IEEE Rail Transit Vehicle Interface Standards Committee

MEETING #1 OF WORKING GROUP 2
COMMUNICATION BASED TRAIN CONTROL
STANDARD 1474

BART Offices
300 Lakeside Drive, Oakland, CA 94612

Thursday, April 27 – 9:00 am to 4:00 pm

Meeting Minutes

1.0 HOUSEKEEPING ITEMS
1.1 Opening comments and introductions by Chair, Ronald Birkelbach.
1.2 Roundtable introductions of working group members present.
1.3 The chair explained some housekeeping rules and explained IEEE policies and procedures.
1.4 Chair reviewed IEEE patents committee notes and a duty to inform on any potential conflicts of interest or proprietary information.
   1.4.1 There were no comments or issues reported from the attendees of the working group.
1.5 The Chair called for nominations for Committee Officers for Vice Chair and Secretary.
   1.5.1 There was a 15-minute break before beginning review of Standard section 1474.1

2.0 REVIEW AND PROPOSED CHANGES TO 1474.1, SECTION 5.3, SYSTEM SAFETY REQUIREMENTS
2.1 Review of Key Changes and Action Items:
   2.1.1 Section 5.3.3 CBTC vital functions
       2.1.1.1 Discussion of latest references in the standard 1483 – 2000 reaffirmed in 2007
       2.1.1.2 Insert Footnote before section 6.3.9 fault reporting
       2.1.1.3 Cyber security will be researched for inclusion and reference to any available standards
       2.1.1.4 Radstrom said BART system looking to obtain PCI compliance for credit card security network.
       2.1.1.5 There was a discussion on vital interfaces as to whether we should include items such as platform doors as part of vital functions and whether vital interfaces are addressed.
       2.1.1.6 Reviewed and discussed; no changes.
   2.1.2 Section 5.3.4 quantitative CBTC safety performance requirements
       2.1.2.1 The chair noted the performance requirement of 10^-9 = 114,000 years
       2.1.2.2 Work train hazards discussed train integrity and configuration and whether trained integrity is addressed
   2.1.3 Section 5.3.5 basic safety design principles
2.1.3.1 Normal operation is mixed mode and there was much discussion on non-equipped non-revenue trains. The question was raised on whether Non-revenue work trains can be tripped and under what conditions.

2.1.3.2 Added under 5.3.5.1 normal operations with no CBTC functions, procedures are not considered a substitute for Security functions that are to be vested in specific CD to see components or equipment (or secondary train detection systems).

2.1.4 Section 5.3.5.2 abnormal transit system operations with no CBTC hardware failures

2.1.4.1 Section 5.3.5.3, response to CBTC hardware failures. A CBT C system shall respond safely under conditions of hardware failure. Discussion on the revealing or not revealing failures and the term “classified” failures.

2.1.5 Break for lunch

2.1.6 Discussion returned to Self-revealing and non-revealing failures with some examples and scenarios discussed.

2.1.6.1 The group reviewed and discussed the AREMA communications and signals Manual part 17.3.3 “B2” for examples of hardware failures. If are a preferred by Yosef’s similar but not cited in 1474.1.

2.1.6.2 Action: Yousef to research exact meaning of revealing, non-revealing and independent failures.

2.1.7 Section 5.3.5.4 recovery from CBTC hardware failures

2.1.7.1 Reviewed and discussed; no changes.

2.1.8 Section 5.4 system assurance requirements

2.1.8.1 Reviewed and discussed; no changes.

2.1.9 Section 5.4.2 system availability requirements

2.1.9.1 Reviewed annex F, F 0.1 traditional equipment-based approach reviewed three types of failures no change to this section. Recommend some changes to annex F.

2.1.10 Section 5.4.3.1 Design Life

2.1.10.1 Discussion of design life not the same as component life. CBTC has design life of 30 years. Component life has a shorter life span of 3-7 years.

2.1.10.2 It was agreed that the system shall have a design life of 30 years.

2.1.11 Section 5.4.4 Equipment Maintainability Requirement

2.1.11.1 Added maintenance time frames of 30 minutes and two hours. Discussed and added predictive maintenance reference.

2.1.11.2 Clarified software applications and database changes impacting safety operations.

2.1.11.3 Changes discussed and agreed upon.

2.1.12 Chair requested a review be done of 1478 to check the reference to it and P1582.

2.1.12.1 Yousef took the action of getting a copy of 1478 and to do the reference check.
2.1.13 Section 6.1 Functional Requirements
   2.1.13.1 Discussed overview of this section included Train integrity, configuration and train length. Also, Annex C and typical CBTC parameters.
   2.1.13.2 There was much discussion regarding rollback parameters as being excessive and should be made more restrictive. There was no consensus on this issue at this time.
   2.1.13.3 Chair requested volunteers to research the Rollback issue and the cybersecurity issue its application to CBTC from other sources.
   2.1.13.4 Yousef took the action of researching the Rollback issue and Milian took the action of researching the cybersecurity issue.

3.0 ANY OTHER BUSINESS
   3.1 Chair asked if there were any issues or comments
      3.1.1 No Issues or comments were presented.
   3.2 Date/Location of Next WG2
      3.2.1 Meeting will be on July 19, 2017 in Newark New Jersey.
   3.3 Meeting adjourned at 4:00 PM.

Respectfully submitted:

Wilson Milian, PE
CBTC Design Manager, MTA NYCT
2017 Secretary IEEE CBTC Standards WG#2
wmilian@ieee.org
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