

# NGEC Technical Subcommittee and Specification Development

NGEC Annual Meeting  
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National Railroad Passenger Corporation (Amtrak)  
Vice Chair NGEC Executive Board  
Chair, NGEC Technical subcommittee



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

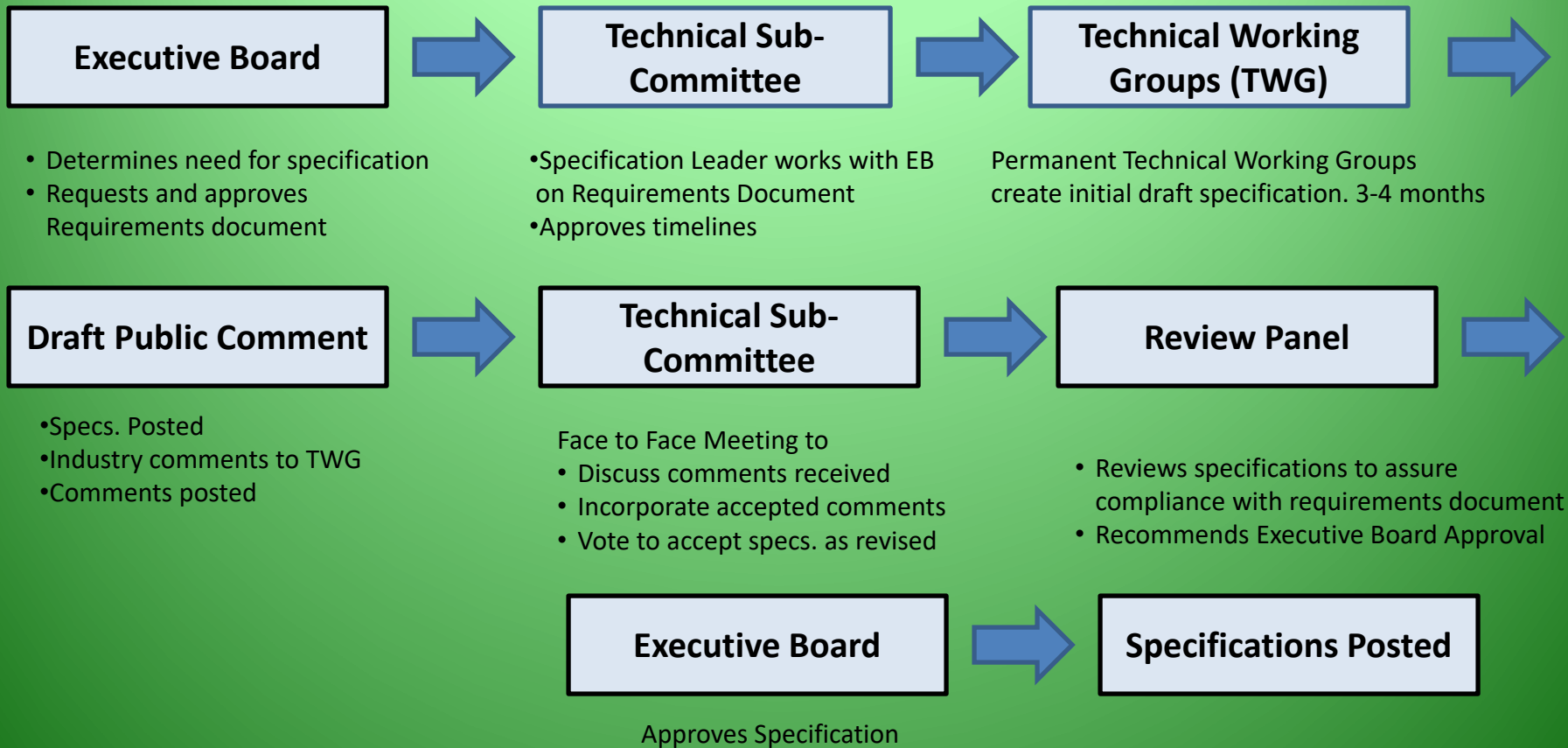
# PRIIA 305 Technical Subcommittee

- Main purpose is to develop specifications as requested by the Executive Board.
- Comprised of representatives from Amtrak, FRA, and States (Core Members) and rail equipment manufacturers and suppliers (industry participants).
- Currently we have 9 states involved; California, Connecticut, Illinois Iowa,, Missouri, New York, North Carolina, Oregon, Washington.
- Presently over 200 volunteer members of the passenger rail manufacturing and supply industry. Open to anyone from companies/consultants involved in passenger rail.
- Each Specification has a Leader to coordinate the creation process.
- Majority of spec writing is done by members of the 6 permanent technical working groups on a volunteer basis with support from a technical writer.



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# Specification Creation Process



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# Specification Creation

All of the chapters for the car and locomotive specifications have the same titles where possible. Several of 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/updated since January 2010

- Bi-Level: C.4 – 8/2/16
- Locomotive: Rev B – 6/20/17
- Single Level: Rev B.2 – 2/12/19
- Trainset: Rev B – 10/22/19
- DMU: IR – 9/4/12
- Dual Mode Loco: IR – 2/2/16



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# Revising Specifications

After specifications are completed and issued as version IR (initial release) there is a need to maintain, update and revise the documents. This led us to the development of PRIIA Document Management Procedures (305-100).

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

An Urgent DCR process exists for issues during a procurement. (< 2 weeks)



# Revising/Updating Specifications

This process is thorough and ensures that the specifications remain PRIIA compliant. Typically the DCRs are processed, and a specification is revised or updated only after a number of DCRs have been received.

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



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# Current Status of Vehicle Specification Revisions/Updates

- 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.
- The DMU Specification is in the process of being updated to Revision B. Thus far 81 DCRs were approved by the TSC and sent to the Executive Board. (An additional 120 changes have been submitted for consideration by Stadler Rail and will be sent to the technical working groups for review.)



# TSC Highlights for 2020

- Approved initial changes (81 DCRs) to update the DMU specification and submitted them to the Executive Board. Beginning review of additional changes submitted by Stadler Rail.
- Established a technical working group to review issues related to PRTIA specification weight issues.
- The Electronics on Trains working group continued its efforts to revise Digital Trainline Hardware specification 305-919 and to develop a DRAFT Digital Trainline Software specification 305-920.
- The subcommittee continues to monitor and receive monthly updates on the FRA/University of Nebraska High Speed Wireless Study-Phase 2; and the FRA/AAR TAG Committee on LED Headlights-Phase 3.
- Developed first DRAFT of TSSSA Primer to be reviewed by the full Technical subcommittee prior to submittal to the Executive Board



# 2021 A Look Ahead

- Complete development of the TSSSA Primer for Executive Board Approval.
- Complete re-formatting of Single level Trainset Specification 305-007 Revision B
- Complete DMU Specification 305-009 update - Revision B
- Complete work on issues related to Weight in PRIIA specifications and the potential development of a sub-specification.
- Establish process and timeline for Tech SC review of Access Board NPRM Accessibility Guidelines and compare with current NGENC Specifications



# Comments or Questions?



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