

# NGEC Technical Subcommittee and Specification Development

TRB Annual Meeting  
January 14, 2020

Charles King, VP Mechanical  
National Railroad Passenger Corporation (Amtrak)  
P20-20731



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



# PRIIA 305

## Passenger Rail Investment and Improvement Act of 2008 (PRIIA)

- The Passenger Rail Investment and Improvement Act of 2008 (PRIIA) reauthorizes the National Railroad Passenger Corporation, better known as Amtrak, and strengthens the US passenger rail network by tasking Amtrak, the U.S. Department of Transportation (US DOT), Federal Railroad Administration (FRA), states, and other stakeholders in improving service, operations, and facilities. PRIIA focuses on intercity passenger rail, including Amtrak's long-distance routes and the Northeast Corridor (NEC), state-sponsored corridors throughout the Nation, and the development of high-speed rail corridors.



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



# PRIIA 305

## Next Generation Corridor Equipment Pool Committee

- Amtrak was required to establish the Next Generation Corridor Equipment Pool Committee, comprised of representatives of Amtrak, the Federal Railroad Administration, host freight railroad companies, passenger railroad equipment manufacturers, interested States, and other passenger railroad operators. The Committee was formed to design, develop specifications for, and procure standardized next-generation corridor equipment.
- Revitalization of the American Passenger Railcar Manufacturing Industry.



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



# PRIIA 305 Technical Subcommittee

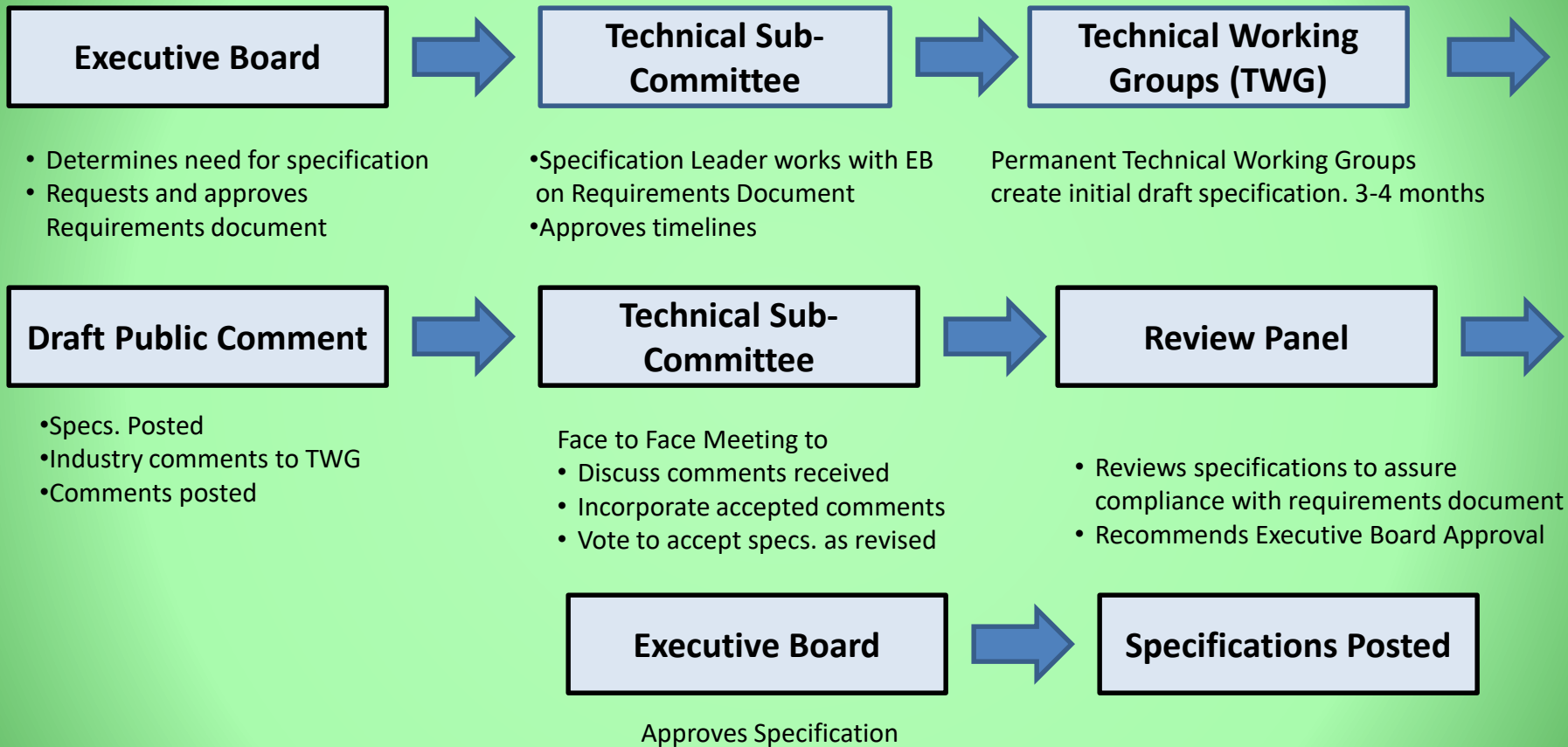
- Main purpose is to develop specifications as requested by the Executive Board.
- Comprised of representatives from Amtrak, FRA, States, and rail equipment manufacturers and suppliers.
- Currently we have 13 states involved; California, Connecticut, Illinois, Iowa, Maine, Michigan, Missouri, New York, North Carolina, Oklahoma, Oregon, Washington and Wisconsin.
- Presently over 225 volunteer members. Open to anyone from companies/consultants involved in rail.
- Each Specification has a Leader to coordinate the creation process.
- Majority of spec writing done by members of the 6 permanent working groups on a volunteer basis with support from a technical writer.



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



# Specification Creation Process



# PRIIA 305 Technical Subcommittee

- Main purpose is to develop specifications as requested by the Executive Board.
- Comprised of representatives from Amtrak, FRA, States, and rail equipment manufacturers and suppliers.
- Currently we have 13 states involved; California, Connecticut, Illinois, Iowa, Maine, Michigan, Missouri, New York, North Carolina, Oklahoma, Oregon, Washington and Wisconsin.
- Presently over 225 volunteer members. Open to anyone from companies/consultants involved in rail.
- Each Specification has a Leader to coordinate the creation process.
- Majority of spec writing done by members of the 6 permanent working groups on a volunteer basis with support from a technical writer.

Next Generation  
Equipment Committee

Next Generation  
Equipment Committee



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



# Specification Creation

All of the chapters for the car specifications have the same titles and where possible the actual chapters are the same.

1. Specification Summary
  - 2. References and Glossary**
  - 3. Project Management**
  4. Carbody
  5. Trucks
  - 6. Couplers and Draft Gear**
  - 7. Brakes**
  8. Door Systems
  9. Interior
  10. HVAC System
  11. Lighting System
  - 12. Communications System**
  13. Electrical System
  14. Food Service
  15. Water and Waste System
  16. Cab and Train Controls
  - 17. Emergency Equipment**
  - 18. Materials and Workmanship**
  - 19. Test Requirements**
  - 20. Tools, Consumables and Spare Parts**
  - 21. Shipping Preparations**
  - 22. Training and Documentation**
  23. Customer Variables
- Items in Bold are similar between equipment types.



# Specification Creation

The Locomotive chapters are the same as the cars where they can be. Again some of the chapters are the same, for example; References and Glossary.

- 1. Specification Summary**
  - 2. References and Glossary**
  - 3. Project Management**
  - 4. Locomotive Carbody**
  - 5. Running Gear**
  - 6. Couplers and Draft Gear**
  - 7. Brakes**
  8. Engineers Cab
  9. Locomotive Propulsion System
  10. AC Power Dist., Comm and MU
  - 11. Lighting System**
  - 12. Locomotive to Train Communication**
  - 13. Head End Power System**
  14. Battery System
  15. Sanding System
  - 16. Engineers Cab Controls**
  17. Fuel System
  - 18. Materials and Workmanship**
  - 19. Test Requirements**
  - 20. Tools, Consumables and Spare Parts**
  - 21. Shipping Preparations**
  - 22. Training and Documentation**
  - 23. Customer Variables**
  24. Safety Accessories
  25. Environmental Characteristics
- Items in Bold are similar between car and locomotives.**





# The following 6 Equipment Specifications have been created since January 2010

- Bi-Level: C.4 – 8/2/16
- Locomotive: A.1 – 12/9/17
- Single Level: A – 11/13/12
- Trainset: A – 12/10/13
- DMU: IR – 9/4/12
- Dual Mode Loco: IR – 2/2/16



# Revising Specifications

After the specifications are completed and issued as version IR (initial release) the process of updating and revising the specification becomes an issue. This has led us to develop a complete and thorough process for managing change control.

## Document Change Request Form (DCR)

- This is the basis for all changes.
- Changes can be proposed by anyone using a DCR.
- Evaluated by the TWG responsible for the section affected.
- Approved by the TWG.
- Approved by the Technical Subcommittee during the regular phone conference and sent to Executive Board for approval.



# Revising Specifications

- Review panel reviews change to verify compliance with requirements document.
- Executive Board approves.

This process can take months because typically the DCRs are processed and a specification is revised after several DCRs have been received.

There is an Urgent DCR process to address issues that may come up during a procurement. This pushes a DCR through the system in less than two weeks.

Next Generation  
Equipment Committee

Next Generation  
Equipment Committee



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



# Current Status of Revisions

- The Bi-level specification is currently on revision D and the TWGs processed a total of 295 DCRs to date.
- The Single level and Trainset specifications were both updated in 2019 and incorporated 180 and 102 changes, respectively.
- The Locomotive specification is on revision B and so far the TWGs have processed 70 DCRs.
- Starting this month, the TSC will begin the undertaking of updating the DMU specification. This will include evaluating every change made to every PRRIA specification to determine if it applies to the DMU. A DCR will be created for every proposed change.



# Comments or Questions?



Next Generation  
Equipment Committee

Next Generation  
Equipment Committee



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

