IEEE Rail Transit Vehicle Interface Standards Committee

MEETING #3 OF WORKING GROUP 2
COMMUNICATION BASED TRAIN CONTROL
STANDARD 1474

MARTA Headquarters
2424 Piedmont Road NE, Atlanta, GA 30324

Wednesday, October 11 – 9:30 am to 4:00 pm

Meeting Minutes

1.0 HOUSEKEEPING ITEMS
1.1 Introductions and housekeeping items by Chair, Ronald Birkelbach.
1.2 Roundtable introductions of working group members present.
1.3 Michael Kipness from IEEE HQ discussed meeting process and procedures.
1.4 Chair called for participants, patents and a duty to inform on any potential conflicts of interest or proprietary information.
   1.4.1 Kipness explained the process and asked if anyone has any issues to report; there were no comments from the attendees of the group.
1.5 Secretary, Wilson Milian read draft summary of minutes of WG2 Meeting held on July 19, 2017 and confirmed we resume review at 1474.1 Section 6.1, Functional requirements.
   1.5.1 Milian updated Roster of Participants and emailed to Kipness

2.0 REVIEW AND PROPOSED CHANGES TO 1474.1, SECTION 6.1, FUNCTIONAL REQUIREMENTS
2.1 Review of Key Changes and Action Items:
   2.1.1 Section 6.1 ATP
      2.1.1.1 Reviewed and discussed; no changes.
   2.1.2 Section 6.1.1 Train Location and Speed Determination
      2.1.2.1 Reviewed and discussed; no changes.
   2.1.3 Chair referred to Section 5.3.2 for ATP definition and began discussion of functional safety criteria and vital functions for this section. Dennis Hinish asked about how vital communication functions are addressed in the Standard. Yousef Kimiagar responded and explained how the standard had captured those requirements to Hinish.
   2.1.4 Section 6.1.1.2 secondary train location determination
      2.1.4.1 Discussion of providing secondary security systems. Agreed that language was not intended to recommend or require a secondary train Detection system
   2.1.5 Section 6.1.2 Safe Train Separation
      2.1.5.1 Section 6.1.2, Discussion of the boundary of the track. Kimiagar and Weiping Wu drew pictures on the whiteboard describing various scenarios in which track circuits are occupied including overhang conditions. After group discussions it was agreed no changes were required to this section.
2.1.5.2 Chair asked if anyone knew of a CBTC system with Grade Crossings. Kimiagar noted that only Edmonton and on have grade crossings on their CBTC controlled territories.

2.1.5.3 Discussion on IEEE standard 1698 which addresses safe braking model.

2.1.5.3.1 Birkelbach asked if it can be used as a related reference. Kipness said some related standards can be shared by IEEE to WG2.

2.1.5.3.2 Vice Chair, Jonas Radstrom asked if we can get to the standard online; Kipness stated copies of standards can be requested from IEEE.

2.1.5.3.3 Kimiagar took the action item to determine if safe braking model reference should remain.

2.1.6 Review of reference Annex C, on train location detection and resolution and accuracy requirements for CBTC systems.

2.1.6.1 Reviewed and discussed.

2.1.7 Section 6.1.3 over speed protection and speed assurance

2.1.7.1 Reviewed and discussed; no changes.

2.1.8 Section 6.1.4 rollback protection

2.1.8.1 Reviewed and discussed; no changes.

2.1.9 Sections 6.1.5 End of track protection

2.1.9.1 Reviewed and discussed; no changes.

2.1.10 Section 6.1.6 vital train length discussed under partial consist problem

2.1.10.1 Reviewed and discussed; no changes.

2.1.11 Section 6.1.7 zero speed detection; need standard 1475-1999 for reference; Action Item: Kipness and Milian to check.

2.1.12 Section 6.1.8 Door Opening Control Protection Interlocks

2.1.12.1 Reviewed and discussed; no changes.

2.1.13 Break for lunch

2.1.14 Discussion returned to safe braking model as a reference to other IEEE standards. Kimiagar stated that this subject was discussed previously and recommended adding reference to IEEE-1698. Guide for calculation of safe braking distance for rail transit vehicles. Discussed and agreed.

2.1.15 Section 6.1.9 Departure Interlocks

2.1.15.1 Reviewed and discussed; no changes.

2.1.16 Section 6.1.10 emergency braking

2.1.16.1 Reviewed and discussed; no changes.

2.1.17 Section 6.1.11 route interlocking

2.1.17.1 Reviewed and discussed; no changes.

2.1.18 Section 6.1.12 Traffic Direction Reversal Interlocks

2.1.18.1 Reviewed and discussed; no changes.

2.1.19 Section 6.1.13 work zone protection

2.1.19.1 Personal protection systems to identify and alert track crews and train operators in work zones. Debate on adding to standard 1474 or making a separate standard. Kipness said the
chair can assign a task force to create a new standard just for personal Protection system

2.1.19.2  Action item: Radstrom appointed to chair task force for personal protection systems and to determine if new standards required.

2.1.19.3  Discussion on adding language to clarify that it is up to the operating authority to specify track worker personal protection systems. Language was added.

2.1.19.4  Milian to assist Jonas in notifying and recruiting members to participate in this task force. Task force meetings can be done by Skype with only notes taken but any results or recommendations must be formally presented to the WG 2 chair for a vote for inclusion.

2.1.20  Section 6.1.15 highway grade crossing warning

2.1.20.1  Chair asked Kimiagar for lessons learned from grade crossing projects in Edmonton and Ottawa. Action item: Kimiagar provide lessons learned.

2.1.21  Section 6.1.16 restricted route protections

2.1.21.1  Reviewed and discussed; no changes.

2.1.22  Section 6.2, ATO functions

2.1.22.1  Reviewed and discussed; no changes.

2.1.23  Section 6.2.2 platform berthing control

2.1.23.1  Reviewed and discussed; no changes.

3.0  ANY OTHER BUSINESS

3.1  Chair asked if there were any new issues or comments

3.1.1  No new business items were presented.

3.2  Date/Location of Next WG2 Meeting

3.2.1  To be announced.

3.3  Meeting adjourned at 4:00 PM.

Respectfully submitted:

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Birkelbach, Ronald L. WSP Chair
Radstrom, Jonas BART Vice Chair
Milian, Wilson MTA-NYCT Secretary
Buck, Carl Alstom Member
Hinish, Dennis Lea Elliott Member
Kimiagar, Yousef Gannet Fleming Member
Wu, Weiping CSR Member
Kipness, Michael IEEE-SA Observer