

# SECTION 305 TECH SUB COMM

MINUTES

DECEMBER 4, 2014 3:00PM EASTERN

CONFERENCE CALL

<b>FACILITATOR</b>	<i>Dale Engelhardt, Vice Chair, NGEC Technical Subcommittee</i>
<b>ATTENDEES</b>	<b>Core Team Members:</b> Dale Engelhardt, Jeff Gordon, Allan Paul, (Allan Paul also as proxy for Stan Hunter) Jack Madden, Marci Petterson, Jennifer Bastian, Troy Hughes, Michael Burshtin, Andrew Wood, Jeff Schultz, Curtis McDowell, Steve Hewitt <b>Industry Members:</b> Paul Jamieson, Josh Coran, Steve Morrison, Dave Warner, Tom Hunt, Eric Wilde, Kevin Myles
<b>ABSENTEES</b>	<i>Stan Hunter, Eric Curtit, Mario Bergeron, Charles Poltenson, Art Peterson, Phil Meraz, Darrell Smith, Nikki Rudnick, Tammy Krause, Vincent Brotski, Melissa Shurland, Devin Rouse, Anand Probhakaran, Charles Bielitz, Sal DeAngelo, Nico Lindenau, Michael Coltman, Brian Marquis, Patricia Llana, Larry Salci, Shayne Gill</i>

## DISCUSSION/DECISIONS MADE

### 1.

In the absence of Chairman Bergeron, Vice chairman Dale Engelhardt, called today's meeting to order and asked Steve Hewitt to call the roll.

After calling the roll, Steve confirmed the presence of a quorum.

**As always, industry participants are asked to email a notification of their attendance to Steve Hewitt at [shewitt109@aol.com](mailto:shewitt109@aol.com)**

### 2.

#### **Review of the Meeting Agenda – Dale Engelhardt:**

Prior to reviewing today's agenda, Dale Engelhardt raised the issue of changes to wheel profiles on new equipment. Dale had received a letter from Caltrans asking if Amtrak changing to a new wheel profile had anything to do with the high speed rail issue. The answer is no. The new profile wears better than what is currently used.

Dale has asked tammy Krause to begin the DCR process to change to the new wheel profile on the PRIIA specs.

Jeff Gordon, FRA asked what wheel profile Amtrak will be changing to.

Dale responded - APTA 340 NRCC.

Anyone who has a question or concern should feel free to contact Dale.

With no further discussion, Dale Engelhardt provided a brief overview of today's meeting agenda

### 3.

#### **Review of Action Items – Steve Hewitt:**

Steve Hewitt reviewed the open action items, providing a brief update on those items that were not to be specifically covered on the agenda:

**Maintaining Industry Participation List: Status:** Steve reported that this remains an ongoing action item. There are currently **232** registered industry participants.

**Requesting Backgrounder educational document:** With changes to the NGEC organizational structure at the October 24<sup>th</sup> Fall Meeting, the Backgrounder will need to be updated. Steve Hewitt is working with AASHTO to incorporate the changes into a new Backgrounder.

**Updating ECP Standards:** This is an ongoing item which the Technical subcommittee is tracking – it is anticipated that status updates will take place on every other call.

There is no ECP report today.

**Standardization and TIER 1 DEIS information:** Following the call on November 20, 2014, Steve Hewitt distributed the back-up documentation provided by Jack Madden in regards to Standardization and the Tier 1 DEIS.

**Task Complete**

**4. Approval of the Minutes of the November 20, 2014 Technical subcommittee conference call – Dale Engelhardt:**

On a motion by Allan Paul, NCDOT, and a second by Jack Madden, NYSDOT, the Minutes from the November 20, 2014 Technical subcommittee call were approved without objection.

**5. Accessibility Working Group/RVAAC related issues update –Jeff Gordon for Melissa Shurland:**

Jeff Gordon reporting on behalf of Melissa Shurland, noted that the contract between FRA and Oregon State University has expired and is in the process of being renewed.

**6. Document Control update - Steve Hewitt for Tammy Krause:**

Steve Hewitt, on behalf of Tammy Krause, read the following update for inclusion in today's minutes:

*"A meeting was held by the NGEC Executive Board's Diesel-Electric Locomotive Review Panel on November 21, 2014. The Panel met to review and finalize its report and recommendation for approval of the Diesel-Electric Locomotive Technical Specification Revision A.1. The report addresses proposed changes to the NGEC Technical Specification and it recommends approval of document change request DCR 005-0056 to the technical specification. This document change request, which was submitted by Illinois DOT (IDOT) to the NGEC's Document Revision Coordinator, is the product of IDOT's administration of the Diesel-Electric Passenger Locomotive technical specification used for the procurement process and subsequent purchase contract for the design and manufacture of the NGEC's Diesel-Electric Passenger Locomotive. The Review Panel Report contains IDOT's submitted DCR 005-0056 which in total contains 17 individual DCRs, of which 4 are Major and 12 are Minor changes to the Technical Specification. There is also a request to amend the NGEC Executive Board's Requirements Document, which is treated as a Major DCR, bringing the total Major DCRs to 5.*

*The Review Panel recommended that the changes be accepted and on December 3, 2014, the report was submitted to the Executive Board for its consideration. It is anticipated that the Executive Board will take action to accept the Review Panel Report and its recommendations and to formally adopt Diesel-Electric Locomotive Technical Specification Revision A.1, on its next call - Tuesday - 12-9-14. "*

**7. Status/Discussion: Technical explanation – 110 mph maximum speed rationale DM Locomotive – Jack Madden:**

Jack Madden provided the following update for inclusion in today's minutes:

*"On the 11/6 Technical Subcommittee call, the FRA requested that the Locomotive Working Group provide a technical explanation for the requested revision of the maximum speed to 110 MPH vs. the 125 MPH as contained in the original issue of the Dual Mode (DC 3rd Rail) Locomotive Requirements Document. As you recall, the position of the New York State is that a sustained speed of 110 MPH for the DM Loco is what is needed and that the addition of the 3<sup>rd</sup> rail gear & electrical equipment, as well as the on-board energy storage, will result in a larger, heavier locomotive which likely could not meet the P2 forces at the 125 MPH speed requirement of the PRIIA Diesel-Electric locomotive. In addition, under the Tier I DEIS for the Empire Corridor, for which the FRA is the lead agency, only speeds up to 110 MPH would be operated in diesel mode. The 125 MPH alternative would be on a new ROW between Albany and Buffalo, grade-separated, and operated under AC Catenary.*

*On the last Technical Subcommittee call on 11/20, we provided Siemens' comments concerning this technical explanation for the revised 110 MPH sustained speed. Siemens advised that, using the IDOT Charger locomotive as a base (at 272,000 pounds), the addition of the DC 3<sup>rd</sup> rail gear and electrical equipment would result in a DM locomotive which would be heavier (at 291,500 pounds) and 3 feet longer. The DM locomotive would not exceed the P2 force of 82,000 pounds on the rail at 110 MPH; at 125 MPH, however, the P2 force limit would be exceeded. The addition of the on-board energy storage would add an additional 15,000 pounds. The Siemens Charger locomotive meets EPA Tier 4 emissions standards.*

Since the last TSC call, ConnDOT, NYSDOT, and MNR met with Bombardier on 11/21, the Loco Working Group met by conference call this morning, 12/4, and EMD/Progress Rail responded back just after this morning's call. Thus we have responses from 3 of the 4 manufacturers who are on the Locomotive WG and who responded to the MNR RFI of last summer.

Bombardier advised, that using their ALP-45DP Dual Mode (AC Catenary) locomotive as a base (at 288,000 pounds) they could remove the AC Catenary equipment and replace it with the DC 3<sup>rd</sup> Rail equipment, as well as add the on-board energy storage, and still remain at the 288,000 pound weight. Bombardier also advises that the resulting DM DC 3<sup>rd</sup> Rail locomotive will not exceed the P2 force of 82,000 pounds on the rail at 110 MPH or at 125 MPH. The ALP-45DP does have a maximum speed of 125 MPH in AC-Catenary electric mode, but only a maximum of 100 MPH in diesel mode. We have reached out again to Bombardier to determine if an increase in diesel engine power and weight will be needed to reach 110 MPH and 125 MPH respectively. The Bombardier ALP-45DP locomotive only meets EPA Tier 3 emissions standards. We have also asked Bombardier what would be the increase in weight for after treatment to achieve EPA Tier 4 emission standards. We want to determine if, collectively, these two issues might cause the Bombardier locomotive to exceed the P2 force limit at 125 MPH in diesel mode.

EMD/Progress Rail will use their F125 unit, being constructed for Metrolink, as the base unit to develop the DM DC 3<sup>rd</sup> rail locomotive. With the addition of the DC 3<sup>rd</sup> Rail equipment, EMD/Progress indicates that the unit would approximate 282,000 pounds. This unit would not exceed the P2 forces at either 110 MPH or at 125 MPH. This maximum weight, however, does not include a weight estimate for the on-board energy storage system, as EMD/Progress is still reviewing storage technologies. The F125 unit also meets EPA Tier 4 emissions standards.

GE/MPI has not yet responded to this request of the TSC, although we have had some telephonic discussions. In their response to the MNR RFI of last summer, however, GE/MPI indicated that the DM DC 3<sup>rd</sup> Rail locomotive proposed would weigh 326,000 pounds, have three axle trucks, and would meet EPA Tier 4 emissions requirements. The engine on the locomotive would be based on the GE Tier 4 EVO engine, with "no after treatment". Although no explicit statement concerning meeting the P2 force limit of 82,000 pounds was made, GE/MPI noted that the P2 forces up to 125 MPH would be low. New York State is concerned that even if the P2 forces are met, the weight of the locomotive at 326,000 pounds would exceed the capacity of the legacy infrastructure to support it into Penn Station and Grand Central Terminal.

In conclusion, based upon the responses from Siemens, Bombardier and EMD/Progress Rail, the Locomotive Working Group is satisfied that is feasible for a Dual Mode (DC 3<sup>rd</sup> Rail) locomotive, with on-board energy storage, to meet the P2 force limit of 82,000 pounds at a sustained speed of 110 MPH; however, at a maximum speed of 125 MPH, the P2 force limit would be likely exceeded.

As requested by the FRA, the Loco WG will draft an additional paragraph for inclusion in the Appendix of the DM Requirements Document, based upon the above discussion. This paragraph will summarize the manufacturer's responses and constitute the technical explanation for the 110 MPH maximum sustained speed as requested by the FRA. I will ask Mr. Hewitt to circulate this document to the Technical Subcommittee members, with the intent that the TSC vote on the revised DM Requirements Document at the next TSC call on 12/18.

Mr. Chairman, that concludes my report."

Discussion:

Jeff Gordon, FRA, thanked Jack Madden for "a very thorough treatment" of this issue and added "I applaud your efforts and I concur...the explanation is very clear, understandable and quite defensible".

**8. Technical subcommittee consideration of approval DM Locomotive (DC 3<sup>rd</sup> Rail) Requirements Document – Dale Engelhardt:**

Dale Engelhardt deferred consideration of approval of the revised requirements document to the December 18<sup>th</sup> Technical subcommittee call. As noted in Jack Madden's presentation, this will provide Jack with the time to prepare a summary technical explanation to be appended to the revised requirements document; and it will allow ample time for its distribution to the subcommittee members for review in advance of its vote.

**9. Update: NGEC Procurements:**

**Diesel-Electric Locomotive Jennifer Bastian, IDOT:**

- a) *The last two Milestone 'A' CDRLs (#10 & #11) will likely be closed-out this week. Invoice for Milestone 'A' will likely follow in the next week or so.*
- b) *Follow-up action items to close Intermediate Design Review (IDR) are underway.*
- c) *Mock-up reviews for the diesel engine room are confirmed to be conducted at Siemens' full-scale 3-D reality-lab in Munich week of December 8<sup>th</sup>, 2014.*
- d) *Long-range planning for Final Design Review (FDR) is underway for February and March 2015. The location for FDR has been confirmed for Seattle by WSDOT.*
- e) *Tammy Krause reported (on the dual-mode locomotive call) that the first group of DCRs for the multi-state diesel-electric locomotive that were submitted in August, have been approved by the NGEC technical committee.*
- f) *Four more draft DCRs are being processed. Rich Stegner will contact Tammy Krause to coordinate."*

Note: Dave Warner, in his previous role with the NGEC, pointed out that DCRs would have to be individually submitted using the "Urgent DCR" process, same as any future bi-level DCRs, now that the Rev. C.2 (bi-level) and A.1 (Loco) DCRs have been approved.

**Bi-Level Car Procurement –**

In the absence of Stan Hunter, No report was provided today.

**10. Other Issues – All:**

**Adjourn:** At approximately 3:27 PM, Dale Engelhardt adjourned today's Technical subcommittee conference call meeting.

**Next Call: December 18, 2014 – 3:00pm Eastern**

**Decisions and Action Items**

RVAAC: the contract between FRA and Oregon State University has expired and is in the process of being renewed.

Updating ECP Standards: remains as a standing action item and as activities occur; Paul Jamieson will provide status updates to the subcommittee. (Ongoing)

Maintaining Industry Participation List: This remains an ongoing action item. There are currently **232** registered industry participants. (ongoing)

Requesting Backgrounder educational document: With changes to the NGEC organizational structure at the October 24<sup>th</sup> Fall Meeting, the Backgrounder will need to be updated. Steve Hewitt will work with AASHTO to incorporate the changes into a new Backgrounder.

Consideration of the revised Dual Mode requirements document (DC 3<sup>rd</sup> rail): Consideration will take place on December 18, 2014 after circulation of a summary technical explanation re: 110 max speed for appending to the revised requirements document.



**ATTACHMENTS**

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**PRIIA Section 305 Tech Sub Committee Meeting**

**December 4, 2014**

The agenda for the meeting is below:

- |  |                                  |
|--|----------------------------------|
| 1. Roll Call   | Steve Hewitt                     |
| 2. Review meeting agenda   | Dale Engelhardt                  |
| 3. Review Action Items   | Steve Hewitt                     |
| 4. Approve Minutes of November 20, 2014  | Dale Engelhardt                  |
| 5. Accessibility Working Group/RVAAC related issues update                                   | Jeff Gordon for Melissa Shurland |
| 6. Document Control update   | Steve Hewitt for Tammy Krause    |
| 7. Status/discussion: Technical explanation – 110 MPH maximum speed rationale DM Loco        | Jack Madden                      |
| 8. Consideration of approval - DM Locomotive (DC 3 <sup>rd</sup> Rail) revised Req. Document | Dale Engelhardt                  |
| 9. Update: Procurements  | Jenifer Bastian                  |
| a. Diesel-electric locomotive  | No Bi-level update today         |
| b. Bi-level Cars   |                                  |
| 10. Review this meeting:   | Steve Hewitt                     |

- a) Decisions
- b) New Action Items

***Technical Sub Committee Conference Call Meeting:  
Thursday December 4, 2014 3:00 Eastern 1-866-209-1307 / passcode 6486648#***

***Please call in a few minutes early so all is in attendance for Roll Call.  
Thank you***

***Next Call – 12-18-14 at 3:00pm Eastern***