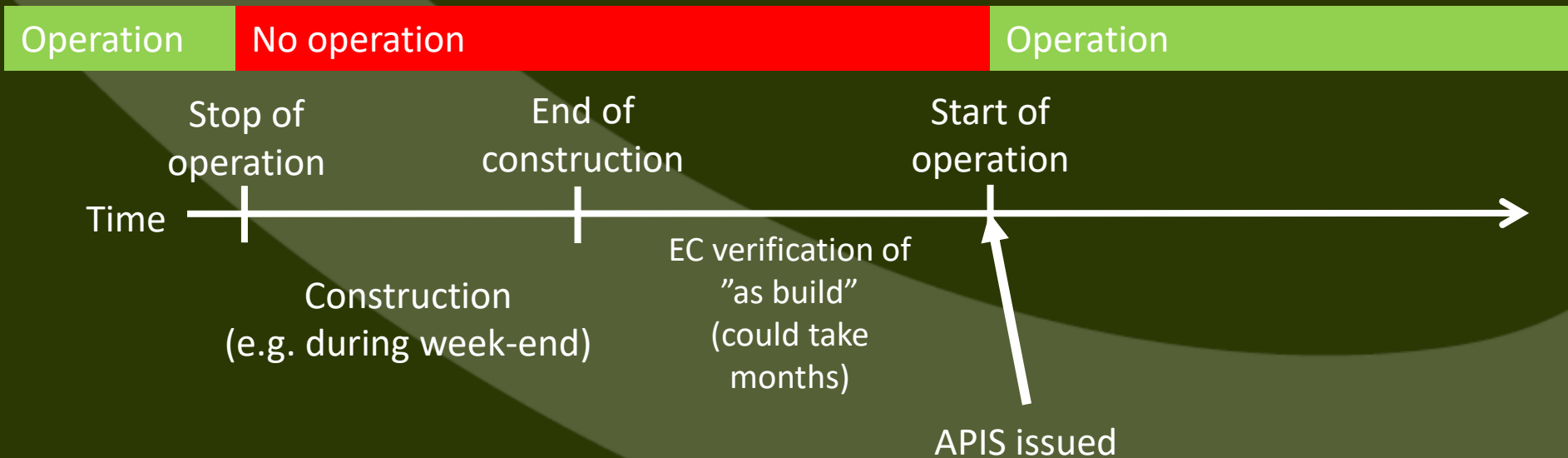
Vehicle approvals

Vehicles that from the outside looked as belonging to one type had to be split into several types, e.g. more type approvals and APOM's

- After installation differences between vehicles belonging to the same type was found
It was often difficult for the applicant to send in the final documentation within six weeks

Infrastructure approvals

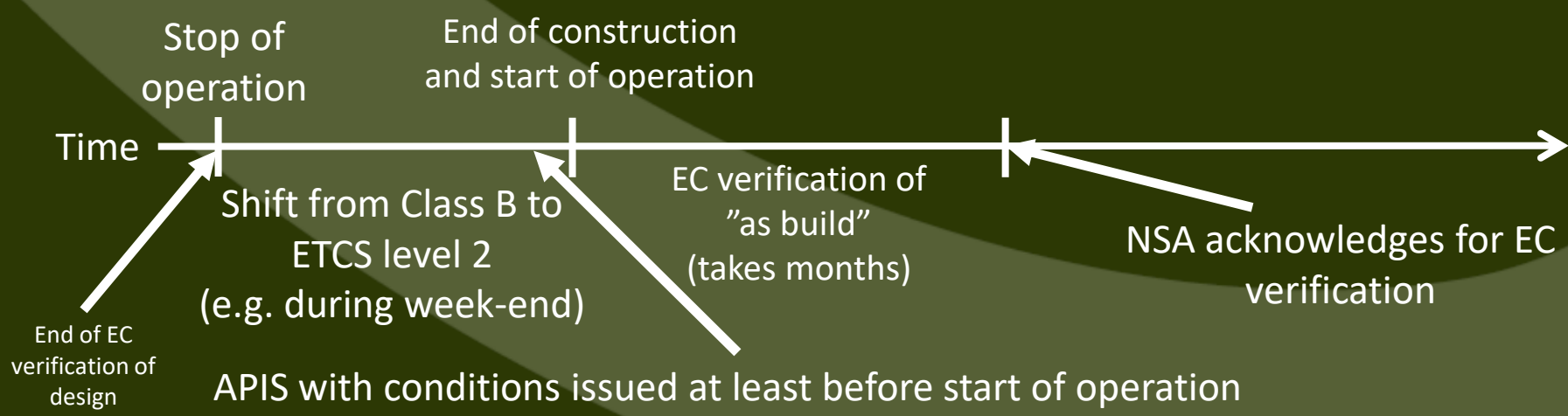
- DK NSA interprets European rules in the following way:



Infrastructure approvals

- The installation of ETCS level 2 in the infrastructure is an upgrade of existing infrastructure
- For these changes, DK NSA issues APIS' based on the EC verification for the planned change to the infrastructure
- The APIS includes a condition to submit the EC verification for the actual change within 6 months
- Why?
 - To limit time of stop of operation on existing infrastructure
 - The biggest IM in DK (Banedanmark) is well experienced with regard to safety management system, which have shown its proficiency
 - The biggest IM in DK is well experienced with regard to maintenance and operation of changes to infrastructure
 - Over 90% of infrastructure projects in DK are done by Banedanmark

Infrastructure approvals



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You can call the Authority on weekdays between 9 a.m. and 3 p.m. at +45 7221 8800.