Section 305 Technical Subcommittee
Progress Report

Mario Bergeron - Chairman

Washington, DC            February 20, 2015
Highlights Since Last Meeting: February 21, 2014

- Technical Subcommittee Overview
- Document Management
- Vehicle Specification Current Versions
- Dual Mode Locomotive Specification
- Accessibility Working Group
- Additional Tasks
  - Digital Trainline (DTL)
  - Electronically Controlled Pneumatic (ECP) Brake
  - Diesel Exhaust Fluid (DEF/Urea) Working Group
Technical Subcommittee Overview

• Membership
  – Core Team
  – Industry Members

• Structure
  – Technical Working Groups

• Meetings
  – Subcommittee
  – Technical Working Groups
Document Management - To Create

- Major PRIIA Technical Subcommittee long term effort
- Technical Writer Support Contract Through AASHTO
- Change review process essentially the same for each document
Document Management – To Change

Summary

Details
RCC - Revision Control Coordinator
DCC - Document Control Coordinator
DCB - Document Control Board
TSC - Technical Subcommittee
NGEC - Executive Board
Vehicle Specs: Current Versions

- Bi-Level: C.2 – 11/18/14
- Locomotive: A.1 – 12/9/14
- Single Level: A – 11/13/12
- Trainset: A – 12/10/13
- DMU: IR – 9/4/12
Dual Mode Locomotive Spec - 1

• Requirements Document Revision A was Approved by the Executive Board on 1/6/15

• Sustained 110 mph in D-E Mode, 80 mph in Electric Mode (nominal 700 VDC 3rd Rail)

• 3rd Rail Shoe able to draw power from Under-running and Over-running 3rd Rail in compliance with MNR, LIRR and AMTK clearance diagrams

• EPA Tier 4 Diesel

• Will be able to start 1,900,000 lb train on 2% grade or 1,300,000 lb train on 3% grade
• On-Board Energy Storage System to move locomotive and cars when stopped on 3rd rail gap for 250 ft at a speed of 5 mph

• Environmental conditions as in PRIIA Specification 305-912 and the Northeastern United States Supplement (being developed concurrently)

• Dual mode locomotive shall provide for standardization of components with those used in the PRIIA Diesel-Electric Locomotive where practical
• Provide a common platform for potential future locomotives using straight diesel-electric propulsion and electric power provided by an overhead catenary system. Any future dual mode diesel-electric/AC catenary locomotive shall provide for standardization of components with those used in the PRIIA Diesel-Electric Passenger Locomotive and any PRIIA Dual Mode (DC 3rd Rail) Passenger Locomotive Specification to the maximum extent practicable.
Accessibility Working Group

• Led by FRA
  – Melissa Shurland is the liaison between the Rail Vehicles Access Advisory Committee (RVAAC) and the PRIIA Accessibility Working Group
  – Bi-weekly updates provided to the Technical Subcommittee on recommendations for improved accessibility on rail vehicles.

• Efforts past year
  – Contract issued to conduct spatial study of AWG recommendations for restrooms and seating area
  – Participated in Full RVAAC meetings and subcommittees monthly calls
Additional Tasks - 1

• Digital Trainline
  – Led by Amtrak, using “PRIIA Open Model”
  – Hardware Specification Approved 9/30/14
  – Non-vital Functions Only
  – Working with AAR/FRA/Freights
  – Installed on Equipment in California
Additional Tasks - 2

• Electronically-Controlled (ECP) Brakes
  – Led by APTA, some FRA Funding
  – Using AAR ECP Standards as Baseline
  – Testing on Amtrak’s Harrisburg Line
• DEF/UREA Working Group
  
  UREA = CO(NH\(_2\))\(_2\)
  DEF = 32.5% UREA and 67.5% De-Ionized Water

  – Catalytic Converter Solution to meet T4 EPA requirement
    • Sprayed on C.C. during operation converting NOx to nitrogen gas and water

  – Storage Requirements
    • Safety, Operational, Security and Environmental issues
      – Ex. Harmful to Skin, Freezes at 12°F, Requires Special Materials because Corrosive, Causes Damage to Aquatic Environments

  – Working Group Led by Illinois Department of Transportation
Thank You

- Steve Hewitt
- Camren Cordell
- Technical Working Group Leaders & Volunteers
- Presentation Technical Team
- Technical Support & Consultants
- Technical Subcommittee Members