Discussion Points for 110 MPH vs. 125 MPH Maximum Speed for PRIIA Dual Mode (DC 3rd Rail) Requirements Document

Standardization Issue:

The 125 MPH top speed for PRIIA vehicles is enshrined neither in the PRIIA legislation nor in any FRA regulation; it is a policy decision developed by the NGEC and the FRA in the interests of "standardization" for next generation passenger equipment to be used in the United States, as the 125 MPH top speed is the maximum speed under which vehicles would not fall under the FRA Tier 2 passenger car equipment requirements in the Code of Federal Regulations.

The PRIIA Bi-Level car, Single-Level Car, Trainset, and Diesel-Electric Locomotive all have been required to meet the 125 MPH maximum speed standard. When the Diesel-Electric specification was being developed in 2010, New York wanted to include language in the specification to allow for a future 3rd Rail DC variant of the locomotive, but this was rejected in lieu of a promise for a separate Dual Mode Specification. At the time, it was uncertain if a 125 MPH locomotive was financially viable, a question which was addressed in the affirmative by the Locomotive Technology Task Force in 2011. [Pages 30-31, LTTF Report]

Within the NGEC process, there is precedent for deviation from the "standardization" concept for previously approved Requirements Documents and Specifications, in that certain vehicles may not be used nationally. The Bi-Level Car cannot be used in the Eastern United States north of Washington as it exceeds the vertical clearances and cannot be used to serve high-level platforms. Although it meets the clearances, the Trainset cannot be used in the same territory, as it also cannot be used to serve high-level platforms. The Diesel-Electric Locomotive cannot be used to enter NYC as the use of internal combustion engines in the tunnels and stations is prohibited by law. And finally, the Diesel Multiple Unit A-B pair vehicle was approved with a maximum top speed of 110 MPH, although the DMU could be used nationally.

Empire Corridor Tier I Environmental Impact Statement Issue:

Within New York State, the current maximum top speed in the State for passenger trains is 110 MPH. A detailed listing of maximum authorized speeds by rail line is attached. To summarize, the MAS for passenger service by Railroad on territory over which existing Dual Mode Locomotives currently operate:

Amtrak	110 MPH
Metro North Railroad	90 MPH
Long Island Rail Road	80 MPH *[DM30 AC not P32AC-DM]*
CSX Transportation	79 MPH
Canadian Pacific Railway	60 MPH *[P32AC-DM rarely operated but PRIIA DM is planned to be]*
Clarendon & Pittsford Railroad	59 MPH

The **AMTK Empire Corridor,** which is the subject of the Tier I Environmental Impact Statement, is the designation which includes all rail lines between Penn Station and Niagara Falls. The document may be assessed at: https://www.dot.ny.gov/empire-corridor/deis

The Empire Corridor Tier I EIS, for which FRA is the Lead Agency, advances four speed alternatives on the Empire Corridor west of Albany/Rensselaer:

79 MPH
90 MPH (Two Alternatives, A & B)
110 MPH
125 MPH

The 79 MPH, 90 MPH, and 110 MPH Alternatives west of Albany/Rensselaer would operate with locomotives in Diesel Mode.

The Tier I EIS does not propose an increase from 110 MPH to 125 MPH for the MNR and AMTK Hudson Line, that is, south of Albany/Rensselaer:
"Alternative 125 would include Alternative 90A improvements along the Hudson Line and Niagara Branch." [Tier I Draft EIS, Page 4-299] The track geometry south of Albany/Rensselaer Station will not support 125 MPH.

As for the125 MPH Alternative itself:
"Alternative 125 would also add a new electrified (with overhead catenary), two-track, grade-separated high-speed rail corridor of 283 miles between Albany/Rensselaer Station and a new Buffalo station." [Tier I Draft EIS, Page ES-14]

With respect to the type of Locomotives to be used for the 125 MPH Alternative:
"Alternative 125 would add 17 dual mode locomotive-powered trainsets to increase the frequency of passenger rail service. All Empire Corridor Alternatives require continued use of dual mode locomotives. Alternative 125 will use a **different type of dual mode locomotive** *[emphasis added],* similar to those recently introduced on the NJ TRANSIT and AMT (Montreal) commuter rail networks. Rather than 700 volts (DC) third rail power, Alternative 125 will use a diesel/AC overhead contact wire dual mode capability." [Tier I Draft EIS, Page 3-59]

Discussion of Locomotive:

The locomotive to which the DEIS refers for operation under the AC Catenary is clearly the Bombardier ALP-45DP, which can operate at 125 MPH in AC Catenary electric mode (although only at 100 MPH in diesel mode). Section 3.0 of the Dual Mode (3rd Rail) Locomotive Requirements Document contains a discussion concerning a potential Dual Mode (AC Catenary) Locomotive as a future possibility, as well as a potential "Tri-Mode" (DC 3rd Rail/AC Catenary/Diesel-Electric) locomotive. The AC Catenary Dual Mode and "Tri-mode" locomotives, however, are NOT part of the current requirements document and are NOT part of the PRIIA

Dual Mode (DC 3rd Rail) Locomotive Specification which we will start to develop once the revised Requirements document is approved by the NGEC Executive board.

Therefore, as per the Empire Corridor Tier I EIS, for which FRA is the Lead Agency, there are no plans to operate locomotives in diesel mode at 125 MPH in the State of New York.

Accordingly, New York State and the PRIIA Locomotive Working Group recommends to the PRIIA NGEC Technical Subcommittee that it concurs with the 110 MPH maximum sustained speed in Diesel Mode for the PRIIA Dual mode (DC 3rd Rail) Locomotive Requirements Document.

PRIIA Locomotive Working Group
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