



*Our Vision: The NGEC will provide national leadership in standardization, acquisition, and management of passenger rail equipment.*

### Section 305 Next Generation Corridor Equipment Pool Committee (NGEC)

**Monthly Activities Report: May 31, 2022**

**Submitted By: Steven J Hewitt, Program Manager, S305 NGEC**

**Public law 110-432 required Amtrak to:**

*...establish a 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 as appropriate, other passenger railroad operators.*

*"The purpose of the Committee shall be to design, develop specifications for, and procure standardized next-generation corridor equipment.*

*(b) Functions – the Committee may –*

- 1) Determine the number of different types of equipment required, considering variations in operational needs and corridor infrastructure.*
- 2) Establish a pool of equipment to be used on corridor routes funded by participating states; and*
- 3) Subject agreements between Amtrak and States, utilize services provided by Amtrak to design, maintain and remanufacture equipment."*

#### **Executive Board**

**Chair: Ray Hessinger, NYSDOT**

**Vice Chair: George Hull, Amtrak**

**Secretary: John Oimoen, IDOT**

**Treasurer: Tim Ziethen, Amtrak**

**The Executive Board holds bi-weekly conference calls – Tuesdays at 11:30am Eastern**

During the month of May 2022, the Executive Board met twice - on the 3<sup>rd</sup> and the 17<sup>th</sup>

Highlights, decisions, and action items from the month of May 2022 include:

Treasurer's Report and Finance and Administrative Sub-committee:

Due to the Treasurer being out on medical leave there were no updates provided on the Balance and Spend rate. The following reflects the last report provided April 2022:

- Balance/ Spend Rate:

Total Initial Grant Amount: \$1,250,000.

Amount Spent through January: \$912,469.91

Balance remaining: \$ 337,530

Current Spend Rate per month (as info and used in calculating): \$14,257  
 Estimated Balance at the end of the Extension Period (Contingency): \$52,000

- Status – Developing SOW for Website Refresh

Steve Hewitt and Ray Hessinger met via Zoom with AASHTO staff on 5-23-22 to discuss the SOW and what was needed to put out the RFP.

Conclusion: The SOW was completed and sent to AASHTO. AASHTO followed up with the RFP asking for additional info:

Not to Exceed amount  
 Performance period

Steve Hewitt provided the response – Not to Exceed \$10,000 and a performance period of August 1, 2022 - December 31, 2022.

- Status – Seeking new funding for the NGEC:

Current Status (5-31-22)

The States for Passenger Rail Coalition, Inc. (SPRC) submitted testimony to the Senate Appropriations THUD subcommittee and included an appropriation request for funding the NGEC. The same request was submitted to the House Appropriations THUD subcommittee in letter format.

On May 17<sup>th</sup> NGEC Executive Board member (and Chair of the SPRC) Arun Rao reported to the Board on the request submitted to the Senate and the House and noted that SPRC believes that the work of the NGEC is critical to advancing next generation intercity passenger rail equipment. Developing and maintaining specifications is of utmost importance.

Arun also mentioned that the NGEC Chair (Ray Hessinger) is a member of the SPRC Executive Committee.

Further, Arun reported that the SPRC recently updated its policy principles and will be sending that document to Congress. In the Policy Principles document the NGEC is included. Arun read into the record the NGEC language that is included in the SPRC Policy Principles:

***New Funding for the PRIIA 305 Next Generation Corridor Equipment Pool Committee (NGEC):*** *It is critical that new funding is provided to the NGEC to continue the development and maintenance of standardized next generation passenger rail vehicle specifications, to help lower operating and maintenance costs, extend vehicle life expectancy, reinvigorate the US Rail manufacturing, and supply industry, and enhance workforce development. The new funding will enable the NGEC to continue exploring emerging technologies (such as zero emission/climate friendly propulsion alternatives) and develop additional next generation specifications that cover the full spectrum of intercity passenger rail services in the United States (U.S). Amtrak, States, and private entities all across the US and Canada are using NGEC specifications in procuring new passenger rail equipment. The new Charger Locomotives and Venture passenger rail cars are delivering positive results for the traveling public with enhanced accessibility, modern amenities, and improved reliability.*

Steve Hewitt followed Arun's comments to provide a status on the CRISI Grant Application. Nothing more has been done as Tim Ziethen, NGEC Treasurer and FASC Chair has been out on medical leave, and his input is critical to the application. Once he has returned, we will continue the process.

Steve Hewitt also reported that he was informed by FRA that their representatives (Jeff Gordon and Mike Murray) will be recusing themselves from funding discussions in the FASC and Executive Board meetings. They requested that any such funding discussions be put at the end of those meeting agendas so that they can step off the call at that point. This will avoid any perceived conflict of interest issues. This will especially pertain to a potential CRISI Grant as they would likely be a part of the FRA review team once the application has been submitted.

- 2022 NGEC two-pager:

The 2022 NGEC two-page educational document was released in January and distribution has begun. To date 450 electronic copies and 125 hard copies have been distributed.

- Annual By-Law Review/Update:

The 2021 Annual Review of the NGEC By-Laws was completed in November 2021 and proposed changes were adopted by the Executive Board. The updated By-Laws were distributed to Board members and posted to the NGEC website.

The 2022 Annual review will be scheduled by the NGEC Finance and Administrative subcommittee.

- Update – Multi-State Rail Car Procurement (provided by Caltrans) as of 5-17-22:

The Cab Carshell final design has been approved and the cab cars are in production. Remaining Cab Car FDRs are in the final submittal and review stage. Cab Car Safety Appliance documents have been sent to the FRA for review, and the Cab Car Clearance information has been approved by Amtrak. IDOT Café Car FDRs are in the closure stage with Galley open items expected to close in June.

The Cab Car Collision and Corner Post Appendix F testing is complete, and the test report is in review with FRA and the states. The revised cab car Compression test report is also in review. The Cab Car Coupler and Carrier FAI is scheduled for June.

108 cars are in production or have been produced at Siemens Sacramento Facility. Revenue Service relevant FMIs are in progress and open items related to Conditional Acceptance are being addressed. IDOT coaches are currently in revenue service and Caltrans plans on a July revenue start.

- Metro-North Dual Mode Locomotive Equipment as of 5-17-22:

Metro-North and Siemens have completed the Preliminary Design Review phase and are entering into the Final Design Review phase.

- Amtrak Equipment Procurement Update – as of 5-17-22:

On the Acela 21: working through the qualification – anticipated revenue service in Fall of 2023.

On the Charger Locomotive: This is going well. There are 6 locomotive in service. 3 are on the Empire Builder and “a couple more will soon be running on the City of New Orleans.

On the Intercity Trainset (ICT): Preliminary Design Review is finished, and work is beginning on Intermediate Design Review. First Article Inspections (FAI’s) on several items will begin in the next few months.

- Connecticut DOT Rail Car Procurement as of 5-17-22:

The Connecticut Coach Car procurement is no longer in the cone of silence. Marci Petterson informed Steve Hewitt on 5-12-22 that the original RFP has been rescinded and a new RFP has been released.

- VIA Rail Equipment Procurements:

On 2-25-22 at the Annual Meeting a comprehensive overview/update of the VIA Rail procurement was presented. The presentation has been posted to the NGEC website and distributed to all NGEC members.

- Document Control Progress Report – 5-17-22:

The revised DMU specification has been provided to Steve Hewitt. He will now be able to provide the revised version to requestors.

The Technical Writer is currently updating the Document Control Procedures to reflect the new and improved DCR form and the ability to update the Review Panels. I will be sending this to Ray for approval signature as soon as I get it.

The Material Working Group met under the direction of Michael Gill ,and he will be scheduling the group meetings going forward.

The Electronics on Trains Working Group is now under the leadership of Ken Martin and their next meeting is 6/14/22 @ 2:00pm.

I am updating the Document List to include the revised version of the DMU specification and the Document Control Procedure.

- **2022 Priorities- Status:**

**Priority Area:** Review/Update the Bi-level specification currently in Revision C.4. With Amtrak looking at using some of the funding from the new IIJA for its western fleet, it makes sense for the NGEC to review and update the Bi-Level car specification.

**Action as of 5-17-22:** Bi-Level Car Specification Review/Update is underway. A new DCR form has been adopted and is now being used.

**Priority Area:** Review the car body materials issue from a broader perspective for all NGEC equipment not only DMUs. Ray would like to take a look at developing a consistent approach for all of the NGEC vehicle specifications.

**Action as of 5-17-22:** The Carbody Materials Working Group held its first meeting on 5-11-22. The team leader is Michael Gill, SNC Lavalin/Atkins.

**Priority Area:** Review “emerging technologies”: On the last technical subcommittee call (12-9-21) the topic of emerging technologies for propulsion was raised. Ray believes that the technical subcommittee should conduct a scan of the industry regarding emerging technologies for propulsion and how they relate to the NGEC.

**Action as of 5-17-22:** Dave Warner gave a zero emissions presentation during the Annual Meeting and followed that up with a presentation to the Executive Board on APTA's effort to develop Alternate Fuel Safety Standards

**Priority Area:** Review and consider using the Metro-North Dual Mode Locomotive Specification organizational changes to determine if they should be adopted by the NGEC and applied across the board to all NGEC specifications. This would be an administrative change not impacting technical content of any of the specifications and could be resolved by the Executive Board.

**Action as of 5-17-22** -This is included in the DCM action Plan and will likely follow the Bi-Level Car Specification update.

**Priority Area:** Review/update NGEC Reference and Drawings series 305-900 and 305-800.

**Action as of 5-17-22:** This item is on the DCM action plan.

- **Priority Area:** Exploring Emerging Technologies

**Action as of 5-17-22** - APTA Effort on Developing Alternate Fuel Safety Standards:

On 4-5-22, Dave Warner provided an overview on the APTA efforts to develop Alternate Fuel Safety Standards. He also included a PowerPoint presentation that Steve Hewitt distributed prior to the call.

Dave emphasized that “Many PRIIA member organizations are also APTA members, and I encourage you all to participate in this effort. The next meeting is being held on Tuesday, April 19 via Microsoft Teams.”

### Technical subcommittee

**Chair: George Hull, Amtrak**

**Vice Chair: Joe Paul, Amtrak**

#### **The Technical subcommittee holds bi-weekly conference calls on Thursdays at 3:00pm Eastern**

During the month of May 2022, the NGEC Technical Subcommittee met twice – on the 12<sup>th</sup> and 26<sup>th</sup>.

Key decisions and action item updates from the month of May 2022, included:

- Backgrounder educational document:

The 2022 NGEC two-page educational document/handout is now available in electronic or hard copy versions. Requests should be sent to Steve Hewitt at [shewitt109@aol.com](mailto:shewitt109@aol.com)

To date 450 electronic copies and 125 hard copies have been distributed.

- Document Control Update as of 5-31-22:

See update provided in the Executive Board section of this report.

- Multi-State Car Procurement - Caltrans (Lead State) update as of 5-31-22:

See the update provided in the Executive Board section of this report.

- Metro North Dual Mode Locomotive Procurement:

See the update provided in the Executive Board section of this report.

- Amtrak Equipment Procurement Updates: Progress reports are provided by AMTRAK CMO and NGEC Vice Chair George Hull on a regular basis.

See the update provided in the Executive Board section of this report.

- Connecticut DOT Rail Car Procurement:

- See the update provided in the Executive Board section of this report.

- University of Nebraska study on High Speed wireless technology as of 4-28-22:

From Hamid Sharif:

*In our study, we have been exploring the properties and capabilities of the 160 MHz RF band, and its suitability for a variety of applications, including Wireless Digital Trainline. This includes a key factor of investigating if 160MHz can alleviate the pressure on the 220MHz.*

*In this process, we designed and evaluated both a single-carrier transceiver architecture and an OFDM-based transceiver architecture, and conducted evaluations of both designs.*

*This quarter we expanded on our efforts by incorporating Forward Error Correction (FEC) Coding into these architectures. FEC is a way to improve the receive-side bit error rate, and thus communication distance, by sacrificing throughput capacity. The released throughput is instead used to carry additional information that the transmitter inserts into the data stream.*

*We plan to publish our results this summer.*

*Thank you.*

*Please contact Hamid Sharif @ University of Nebraska-Lincoln for any additional information.*

- Working Group on Specification Weight Issues as of 5-12-22:

The NGEC Vehicle weight Working Group had its 12<sup>th</sup> meeting on May 11 at 11am ET.

There were 9 members in attendance.

The group discussed ways to reconcile how P2 forces are characterized in the various NGEC specifications.

Two versions of the P2 formula are in general use. The NGEC specifications do not use a common formula, nor do they use common values for certain of the input parameters related to track stiffness and damping.

On the last call, the group requested that a sensitivity study be performed to assess the impact of these parameters on the calculated P2 forces.

This was done and we learned that some of the parameters have very little influence on the result and the parameter affecting P2 the most is the value chosen for the rail dip angle.

Additional work will be done on this, and the draft write-up being prepared by the group will be revised based on these discussions.

Members also suggested that the procedures described in the APTA Recommended Practice (RP) on Truck Design be referenced in the NGEC Specifications as it includes comprehensive guidance on how to calculate the unsprung mass term used in the equation.

The APTA RP also identifies the British Rail version of the P2 formula as the current best practice. The Working Group will recommend this version as the standard for use in the NGEC Specifications.

The next meeting of the Working Group will be during the week of June 6. A poll has been distributed to the members to assist in selecting the meeting date and time.

If interested in participating on this working group, contact Jeff Gordon at [Jeffrey.gordon@dot.gov](mailto:Jeffrey.gordon@dot.gov) or Steve Hewitt at [shewitt109@aol.com](mailto:shewitt109@aol.com)

#### **The Finance and Administrative Subcommittee**

**Chair: Tim Ziethen, Amtrak**

**Vice Chair: Brian Beeler II, NNEPRA for Maine DOT**

**Second Vice Chair: John Oimoen, Illinois DOT**

**The Finance and Administrative subcommittee (FASC) will hold a conference call every four weeks on Wednesdays at 3:00pm Eastern.**

During the Month of May 2022, the Finance and Administrative Subcommittee did not meet due to schedule conflicts and the Chair being out on medical leave. The following is a status of activities to date as reported previously on 4-30-22:

- Treasurer's Report – last report 4-5-22:
- Balance/ Spend Rate:
  - Total Initial Grant Amount: \$1,250,000.
  - Amount Spent through January: \$912,469.91
  - Balance remaining: \$ 337,530
  - Current Spend Rate per month (as info and used in calculating): \$14,257
  - Estimated Balance at the end of the Extension Period (Contingency): \$52,000
- Exploring Funding Options
  - See update provided in the Executive Board section of this activities report.
- Conveying the message as of 4-30-22:

The 2022 NGEC two-pager is available as reported in the Executive Board section of this report and 450 electronic or "soft" copies have been distributed. 125 hard copies have also been distributed.

Along with the two-pager, the website refresh will look at ways to increase NGEC awareness.

- Quarterly Grant Agreement Progress Report to FRA

All reports this year have been submitted on time. The report for the period ending 3-31-22 was submitted to FRA on 4-29-22.

The next report will be due to FRA by 7-31-22.

- Follow ups on further plans to increase NGEC awareness as of 4-30-22:

Tim Ziethen has had several discussions with Michael Alexis, Amtrak Deputy General Counsel, and an exchange of emails with him.

Michael has been assigned to the NGEC for any legal questions or related issues.

Michael provided Tim Ziethen with guidance on issues related to the NGEC's ability to take steps to increase awareness of the Committee and the work that it does.

In general, the guidance is that posting factual information on the website is permitted providing that the Committee follows Amtrak contractor promotion policies which the Committee has been following. For posting on social media, again, the NGEC would be permitted to do it as long as it follows the Amtrak policies. None of this is new, the NGEC has always lived up to these policies.

Issuing Press releases would also be permissible as long as it transmits simply factual information.

Using paid advertising or attending trade shows would require By-Law changes and there would be an issue of spending funds for these activities as they would need to be paid outside the grant.

As noted previously, the NGEC should not proactively communicate with Congress due to "lobbying" issues but can respond with factual information in compliance with Amtrak contractor promotion policy upon request.

There is no change in this topic as of 5-31-22.

#### **NGEC Specification Review Panel(s):**

**For each PRIIA NGEC specification a Review Panel has been established to compare the specification (as developed by the technical subcommittee) against a Requirements document previously adopted by the Executive Board. As the Review Panel completes its work, it prepares a report with recommendations. This report is submitted to the Executive Board for its consideration. Once accepted by the Board, the specification is subsequently formally adopted by the Executive Board. As part of the Document Control process, any proposed revisions to a PRIIA NGEC specification must go through the Review Panel process as well. At such times, the Review Panel, previously established for a specification, is re-convened by the Executive Board chair.**

The DMU Specification Review panel did not meet during the month of May 2022.