



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: April 30, 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 April 2022, the Executive Board met once on the 5th

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

Treasurer's Report and Finance and Administrative Sub-committee update – 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

- Status – Developing SOW for Website Refresh

Steve Hewitt has provided Tim Ziethen with a DRAFT Statement of Work which Tim reported that he is reviewing it and will send his edits soon. Tim noted that this could be taken up on the next FASC call 4-27-22. The 4-27-22 call produced discussion with no decision made on the SOW. A forum was not present, and no vote was taken to move it forward.

Note: The FASC did result in some changes to the DRAFT, and it was decided that it could go to the Executive Board as a status update on its call on May 3rd. The next step, however, was to set up a call with AASHTO's web group and Steve Hewitt and Ray Hessinger. This is being arranged by Rebecca Anger.

Steve agreed and commented that, if he received Tim's edits soon enough in advance of the next call, it would be possible to send to all FASC members for comments and then on to AASHTO. Either way, it should be finalized at least on the next FASC call on April 27th so AASHTO can go out with an RFI.

- Status – Developing Request for NGEC CRISI Grant – Process

Tim Ziethen reported that he has had two calls with the Amtrak Grants Officer. The FRA has not yet released the details for this round, and likely will not for a couple of months. In the meantime, Amtrak Grants and Tim are looking at last year's process, and Tim is waiting for internal confirmation as to whether he can distribute a copy or parts of a copy of an Amtrak submittal from last year to use as an example.

Tim noted that they (Tim and Amtrak Grants Officer) believe it is an appropriate application and process for those funds (CRISI) based on successful Grant applications from last year's program.

Tim noted that since it is a couple of months away before we will see the details, timing is a concern. The program will be highly competitive, and the NGEC has a short window with its existing funds. Therefore, he has asked the Amtrak Grants Office to consider other potential funding opportunities and he asks that FRA also consider other avenues or vehicles – even if only short-term pending the timing of a CRISI Grant.

Shayne Gill, AASHTO, asked who the Grant applicant would be?

Tim responded that it would be Amtrak.

Shayne also asked if FRA would require a non-federal match?

Tim responded that they are asking for clarification on that.

Ray Hessinger responded that if a match were to be required, he believed the NGEC could quantify the significant use of volunteer hours to make up a soft match. This would mean that volunteer hours and the costs would need to be tracked, but it is something that could be considered if a non-federal match is required.

He believes there is significant value emanating from the work of the NGEC, for a minimal amount of federal funding.

Ray also noted that NYSDOT has a similar grant program - "a smaller version of CRISI" - for the state's freight program, so there is some familiarity he has with it.

He added that "the amount of money the NGEC will ask for is a lump of change" in comparison to the million or tens of millions being asked for in most CRISI apps.

Strat Cavros, AASHTO, commented that due to non-federal share in cooperative agreements they are well versed in the area of soft match.

Tim Ziethen added that the new terms for the CRISI Grant Program may not require it.

Ray Hessinger added that it is important to get all of these questions well in hand in advance to be ready to submit.

Tim Ziethen also raised the issue of how much the NGEC would be asking for. Is it simply the amount the Committee uses per year now? (about \$180,000 per year) This would be about \$1 million over five years to carry out the current activities or are we looking for something more to accommodate additional work?

Steve Hewitt asked where the recommendation would come from – the FASC?

Ray Hessinger responded that he believes both the Technical subcommittee and the FASC will need to provide input to the Board as to the amount to be requested.

Tim Ziethen also noted that the application would be required to identify one or more of, he believes, three criteria – two of which are safety and efficiency. There can be more than one, but the NGEC will need to decide on its approach.

- 2022 NGEC two-pager:

The 2022 NGEC two-page educational document was released in January and distribution has begun. To date 425 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 4-5-22:

The Cab Car shell final design has been approved and the cab structures 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 and Galley open items are being addressed.

The Cab Car Collision and Corner Post Appendix F testing is complete, and the test report has been submitted for review. The cab car compression test report review is complete, and the revised test report is in review. FAIs will continue for café and cab car subsystems.

103 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.

- Metro-North Dual Mode Locomotive Equipment as of 4-5-22:

Metro-North and Siemens are still in the Preliminary Design Review phase. They have only a few open items left to resolve, and they continue to move forward.

- Amtrak Equipment Procurement Update – as of 4-5-22:

On the Acela: They continue to work on the qualification efforts with FRA. One trainset is in Philadelphia for APTA's meeting and can be seen there.

On the Intercity Passenger Rail Trainset – they continue with Design Review.

On the Charger Locomotives: Amtrak continues to deliver units. There are two in service between Chicago and Seattle – and things are going well.

- Connecticut DOT Rail Car Procurement as of 4-5-22:

This procurement remains in the “cone of silence” period.

- 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 – 4-5-22:

Document control has almost completed the DMU specification revision. The Technical Writer had a few questions about one of the changes and is now just finishing it up.

The Bi-Level DCR form was sent out to the TSC members, the original was an Adobe pdf that was difficult to manipulate. This form will be easier for the TSC members to use.

The Materials Working Group member request was issued, and I have already had some responses. I am planning on an initial meeting on 4-13-22 to start the groups' activities and hopefully choose a chairperson.

- **2022 Priorities:**

Review/update NGEC Reference and Drawings series 305-900 and 305-800.

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.

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.

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.

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.

Tammy Krause has prepared an action plan and timeline for the Chair's priorities and discussed each item on 3-22-22. The timeline was distributed to all Executive Board members.

Action – 4-5-22:

One specific action that is needed in support of the priority of dealing with car body materials is to determine whether a focused working group should be established. This was an agenda item on the 3-31-22 NGEC Technical subcommittee call, and it was determined that a temporary carbody materials working group would be established

Update as of 4-5-22:

The Technical subcommittee has begun work on the priority areas and is following an action plan and timeline as presented by Document Control Manager Tammy Krause.

The carbody materials working group is being organized and will address issues related to carbody materials. Once its work is complete it will present its findings and recommendations to the full Technical subcommittee.

An email has gone out (4-5-22) calling for volunteers to participate on this working group. Responses are being sent to Tammy Krause – and there have been quite a few already.

- 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."

NGEC members, if you would like the invitation to the April 19th meeting or more information, please contact Emeritus Dave at David.warner@stvinc.com.

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 April 2022, the NGEC Technical Subcommittee met twice – on the 14th and 28th.

Key decisions and action item updates from the month of April 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

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

- Document Control Update as of 4-28-22:

On 4-28-22, Tammy Krause provided the following update for inclusion in today's minutes and asked Steve Hewitt to read them into the record on her behalf:

The Electronics Working Group is now being headed by Ken Martin of Sharma & Associates. They have scheduled a meeting, but I do not have the info at the moment.

Jeff Gordon confirmed that the Electronics on Trains working group will meet on 5-3-22 at 3:00pm Eastern.

The Materials Working Group met yesterday, and Michael Gill of SNC Lavalin/Atkins is heading the group. We are still looking for volunteers. The next call is 5-11-22 at 11:00am Eastern and we will be discussing Chapter 4 of the Single Level Specification.

If you are interested in joining the Carbody Materials Working Group, please let Tammy know.

The new DCR form has not been approved by the NGEC Executive Board yet because they did not meet last week. The form has been updated and improved based upon the last call.

Steve Hewitt will provide the revised DCR Form and the sample DCR to the Executive Board for their discussion on the next call (5-3-22) and it will be up to them whether to consider it for adoption on that call or wait until the call scheduled for 5-17-22.

Steve Hewitt also noted that the Bi-Level Specification update is underway, and he will ask Tammy to provide a status on the next subcommittee call (5-12-22).

Steve also note that he had hoped to hear from Tammy on the status of finalizing the technical writing of the approved DMU specification Revision A. He will hear for a status update on the 5-12-22 call.

- Multi-State Car Procurement - Caltrans (Lead State) update as of 4-28-22:

The Cab Car shell 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 and Galley open items are being addressed.

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. Cab Locking Luggage tower FAI will occur in May.

107 cars are in production or have been produced at Siemens Sacramento Facility. Revenue Service relevant FMI's are in progress and open items related to Conditional Acceptance are being addressed.

- 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 NGEN 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:

As of 4-28-22 this procurement remains in the "cone of silence".

- 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 4-28-22:

There was no activity by this working group in April 2022. A meeting was scheduled for the first week in May.

If interested in participating on this working group, contact Jeff Gordon at Jeffrey.gordon@dot.gov or Steve Hewitt at 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 April 2022, the Finance and Administrative Subcommittee met on 4-27-22.

On 4-27-22, Tim Ziethen, Chair was not available. There was not a quorum for this meeting, but the meeting was held with First Vice Chair Brian Beeler II, for Maine DOT, taking the gavel. No votes were taken.

- Treasurer's Report – 4-5-22:

- Balance/ Spend Rate:

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- Exploring Funding Options

Preparing an Application for a CRISI grant for the NGEC – FASC discussion on 4-27-22:

First Vice Chair Brian Beeler II, for Maine DOT, facilitated the following discussions.

Ray Hessinger reported that the Executive Board has tasked the FASC to begin the process of developing an application for a CRISI grant. The process is moving forward. Ray noted that the grant applicant would be Amtrak.

Ray reported that he had a recent one on one call with Paul Nissenbaum, FRA. The direction suggested by Paul was for the NGEC to seek funding through a CRISI grant and he was pleased to know that the NGEC was already beginning that process. He was equally pleased that Amtrak will be the applicant. He is happy to have the NHEC looking ahead and continuing its work. He noted that it is important for the NGEC to apply for a CRISI fund even if it is not ultimately successful in receiving the grant. The fact that the NGEC submitted an application could open doors for the FRA to find other opportunities for funding it.

Paul provided some suggested some things to include in the app to make it more compelling. Some of the items to include are; energy efficiency, climate, and workforce development. On workforce development he suggested an expansion into the academic world at the university level and named a few that would be good places to start such as Illinois and Penn State. He added that other minority institutions and historically Black colleges as potential opportunities.

Paul also noted that he did not expect that there will be many changes to the CRISI program for this round, so if the NGEC were prepared in advance by going off the last round process it would put itself in a good position.

Paul also mentioned that the amount of funding the NGEC would be requesting would be very small in terms of CRISI and as Ray commented it would be basically "a rounding error" if looking at the total amount of dollars available and this would also be an advantage for the NGEC's application.

Again, Paul added that even if unsuccessful, the NGEC having documented the need for funding could open the door for another funding source.

Overall, Ray felt the discussion was a productive one.

Steve Hewitt added some information on where Tim Ziethen had left things before being out of the office.

He has discussed the process with Amtrak Grants Office at least twice, and gave the following report to the Executive Board on 4-5-22:

Tim Ziethen reported that he has had two calls with the Amtrak Grants Officer. The FRA has not yet released the details for this round, and likely will not for a couple of months. In the meantime, Amtrak Grants and Tim are looking at last year's process, and Tim is waiting for internal confirmation as to whether he can distribute a copy or parts of a copy of an Amtrak submittal from last year to use as an example.

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As Tim was unavailable for today's call (4-27-22) no update was provided, Steve Hewitt will follow-up with Tim to see what the status is.

Requesting funding through the 2023 Appropriations – Steve Hewitt for Arun Rao, WISDOT and Chair, States for Passenger Rail Coalition (SPRC):

In the absence of Arun Rao, Steve Hewitt reported that Arun had submitted written testimony on behalf of SPRC to the Senate Appropriations THUD subcommittee in advance of its hearing to be held on 4-28-22. (the testimony was submitted on 4-26-22.

Also, on 4-26-22, Arun Rao sent a letter to the House Appropriations THUD subcommittee with the same language as was submitted in the Senate testimony only in letter format as instructed by the House subcommittee staff. (They are not accepting written testimony but will accept letters).

Arun believes that, while applying for a CRISI Grant makes sense, it is a difficult process, therefore, the SPRC Executive Committee decided to also make a request for an appropriation to fund the NGENC.

Steve noted that he would include the language used in the letter and testimony as well as what is included in the updated DRAFT of the SPRC's Policy Principles, in today's minutes.

The language used in both the Senate and House submittals was that SPRC supports:

- *Providing new funding to continue the activities of the PRIIA Section 305 Next Generation Equipment Pool Committee (NGEC), to advance the development and maintenance of standardized next generation passenger rail equipment specifications. These specifications support lower operating and maintenance costs, extending vehicle life expectancy, and reinvigorating the US Rail manufacturing and supply industry. The NGENC has judiciously used its previously appropriated funds (expending less than \$4 million over 12 years) to produce vehicle specifications that are being used as a basis for all new passenger rail vehicle procurements in the U.S. and beyond; including states, Amtrak, VIA Rail, Metro-North; Brightline, and other entities. It is critical to continue to fund the NGENC so that it can maintain the existing specifications, while exploring emerging technologies (such as zero emission/climate friendly propulsion alternatives) and developing additional next generation specifications that cover the full spectrum of passenger rail services in the US.*

The SPRC also is finalizing an update to its policy principles and has included the following language regarding the NGENC as drafted is:

Funding for the PRIIA 305 Next Generation Corridor Equipment Committee (NGEC): Providing new funding to continue the activities of the NGENC, to advance the development and maintenance of standardized next generation passenger rail vehicle specifications. These specifications support lower operating and maintenance costs, extending vehicle life expectancy, workforce development, and reinvigorating the US Rail manufacturing and supply industry. It is critical to continue to fund the NGENC so that it can maintain the

existing specifications, while exploring emerging technologies (such as zero emission/climate friendly propulsion alternatives) and developing additional next generation specifications that cover the full spectrum of passenger rail services in the U.S. For more information on the NGEC please see www.ngec305.org

So, ultimately, SPRC, which represents 24 State DOTs and/or Regional Transportation Officials and Passenger Rail Authorities across the United States, is weighing in with Congress to support funding for the continuation of the NGEC.

- 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 8-31-22.

- 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 4-30-22.

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 April 2022.