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

Section 305 Next Generation Corridor Equipment Pool Committee (NGEC)

Monthly Activities Report: April 2023

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 2023, the Executive Board met twice on the 4th and 18th.

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

Balance/Spend Rate Through February 2023

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

Expenses Incurred through January 2023: \$1,129,071.67

Balance remaining: \$120,928.33.

Estimated spend at current rate for balance of the Grant: \$102,642.88

Current Spend Rate per month (as info and used in calculating): \$14,663.27.

Estimated Balance at the end of the Grant Period: \$18,285.45

Forecast:

Remaining Funds through January 2023: \$120,928.33
Balance Run Rate: \$18,285.45
Carry Forward in Balance: \$15,008.00
Available: \$33,293.45

Expenses Above Run Rate:

Larry Salci: Tech Review: \$19,131.35
Casamar/TLK: \$17,346.30
Website Refresh: iEngineering has been paid.
Annual Meeting Travel/Misc.: Some Annual Meeting costs – travel have been received and accounted for.

Forecast Above Run Rate: \$ 36,477.65

Balance Favorable/Unfavorable: \$ (3,184.20)

Gap Funding and Bridge Funding – Status of discussions:

Tim noted that there is a management risk going forward in that billing is usually running 60 days behind, and will, therefore, go past the performance period (9-30-23).

Tim reported that he had a productive conversation last week with Jeff Gordon and Mike Murray, FRA, including the fact that the CRISI Grant process being further out than initially expected and resulting in announcements not coming until possibly early Fall 2023 and the end of the year for funding availability if a Grant is awarded.

As part of the conversation, Jeff and Mike shared with Tim that given all of the information regarding the CRISI process, it may be that Amtrak could fill in with bridge funds while waiting for CRISI Grant or other funding options.

Tim had several clarification questions regarding potential funding sources/ funding from secondary sources.

Tim met with the Amtrak Grants office and they are going through the process with the internal “folks” about what Amtrak could do and confirm if there is an be an option how to do it.

Once funding is resolved, the issue then becomes the need for a vehicle for that funding.

The Grants office is looking at the possibility of submitting for FRA approval, another no-cost extension of the current Grant Agreement for one year. This could serve as the vehicle to expend funds beyond the current performance period and could be a vehicle for bridge funding if it is found. Amtrak will submit for a possible interim measure while also looking at other potential funding options.

Tim added “there are a lot of housekeeping questions taking place behind the scenes.”

Tim added that he is also reaching out to Amtrak Legal regarding the legal aspects of possible options.

“There are a lot of moving parts...my message is - no change, be ready to ramp down quickly, if need be, but I remain optimistic that something will happen.”

Tim asked Jeff Gordon if he had anything to add to Tim’s summary of their conversation. Jeff stated that Tim had expressed it well and clearly. Jeff only added that “I have nothing to say about the same or new Grant or bridge part.”

- 2023 NGEC two-pager:

The NGEC 2023 backgrounder/educational document was released in January and formally introduced during the Annual Meeting. To date 330 copies have been distributed (hard and soft).

- Multi-State Rail Car Procurement (provided by Caltrans) as of 4-18-23:

On 4-18-23, Jodi Lehmkuhl, Caltrans, reported that the remaining Cab Car FDR submittals are in the final closure stage and the Cab Car dynamic framing representative approach has been submitted to FRA for review, with comments from FRA under review. IDOT Café Car system level FDR reviews are nearly closed.

The Cab Car Collision and Corner Post Appendix F test reports are approved. The Cab Car Complete FAI for Cab Car is tentatively scheduled for July, to be followed by the FRA Sample Car Inspection.

127 cars are in production or have been produced at Siemens Sacramento Facility. IDOT coaches are currently in revenue service and Caltrans is targeting revenue start in first half of 2023 once all necessary agreements are in place.

On 4-18-23, John Oimoen, IDOT, added that the Mid-West had achieved an important milestone last week (week of 4-10-23), 44 cars were accepted into revenue service – this means that they have completed one half of the 88 car order! This is great news and shows major progress as they are experiencing issues with the legacy cars and welcome the new Venture cars. John noted that by the end of this week 6 more will be entered into revenue service for a total of 50. A great achievement!

- Metro-North Dual Mode Locomotive Equipment as of 4-18-23:

On 4-18-23, Ray Hessinger reported that production on car shells one and two is progressing ahead of schedule with car shell one being ready for first FAI inspection.

Metro-North and Siemens closed the FDR on third rail current collection.

- Amtrak Equipment Procurement Update – as of 4-18-23:

On the new Acela:

Work continues on completing qualification and acceptance. Trainset #6 is to be delivered to Amtrak property this week.

On the Charger Locomotives:

Twenty-two are available for service and six are ready to come from the factory.

There was good news on issues related to the ATC cab signal and they will be able to begin operating on additional service lines (currently on the Empire Builder, City of New Orleans, and the Coast Starlight).

On the Airo trainset:

Final Design Review (FDR) has begun.

The first car shell is complete.

- Connecticut DOT Rail Car Procurement as of 4-30-23:

This procurement has advanced to the “cone of silence” phase.

Nothing new was reported in April 2023.

- VIA Rail Equipment Procurements:

A detailed update presentation was provided to the NGEN during the Annual Meeting on 2-3-23. The presentation is posted in the Meetings section of the website at www.ngec.org

Next Update: As Appropriate

- Document Control Progress Report – 4-18-23:

On 4-18-23, Steve Hewitt reported that Tammy Krause will be out until early May. She anticipates that she will next be available for the 5-2-23 Executive Board call.

In her absence, she provided an update/work plan for Steve Hewitt to report to the technical subcommittee.

On the Bi-level specification update (technical writer's incorporation of the adopted changes):

The timeline for completion remains on schedule for May 2023.

On the work plan for the next six months:

The PRIIA sub specifications – reference specs/drawings (305-900 and 305-800 series) are all going to be reviewed by the technical working groups. Tammy planned to send them out to the working group team leaders by the end of the day on 4-13-23. She has set 5-20-23 as the deadline for comments from the working groups after their review and has asked that they use the DCR form for submitting their comments.

After these are reviewed, she planned to send out the APTA standards for review. However, following the technical subcommittee call on 4-13-23, industry member Paul Jamieson contacted Steve Hewitt to volunteer to give some time to review of the APTA PRESS standards in relation to the PRIIA specs. Steve welcomed Paul's willingness to begin the review and sent a message to Tammy to let her know. Therefore, work on both items can begin simultaneously. Although the working groups will not receive them until after they review the 305-900 and 305-800 series)

- Discussion: Review of changes made to PRIIA specs used by other entities – Steve Hewitt

The subcommittee had a discussion revolving around the need to review changes made to PRIIA specs used by various entities as a baseline.

Some entities using PRIIA specs as a baseline: Amtrak, Brightline, VIA Rail, Connecticut DOT, Metro-North, the Mid-West states, Caltrans, WSDOT, NCDOT and others.

Steve Hewitt noted that he is sure some were missed, but emphasized the point that PRIIA specs have been in high demand and were provided to entities upon request - for free. There should be a willingness to share the changes with the NGEC as initially intended.

The subcommittee agreed that the first step is to develop a plan to follow-up with those entities.

It was suggested that a starting point may be to get the Amtrak Charger spec as a first cut. The tech subcommittee work plan identified the Charger as being the next one in the queue for an update – so it makes sense to start there.

It was also noted that the NGEC program placed the responsibility on the entity using the spec to note what changes have been made, and the NGEC, through its document management procedures (305-100) would compare those changes to the PRIIA spec and update where it is deemed to be appropriate. Changes submitted by the entities should be using the DCR form.

This will take time and the effort should come under Document Control/Management. Tammy Krause is the NGEC Document Control Manager. She is not available until early May, but efforts should begin in developing a plan which should utilize the NGEC Document Management Procedures (305-100).

Joe Paul appreciated the comments and the good discussion and concluded that this is a conversation that needs to continue and should be on the agenda for the next meeting. It is not "an overnight event" but it is a way to take advantage of what has already been done.

- Developing a work plan that incorporates the PRIIA Document Management Process - Steve Hewitt

It was agreed that this will be an agenda item on the next subcommittee call, and future calls are most likely to develop a work plan and timeline to accomplish the task.

More than likely this will need to be included in the SOW for the new grant agreement if a CRISI Grant is awarded or if other federal funds are allocated. It is not an effort that will be completed before the end of the current performance period.

Joe Paul and Ray Hessinger concurred with Steve Hewitt's summary. Joe adding that there was a long discussion on the subcommittee call and that Steve Hewitt had covered a lot of it.

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 March 2023, the subcommittee met on the 13th and the 27th:

Key decisions and action item updates from the month of April 2023, included:

- Backgrounder educational document:

The 2023 NGECE two-page educational document/handout was released in January and distributed widely during the Annual Meeting on 2-3-23.

It remains available in electronic or hard copy versions. Requests should be sent to Steve Hewitt at shewitt109@aol.com

To date 330 copies have been distributed.

- Document Control Update as of 4-27-23:

Tammy Krause is on leave with her return anticipated on 5-2-23. On 4-27-23, Steve Hewitt provided the updates on issues related to Document Control:

On the Bi-level specification update:

The technical writer's incorporation of the adopted changes to the Bi-Level specification Revision D continues. The timeline for completion remains on schedule for May 2023.

On the work plan for the next six months:

The PRIIA sub specifications – reference specs/drawings (305-900 and 305-800 series) are all going to be reviewed by the technical working groups. Tammy planned to send them out to the working group team leaders by the end of the day on 4-13-23. (To Steve Hewitt's knowledge this occurred). Tammy set 5-20-23 as the deadline for comments from the working groups after their review and has asked that they use the DCR form for submitting their comments.

After these are reviewed, she planned to send out the APTA standards for review. Following the technical subcommittee call on 4-13-23, industry member Paul Jamieson contacted Steve Hewitt to volunteer to give some time to review of the APTA PRESS standards in relation to the PRIIA specs. (Thank you Paul) We appreciate Paul's willingness to begin the review and Steve sent a message to Tammy to let her know. Work on both items can begin simultaneously. Although the working groups will not receive the comments on the APTA Press standards until after the review the 305-900 and 305-800 series is complete.

Developing a plan to acquire specifications from entities that used the PRIIA specs as a baseline and made changes:

Next Steps:

1. Developing a list of entities that have used PRIIA specs and made changes:
Steve Hewitt noted that, in the minutes, he would include a list of the entities that he is aware of Steve asked that others let him know if he has missed any:

Amtrak, VIA Rail. All Aboard Florida, CtDOT, Metro-North/LIRR, NCDOT as well as the Mid-West states, Caltrans, WSDOT and Oregon.
2. Begin with the Charger Locomotive Specification as the first – next update/revision.
It was previously agreed that the next spec update/revision will be the Charger Locomotive. This would be the first where the NGEC should gather DCRs from entities that have used the specs and made changes, and incorporate those changes, where appropriate, into an updated revision of the current specification.
3. Develop a plan to reach out.
The Executive Board has tasked the tech subcommittee to begin the effort of developing a plan to reach out to the entities that have used the PRIIA specs as baseline and ask that they provide those changes to the Document Control Manager – using the NGEC DCR form.
4. Utilizing the NGEC DCR process:
It was pointed out on the last call that all changes should use the PRIIA DCR process and provide those DCRs. Steve Hewitt reiterated this on today's call 4-27-23.
Steve asked for questions and/or comments from those on the call. Hearing none, he noted that this work is under the purview of Tammy Krause as Document Control Manager and she will be asked to begin the effort. It is understood that due to the limited amount of funds remaining in the current grant, the bulk of this work will take place under the next grant or funding source after the current grant has expired. However, beginning to develop a plan and a list of contacts for outreach to entities to provide DCRs on changes made to the PRIIA specs should begin now.

- Communications on Rail Cars working group – status as of 4-13-23:

On 4-13-23, Ken Martin, Sharma and Associates and team leader for the Communications on Rail Cars Working Group, reported that they are working on writing a DTL specification to include in the single level Rail car specification once completed and approved.

Ken is working on the first draft and will distribute it to the working group members in advance of their next meetin (a week or week and a half from now). It will be a few months down the line before it will be ready for review outside of the Working Group. Ken noted that this spec may well be applicable to some of the other PRIIA specs. There are similarities but also some differences. Ken noted that he was able to get the updated Amtrak specification and is including it.

Additionally, Ken noted that there have been some requests that the Working Group also look at developing a CCTV specification. Ken would welcome input from leadership on whether this is something that the Working Group should do.

Joe Paul commented that he believes a CCTV specification is a good idea. Amtrak is working on video surveillance for the Venture cars and it is clear that there is a need for standardization.

Ken asked if this should be a “global spec”?

Joe responded that there will need to be further discussion to determine how to approach this. He invited input form subcommittee members - “feel free to reach out”.

Multi-State Car Procurement - Caltrans (Lead State) update as of 4-27-23:

- On 4-27-23, Jodi Lehmkuhl, Caltrans, provided the following update:
 - *The remaining Cab Car FDR submittals are in the final closure stage and the Cab Car dynamic framing representative approach has been submitted to FRA for review, with comments from FRA under review. IDOT Café Car system level FDR reviews are nearly closed.*

- *The Cab Car Collision and Corner Post Appendix F test reports are approved. The Cab Car Complete FAI for Cab Car is tentatively scheduled for July, to be followed by the FRA Sample Car Inspection.*
 - *128 cars are in production or have been produced at Siemens Sacramento Facility. IDOT coaches are currently in revenue service and Caltrans is targeting revenue start in first half of 2023 once all necessary agreements are in place.*
- Metro North Dual Mode Locomotive Procurement as of 4-27-23:
- On 4-27-23, Ray Hessinger, NYSDOT provided the following update:
- Production on car shells 301 and 302 is progressing ahead of schedule with car shell 301 being ready for the first FAI inspection.
- Metro-North and Siemens closed the FDR on third rail current collection and have scheduled FAI's for several components.
- Ray also reported that there has been a change at the Project Engineer Level, but it should not impact the project.
- Amtrak Equipment Procurement Updates as of 4-27-23 reported by George Hull, Amtrak:
- On the new Acela:
- Work continues on completing qualification and acceptance.
- On the Charger Locomotives:
- Twenty-four are in service. They are averaging about two per month.
- On the Airo trainset:
- They are finishing Final Design Review (FDR).
- The first car shell is in production.
- Connecticut DOT Rail Car Procurement:
- This procurement has advanced to the "cone of silence" phase.
- University of Nebraska study on High Speed wireless technology as of 4-13-23:
- On 4-13-23, Hamid Sharif provided the following update:
- Our work at the University of Nebraska-Lincoln has been in the area of better utilization of RF resources for the rail industry. In short, it is becoming harder and harder to locate available spectrum resources for rail industry applications. Our work has been to concentrate on better utilization of 160 MHz. So, we have designed and built a computer simulation model for the 160 MHz. We have verified this model and have done a number of application tests in the lab.
- Currently, we are transitioning our transceiver design into a prototype implementation using a software radio platform, in preparation for extensive field testing to evaluate the accuracy of our prediction models and the reliability of our design. It also provides the basis for the exploration of cognitive radio principles in the pursuit of a unified communications architecture for the rail industry. We continue our work on the transceiver implementation, by evaluating and refining our receiver synchronization capabilities to be more robust against phase, frequency, and timing offsets. We also have begun our work to implement the higher-layer functionalities of our protocol stack. These are all ahead of our field tests next month.*
- For any questions, please contact Hamid Sharif at:*

hsharif@UNL.edu

Hamid was asked if there were interim reports that have been published. He responded that interim reports went to FRA in August (2022) He will check with FRA and provide to anyone in the subcommittee who is interested. He added that two papers were published last year.

- Working Group on Specification Weight Issues as of 4-30-23:

On 3-30-23, Jeff Gordon, FRA, and the working group team leader, reported that he intends to update the document based on working group feedback rather than schedule a meeting. He will then ask for input from the members via email. His issue is that he has been called for Jury duty and if enpaneled could be servibg for 3 months and he would not be able to hold a working group meeting. If he is not enpaneled, this may change, but for now he inetends to begin updating the document based on feedback received to date.

Steve Hewitt asked Jeff to let him know when he is ready to present an update to the technical subcommittee ad he will add it to the agenda at that time.

No change in April 2023

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 2023, the Finance and Administrative Subcommittee met on the 26th.

Key decisions and action item updates from the month of April 2023 included:

- Treasurer's Update as of 4-26-23:

Balance/Spend Rate Through February 2023

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

Expenses Incurred through January 2023: \$1,129,071.67

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Casamar/TLK: \$17,346.30

Website Refresh: iEngineering has been paid.

Annual Meeting Travel/Misc.: Some Annual Meeting costs – travel have been received and accounted for.'

Forecast Above Run Rate: \$ 36,477.65

Balance Favorable/Unfavorable: \$ (3,184.20)

Strat Cavros, AASHTO added that the incurred costs for March were \$31,329 which includes the \$19,131 for Larry Salci. Tim Ziethen will adjust the Treasurer's Report to reflect these expenditures and provide them to Steve Hewitt in advance of the next Executive Board meeting 5-2-23.

Tim added that this would lower the anticipated expenditures and bring the NGEC closer to having a favorable balance at the end of the performance period. We are right on the edge.

- NGEC funding issues/potential interim solutions as of 4-26-23:

On 4-26-23, Tim Ziethen reported that internally – Amtrak and FRA are having discussions about how to handle funding going forward. With the CRISI Grant announcement timeline pushed back from a May-June (2023) time frame it is now expected to take place in the August-September (2023) time frame.

If awarded a CRISI Grant – there is always a period of close to 6 months before the funds are actually received. Therefore, there will be a period where the NGEC will need additional funds in the interim or will need to shut down.

Tim has had conversations with FRA (Mike Murray and Jeff Gordon) looking at whether Amtrak could provide that funding for a period of time including addressing any shortfall. Discussions have started internally at Amtrak and FRA with Tim having had discussions with Amtrak Grants and as recently as today had an email exchange with Mike Murray, FRA.

Discussion revolves around the possibility of requesting bridge funding under the current Amtrak Grant from FRA. This would need approval from Amtrak senior management and go through FRA.

There was also a discussion about the need to write up a no-cost extension to serve as the vehicle for additional funds. Tim noted that this cannot be requested until 90 days before the end of the current Grant period – 6-1-23.

Tim stated that he has not yet gone to Amtrak Legal about other possible options. He is working first with the Amtrak Grants Office on the possibility of a no-cost extension – which would require a new WBS and the close-out of the current WBS. This would be the third extension.

Tim commented that “we are trying to do a lot – quickly – and also if it looks like it will land heavier – to close out this year – we will need to look to Amtrak.” Tim added that all of these possibilities will need senior leadership approval in Amtrak – but noted that there has been great support for the NGEC.

Jeff Gordon, FRA, provided some clarification. He noted that in previous discussions it has been stated that the current grant funds are available until expended. Therefore, “once expended, the grant is over. I am not sure that a multi-month extension is needed.”

Jeff noted that it may be possible that Amtrak fund the NGEC directly through AASHTO using funds from the Amtrak annual grant.

FRA will need to hear from Amtrak on its view, its but-in, a plan and then have them “pitch it to FRA.”

Tim agreed that “presumably, the Amtrak annual grant is the best way to handle it.”

Tim also noted that if there is a gap at the end - he is discussing how Amtrak could cover that.

There is also the question of whether Amtrak is thinking about how long they can fund the NGEC if there a CRISI Grant is not awarded.

Tim repeated that “no one wants to the work to stop,” but “we are just looking at what the mechanics are and a way to go.”

On exploring other potential funding options such as the industry, or subscription-based funding etc. Conflicts of interest become a concern. The NGEC creates challenges to those and other potential alternatives.

The timeline for beginning the shutdown remains the same as initially recommended by FASC and agreed to by the Executive Board and that is a June timeframe. By then, Tim hopes to have some clarity on options and on next steps.

Tim is continuing to reach out internally for clarification and will report back as soon as he has some answers.

The Executive Board meets next week (5-2-23) and this topic will be on the agenda. Tim will provide any additional information that he gets between now and then.

- Conveying the message as of 4-30-23:

The NGEC 2023 background/educational document was released in January and distributed widely during the 2-3-23 NGEC Annual Meeting. It can be requested in hard or soft copy by contacting Steve Hewitt at shewitt109@aol.com

To date 330 copies have been distributed.

The new website is up and running at: www.ngec.org.

- Quarterly Grant Agreement Progress Report to FRA

All reports have been submitted on time. The report for the period ending 12-31-22 was submitted to FRA by the due date of 1-31-23.

The next report will be due to FRA by 4-30-23.

- By-laws changes to allow activities that will increase public awareness:

The By-Laws were updated in December 2022 and will again be reviewed in the Fall of 2023.

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 NGEC Bi-Level Rail Car Specification Review Panel was convened by the Chair in January and on February 14th the Panel went through the DRAFT Review Panel Report and Recommendations prepared by technical consultant Larry Salci. The Panel recommended approximately 20 additional revisions and on February 17th approved the Report and its Recommendations as revised by Mr. Salci in an electronic vote. On 2-21-23, the Report and its Recommendations were adopted by the Executive Board and the changes that will comprise 305-001 Revision D were sent to the technical writer for incorporation into the spec.

The NGEC Review Panels did not meet in April 2023.