

Section 305 Technical Subcommittee Progress Report

Mario Bergeron - Chairman

Washington, DC

February 20, 2015



The NGEC will provide national leadership in standardization, acquisition, financing and management of passenger rail equipment.

Presentation Summary

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



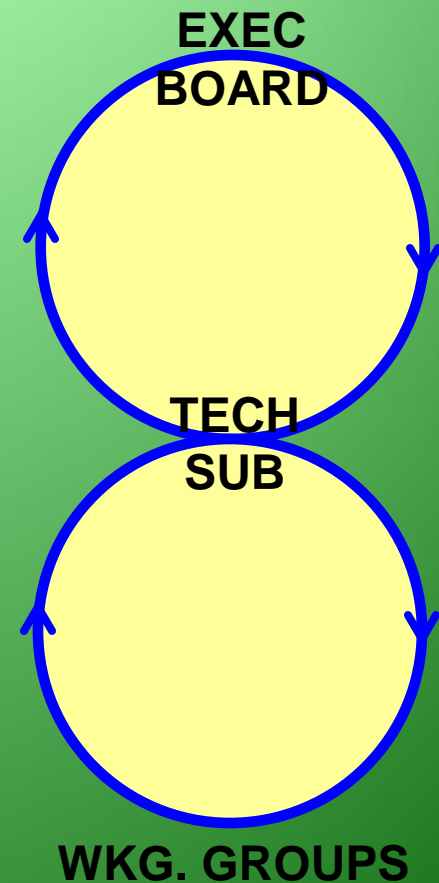
Technical Subcommittee Overview

- **Membership**
 - Core Team
 - Industry Members
- **Structure**
 - Technical Working Groups
- **Meetings**
 - Subcommittee
 - Technical Working Groups

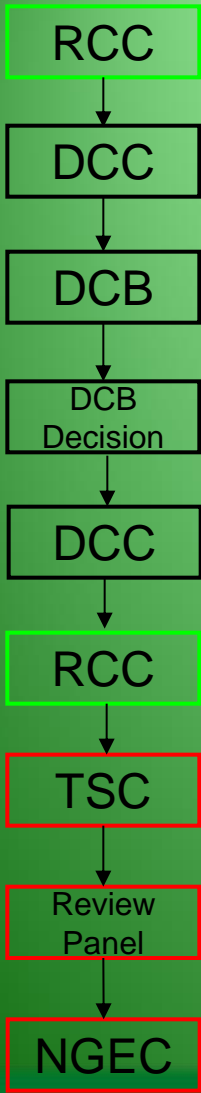


Document Management - To Create

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



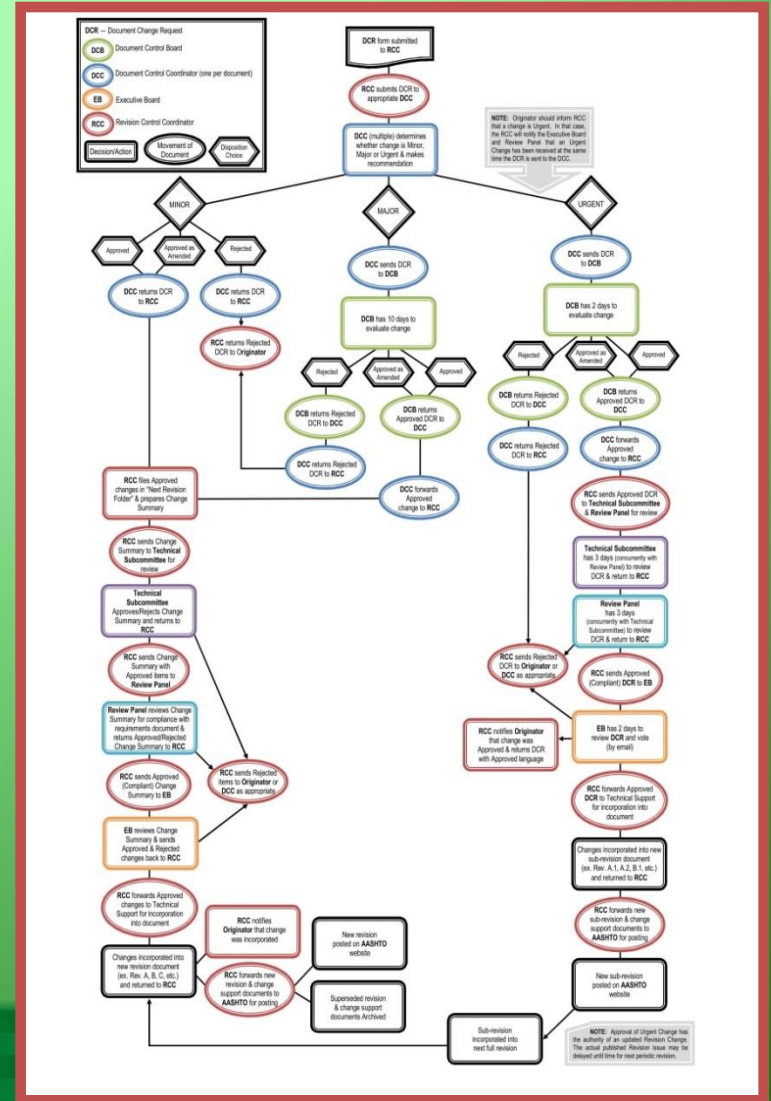
Document Management – To Change



← 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



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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



Dual Mode Locomotive Spec - 2

- 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



Dual Mode Locomotive Spec - 3

- 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



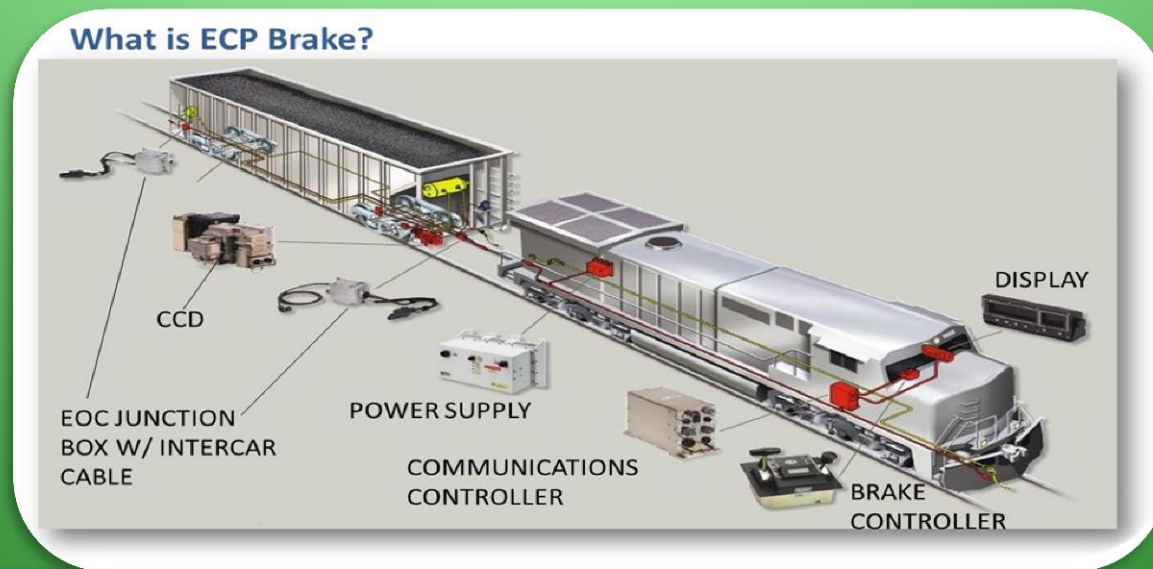
Additional Tasks - 1

- **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

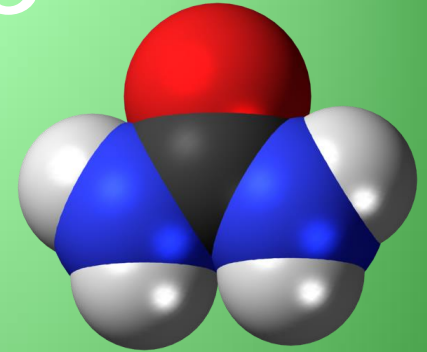


Additional Tasks - 3

- **DEF/UREA Working Group**

UREA = $\text{CO}(\text{NH}_2)_2$

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

GJP 2015



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