The Maintenance Welding Subcommittee was called to order by the subcommittee co-chairs, Bill Bruce and Matt Boring at 9:05 AM. The sign in sheet was passed. A total of 15 participants attended the meeting, including 9 member and 6 visitors. Visitors who would like to be members were asked to speak to a co-chair following the meeting. Those present introduced themselves and their affiliation.

The following is a description of the significant items that were discussed:

Errors and Omissions in Annex B in the Twenty-first edition of API 1104 - The errata and addendum were briefly shown and those present were asked if other issues have been identified.

- Section B.7 refers to Section 10 currently. It was recommended that the subcommittee review how Section 10 affects Annex B, and whether additional text should be recommended for the 22nd edition of API 1104.
- It was identified that Table B.1 may need to be renamed in the 22nd edition to reflect that it is also used for welder qualifications for weld deposition repairs.

Ballot Resolution Spreadsheets - The ballot resolution spreadsheet items applicable to Annex B were discussed. Subcommittee responses were recorded in the spreadsheets.

- Ballot 2914:
  - The note in Section B.2.3.1.1 pertaining to the strength of the completed weld as compared to the pipe or fitting was intentionally vague. The subcommittee recommended the inclusion of the following sentence. “The method for ensuring this is left to the discretion of the company.”

- Ballot 2475:
  - Figure B.4 (Suggested Location of Test Specimens for Weld Deposition Repair) can be improved by removing the “weld bead orientation” in Option 1, as the orientation contradicts the suggestion in Section B.4.4 that states the welds should be deposited in the circumferential direction whenever possible. Additionally, the text in Section B.2.4.3 can be clarified with: “The orientation of test specimens in relation to the orientation of the weld beads should be at the discretion of the company.”
  - Footnote 20 should be moved by the API staff to the following page to align with the reference to footnote 20 in the text of Section B.1.
Other improvements for Annex B for the 22nd Edition - Other improvements for the 22nd edition of API 1104 were further discussed by the subcommittee.

- Figures B.7 through B.12 (welding sequence figures for sleeve and branch connections) were discussed. Melissa Gould was assigned the task of reviewing the figures and identifying improvement options for subcommittee comment. At this time, the subcommittee will wait on the results from the NDT Task Group for Maintenance Welding before potentially incorporating NDT language/sequencing into these figures and associated section.

- The in-service welder qualification requirements were discussed in depth. The subcommittee was in agreement that a multiple-qualification scheme for in-service only welders could be developed. Several present agreed to draft potential scenarios/language for review by the subcommittee, including Matt Boring, Bill Amend, Bill Byrd, Rob MacKenzie, and John Baima.

- Additional proposed text for Section B.3.4 pertaining to the records requirements for in-service welders was discussed. The subcommittee agreed that the records requirements should include whether welders are qualified for heat input control and/or temper bead welding. It was also suggested that definitions for these terms be added to Section 3.

- The language in Section B.3.1 pertaining to in-service welder qualification on the limits of weld deposition repairs according to the orientation of the repair during qualification was suggested to also include branches. Bill Amend volunteered to draft proposed text for inclusion in the 22nd edition.

- The subcommittee discussed the potential need for repair of construction girth welds that are currently in-service. If this scenario is outside of the scope of Section 10, it should be addressed in Annex B. The subcommittee will keep apprised of the activities by the Section 10 subcommittee and consider this for the 22nd edition of API 1104.

- The formatting errors in Figure B.6, Face Bend Test Specimen, were discussed. This figure was identified as needing improvement in the 22nd edition.

- The essential variables in Annex B and Section 5 were discussed and the subcommittee agreed that additional clarification is needed on the essential variables applicable to in-service welding. Potential paths forward were to include all essential variables in Annex B and not refer to Section 5. Alternately, the full list of essential variables could be reviewed and additional text added to Annex B for the essential variables of Section 5 that are replaced (in the case of heat input superseding travel speed for in-service welding.)

Other Business - Other business was discussed, including the path forward for the Task Group for Table 1.

The co-chairs thanked everyone for their participation and reminded the non-members to come forward if they would like to become subcommittee members. The meeting was adjourned at 12:00 PM.