

Minutes:
ATSC Technology and Standards Group (TSG)

10 a.m. until 12:00 Noon
Wiley Rein, 1750 K Street, NW, Washington, D.C. 20006
20 September 2007

1. WELCOME, INTRODUCTIONS, AND DETERMINATION OF QUORUM

Chair William Miller (SMPTE) called the meeting to order at 10:00 a.m. at the offices of Wiley Rein in Washington, D.C. He welcomed those in attendance and asked each person to identify him or herself. He reminded all participants of the confidentiality requirements of this meeting and the ATSC Patent Policy. The attendance list is given in **Attachment 1**. Secretary Jerry Whitaker (ATSC) reported that a quorum was present.

2. APPROVAL OF PROPOSED AGENDA

Chair Miller asked for consideration of the draft agenda, distributed to the TSG reflector on August 30, with updates posted on August 31 and September 14 (**ATTACHMENT 2**). He suggested the addition of a new agenda item 10 on "TSG/S2 Status Report." No further changes were requested and the draft agenda was approved as amended.

3. APPROVAL OF THE DRAFT MINUTES OF THE LAST MEETING

Chair Miller called members' attention to the draft Minutes of the May 16 TSG meeting, distributed to the TSG reflector on July 19 (**ATTACHMENT 3**). Mr. Whitaker reported one correction to the attendance list and a file name correction for Attachment 20. No further changes were requested and the document was approved as amended.

4. OPENING REMARKS

Chair Miller noted that TSG is working on a compressed time schedule, with the ATSC Planning Committee meeting following this meeting at 1:00 p.m. He went on to thank Wiley Rein for hosting today's meeting.

5. COMMENTS BY THE PRESIDENT (MARK RICHER)

Mark Richer (ATSC) reported on current activities within the ATSC.

5.1 Status of Ballots

Mr. Richer said there was only one ballot since the May 16 TSG meeting:

- TSG-755r1, "Corrigendum to ATSC Recommended Practice: Receiver Performance Guidelines, Document A/74." This membership ballot was issued 13 June 2007 and closed on 11 July 2007. It was approved: 23 yes, 0 no, 1 abstain; editorial privilege 21 yes, 0 no 3 abstain. No comments were received. The document has been published on the ATSC Web site.

5.2 Other

Additional items covered in Mr. Richer's reported included the following:

- A new office manager has been hired, Li Liu. Mr. Richer welcomed her to the ATSC team.
- Work is underway to develop an online voting system. To do so will require a revision to the Bylaws, which the ATSC Board of Directors will consider at an upcoming meeting.
- The Board is set to consider a revision to the ATSC Strategic Plan, the result of discussions at the Board retreat held last July.
- A tentative schedule of TSG meetings for 2008 has been set and will be considered for approval by the Board of Directors at its September 26 meeting. Once finalized, the meeting schedule will be posted to the TSG reflector.

6. BRIEF REPORTS ON ACTIONS FROM THE PREVIOUS MEETING

The following action items were developed at the May 16 meeting of TSG:

- 1) Mark Aitken to lead TSG/S4, the Specialist Group on ATSC-M/H.
Completed.
- 2) Jerry Whitaker to establish the necessary electronic resources for TSG/S4.
Completed.
- 3) ATSC staff to issue an RFP on ATSC-M/H.
Completed.
- 4) Chair Miller to work with Art Allison to draft a liaison statement to SMPTE urging that they reference A/76 appropriately in their S22-10 work.
Completed.
- 5) Art Allison to seek support from TSG/S1 for PMCP/BXF harmonization.
Completed.
- 6) Jerry Whitaker to post the TSG/S6 Candidate Standard Amendments to A/53 Part 5 and Part 6 (S6-442r4) on the ATSC Web site for a period of time ending 31 December 2007.
Completed.
- 7) Jerry Whitaker to post TSG-746r0, "Working Draft Revision B of ATSC Standard A/57, Content Identification and Labeling for ATSC Transport," as a Candidate Standard for a period of time ending 31 December 2007.
Completed.
- 8) Jerry Whitaker to issue a two-week TSG letter ballot on the Working Draft Corrigendum on A/74 as a Proposed Recommended Practice.
Completed.
- 9) Jerry Whitaker to revise CS/TSG-696r1 to show a Candidate Standard period ending 21 September 2007.
Completed.
- 10) Chair Miller to work with Rich Chernock, Pat Waddell, Mark Richer, and Mark Eyer to draft a liaison statement to MPEG regarding document N8943.
Carried forward.
- 11) Chair Miller to report to the ATSC Board the status of the Advanced Emergency Alerting work.
Completed.

7. NEW WORK ITEMS FOR DISCUSSION

7.1 Board of Directors

7.1.1 Tentative Assignment of NWIP – SCTE 127 (pending Board approval)

Mr. Richer called attention to a New Work Item Proposal on Carriage of SCTE 127 in the ATSC Transport, posted to the TSG reflector on September 5 by Mike Dolan (Nielsen Media Research). He noted that this proposal (**Attachment 4**) must first be approved by the Board of Directors. However, assuming approval of the document by the Board at its September 26 meeting, Chair Miller said he would like to pre-assign the work to avoid delay.

Mr. Dolan, in his September 5 posting, explained that SCTE 127 defines a way to encode VITC, NABTS, CGMS, *TVGuide*, and AMOL into a PES packet on a separate PID; time-stamped with a PTS so a decoder can precisely reconstruct the VBI output if desired. It can also bridge the information to HDMI or decode the information directly. SCTE 127 specifically excludes captions so as not to confuse the existing mechanism. Mr. Dolan indicated that the actual technical work is expected to be minimal and mostly involve a reference to SCTE 127 with appropriate text around it.

Chair Miller said he would like to pre-assign this work to TSG/S13, assuming Board approval. Mr. Dolan accepted the task on behalf of the specialist group. The committee agreed to this approach.

8. ARCHITECTURAL TEAM

8.1 Five-Year Review – A-Team Recommendations

Chair Miller noted that a number of ATSC Standards and Recommended Practices are at or beyond the five year revision point¹. Those documents are listed below, along with the action recommended by the Architecture team.

A/49, “Ghost Canceling Reference Signal for NTSC,” reaffirm.

A/63, “Standard for Coding 25/50 Hz Video,” merge into A/53 Part 4.

A/64A, “Transmission Measurement and Compliance for Digital Television, Rev. A,” assign to TSG/S9 for review.

A/68, “PSIP Standard for Taiwan,” withdraw.

A/75, “Developing DTV Field Test Plans,” refer to TSG/S9 for review.

A/80, “Modulation and Coding Requirements for Digital TV (DTV) Applications over Satellite,” open for TSG discussion—withdraw or update?

A/91, “Implementation Guidelines for the Data Broadcast Standard,” assign to TSG/S13 and defer the work until after A/90 is updated.

¹ From document B/3, “Procedures For Technology Group and Specialist Group Operation”:

15.1. ATSC Technical Documents (Standards, Recommended Practices, and Informational Documents) should be reviewed every five years by the appropriate technology group and on such review shall be reaffirmed, revised or withdrawn.

15.1.1. If a document is revised as per section 16.1.3, the five-year review period will start from the most recent date of document revision.

Chair Miller observed the consensus of the committee to accept the recommendations of the Architecture Team, holding the question open of the plan for document A/80.

Art Allison (NAB) **moved** to issue a two-week letter to reaffirm A/49. The motion was **seconded** by Merrill Weiss (MWG/Tribune). The motion was **approved** on a voice vote.

Discussion followed regarding how to proceed with A/80. Mr. Allison suggested that the ATSC Forum might have interest in having this document updated. Craig Tanner (Sharp) agreed. Mr. Richer said that before a decision is made on withdrawing this document, a notice to the membership should be circulated seeking feedback. He added that a notice should also be sent to the ATSC forum. Chair Miller and Mr. Richer took an action item to develop and distribute such a note.

Mr. Allison **moved** to issue a letter ballot on withdrawal of A/68. The motion was **seconded** by Mr. Waddell. The motion was **approved** on a voice vote.²

9. REPORT OF THE TSG-3 GROUP (RICH CHERNOCK)

Rich Chernock (Triveni Digital), Chair of TSG-3, reported that the TSG AHG on Adaptation Field Usage and Cross-Layer Issues has completed its assigned work (**Attachment 5**).

9.1 Final Report

Mr. Chernock said that the following tasks have been accomplished by TSG-3:

- Identify all packet types that cannot have adaptation fields and their potential frequency.
- Identify packet types that can or must have adaptation fields.
- Identify any constraints in field usage within adaptation field syntax that would affect potential future ATSC usage.
- Identify usage of packets that, although the adaptation fields are not explicitly prohibited, are not expected in practice (e.g., DSM-CC sections).
- Identify and evaluate the advantages and disadvantages of proposals that employ methods that cross layers, particularly the use and restrictions of transport layer packets in A-VSB that enable enhancements or improvements in physical layer performance.
- Determine if it is technically feasible to protect against downstream devices destroying adaptation field data.

Mr. Chernock called attention to the three output documents of the TSG-3 AHG, which were posted to the TSG reflector on August 13:

- 1) Survey of Adaptation Field Usage and Constraints (**Attachment 6**)
- 2) Report on Adaptation Field Private Data Usage (**Attachment 7**)
- 3) Summary of A-VSB Implications for the Transport Layer (**Attachment 8**)

Mr. Chernock said that original Scope of TSG-3 has been completed and that the AHG will go to sleep until new cross-layer issues arise. He thanked all participants in TSG-3 for their hard work in bringing this difficult task to a conclusion.

² From document B/3, "Procedures For Technology Group and Specialist Group Operation":

"Section 17.2: A Technology Group considering withdrawal of a document shall post notice of this activity in the public area of the ATSC web site for a minimum of 180 days."

This ballot, therefore, will be distributed after the 180 day posting period.

Mr. Chernock noted that certain items should be referred to TSG/S8 and TSG/S9, specifically:

- For TSG/S8: TSG-3 recommends that: 1) all use of private data in the adaptation field use the TLV approach, signaled by an analog of the SCTE_adaptation_field_data_descriptor, 2) a mechanism for tag coordination is needed, and 3) if SRS is present, it must come first in the private data.
- For TSG/S9: If SRS is needed, TSG/S9 should document the specific locations within the slices for unconstrained AF packet usage.

Chair Miller observed the consensus of the committee to accept the TSG-3 report.

10. REPORT OF THE SPECIALIST GROUP ON PSIP METADATA COMMUNICATION, TSG/S1 (ART ALLISON)

Art Allison (NAB), Chair of TSG/S1, reported on work of the specialist group since the last TSG meeting.

10.1 Status Report

Mr. Allison said the specialist group met on August 24 to discuss proposed changes to A76A, “Programming Metadata Communication Protocol.” He explained that S22-10, the SMPTE committee responsible for the implementation of the Broadcast eXchange Format (BXF) protocol based on A/76A, uncovered certain discrepancies in the standard’s XML schema file names (PMCP 3.0). Accordingly, TSG/S1 developed a Working Draft Amendment to A/76A that proposes the following changes to the PMCP 3.0 documents:

- All file names must be lower case.
- Table A1 is modified appropriately.
- The xsd files are modified to comply with the new file naming convention.
- The namespace reference is updated to reflect these changes.

TSG-762r0, “Working Draft Amendment to A76A, Programming Metadata Communication Protocol,” was posted to the TSG reflector on September 4 (**Attachment 9**), along with the rationale for the proposed changes (**Attachment 10**).

Mr. Allison said there is urgency for this action because the changes are needed to in order for A/76A to be a valid normative reference in the BXF document. He, therefore, reported the consensus recommendation of TSG/S1 that TSG-762r0 be elevated to Proposed Standard at this meeting, after which it will be sent to a letter ballot of the ATSC membership. Chair Miller recognized the **motion** from the Chair of TSG/S1. The **motion** was approved on a voice vote.³

11. REPORT OF THE SPECIALIST GROUP ON ACAP, TSG/S2 (THOMAS JUNG)

Thomas Jung (Alticast) updated the committee on activities within the specialist group (**Attachment 11**). He said there is work underway to update the ACAP Standard. Among the items being reviewed are index modifications, reference updates, and test support. He said the current target date for a Working Draft revision is the end of November.

³ It was clarified after the meeting that the intent of TSG/S1, and therefore the motion, was to have the staff roll up the Corrigendum to create a new revision of A/76.

In response to a question from Graham Jones (NAB), Mr. Jung said the changes being proposed would not impact legacy implementations.

Chair Miller encouraged TSG members to actively participate in the A/101 revision effort.

12. REPORT OF THE SPECIALIST GROUP ON DIGITAL ENG, TSG/S3 (DANE ERICKSEN)

Dane Ericksen (Hammett & Edison, representing SBE), Chair of TSG/S3, briefed the committee on current activities within the specialist group (**ATTACHMENT 12**).

12.1 Status Report

Mr. Ericksen said that no corrections or errors have been identified to date in CS/TSG-696r2, “Candidate Standard: ATSC Automatic Transmitter Power Control Data Return Link Standard.” He reported the consensus recommendation of TSG/S3 that CS/TSG-696r2 be sent to a TSG letter ballot as a Proposed Standard. Chair Miller recognized the **motion** from the Chair of TSG/S3. The motion was **approved** on a voice vote.

12.2 Field Communications System Project

Mr. Ericksen reported that progress continues to be slow on the ATSC Field Communications System Standard Working Draft (S3-061r13). A solid time frame for requesting TSG to elevate the Working Draft to Candidate Standard has not been determined due to limited time availability of contributor(s) to the document.

13. REPORT OF THE SPECIALIST GROUP ON MOBILE AND HANDHELD, TSG/S4 (MARK AITKEN)

Mark Aitken (Sinclair Broadcast), Chair of TSG/S4, reported on current work within the specialist group (**Attachment 13**)

13.1 Status Report

Mr. Aitken outlined the overall structure of the TSG/S4 effort, explaining that in order to meet the aggressive timeline for completion of an ATSC-M/H standard, work on certain elements will need to be done in parallel. Accordingly, three sub-groups have been established:

- **S4-1** – Physical Layer Group, which is focusing on the RF, forward-error-correction, and legacy transport elements. The Physical Layer Group is being led by Michael Doerr (Coherent Logix) as Chair, and Bruce Franca (MSTV) as Vice-Chair.
- **S4-2** – Management Layer Group, which is focusing on the ATSC-M/H transport, signaling, announcement, streaming and file delivery, conditional access, digital rights management, and the application framework. The Management Layer Group is being led by Mr. Chernock as Chair, and Alan Moskowitz of MobiTV as Vice-Chair.
- **S4-3** – Presentation Layer Group, which is focusing on audio coding, video coding, and image formats. The Presentation Layer Group is being led by Brett Jenkins (ION Media).

Mr. Aitken called attention to the Scope statement developed by TSG/4, posted to the TSG reflector on June 29 (**Attachment 14**).

13.2 Schedule Issues

Mr. Aitken said that following considerable discussion within TSG/S4, the committee developed the following project milestones:

- 15 October 2007 – a hard date for submission by respondents of a comprehensive “Working Draft” of their proposal. This date must be met to move forward to the next threshold.
- 18 February 2008 – submission of working hardware from system proponents.

Mr. Aitken said the hardware submitted by 18 February 2008 will first be subjected to a laboratory viability test to establish the reasonableness of the hardware supplied and the actual performance of the hardware versus target performance. It is further planned that a new project activity, Independent Demonstration of Viability (IDOV), will commence upon delivery of the proponent systems. This activity will most likely be developed and managed by the Open Mobile Video Coalition (OMVC), an independent user group.

Regarding the IDOV element, Mr. Aitken said details are yet to be worked out within the overall project timeline, but it is reasonable to expect that two markets would be utilized to place equipment into operation to demonstrate against an established expectation. While the tests are envisioned to be relatively brief, he said the reporting that comes out of the IDOV activities would provide additional input for decisions in parallel with the ongoing TSG/S4 activities of document review and revision. The IDOV report would be completed prior to the 2008 NAB Convention and, along with ongoing review, would lend itself to a decision point in May 2008, after which TSG/S4 would turn the Working Draft of that respondent system (or respondent system elements) into a Working Draft Candidate Standard in early June.

Mr. Aitken reported that the winnowing process continues, with Micronas and Thomson announcing yesterday they are combining their proposals to provide a complete ATSC-M/H solution. In addition, Coherent Logix announced that it would share its technology with any of the physical layer proponents.

Mr. Aitken said the expectation would be CS finalization in September 2008. At that point, he added, detailed laboratory and field test would proceed in parallel with the rest of the industry beginning its trial implementations of the CS document. Finally, TSG would be asked to approve a ballot on a Proposed Standard in December 2008, with the ATSC process ending within Q1 of 2009.

14. REPORT OF THE SPECIALIST GROUP ON VIDEO AND AUDIO CODING, TSG/S6 (PAT WADDELL)

Pat Waddell (Harmonic), Chair of TSG/S6, provided a status report on the work of the specialist group (**Attachment 15**).

14.1 Request to Ballot Candidate Standard TSG-744r1, “Amendment 1 to A/53 Part 4,” as a Proposed Standard

Mr. Waddell noted that the Candidate Standard period for CS/TSG-744r1, “Amendment No. 1 to ATSC Digital Television Standard, A/53 Part 4:2007 – MPEG-2 Video System Characteristics, Userdata,” expires today. He reminded the committee there is an ongoing coordinated standardization effort among the ATSC, CEA, and SMPTE in the area of video userdata. CS/TSG-774r1 contains an overhaul of the userdata structures defined in A/53-4:2007 to help facilitate this coordination. He said the Amendment completes the ATSC’s portion of the three-way CEA/ATSC/SMPTE revision work on captions.

Mr. Waddell reported the consensus recommendation of TSG/S6 that CS/TSG-744r1 be sent to a letter ballot of TSG as Proposed Standard and that it remain available on the ATSC website while it is being balloted and while comments are reconciled. Chair Miller recognized the **motion** from the Chair of TSG/S6. The motion was **approved** on a voice vote.

14.2 AHG Status

Mr. Waddell reminded the committee that TSG/S6 has set up two groups to focus on audio implementation problems, specifically:

- **S6-3** – Audio Loudness AHG, led by Jim Starzynski (NBC Universal)
- **S6-4** – Audio Synchronization AHG, led by John Henderson (Hitachi)

The first order of business for each group was to attempt to get a handle on the scope of the problem and—if possible—identify where the problem is made worse along the program chain from the production studio to the receiver in the consumer’s home.

Mr. Waddell reported that well-known audio expert Tomlinson Holman worked with the University of Southern California (USC) to sponsor and organize a Television Loudness Summit. The program was held on July 31 in Los Angeles and attracted more than 100 program producers/originators, broadcasters, cable uplink and downlink operators, and other professionals in the program production chain. This first-of-its-kind event focused on implementation of DTV loudness through the path from the point of origin to the consumer.

Mr. Waddell encouraged interested persons to participate in the ongoing work of these groups. He cautioned that TSG should not expect immediate closure on these issues, since they are non-trivial problems and will take time to resolve.

14.3 Video Codec Candidate Standard Revision Issues

Mr. Waddell reported that TSG/S6 is making progress on revising the coding elements of the two published advanced codec Candidate Standards, specifically:

- CS/TSG-658r1, “Candidate Standard: Amendment to ATSC Digital Television Standard, Doc. A/53D, to define Video System Characteristics of VC-1 as new Annex F”
- CS/TSG-659r2, “Candidate Standard: Amendment to ATSC Digital Television Standard, Doc. A/53D, to define Video System Characteristics of AVC as new Annex F”

Mr. Waddell said the work involves drafting new standalone documents that include both coding and transport constraints, developed by TSG/S6 and TSG/S8, respectfully. The new documents are listed below:

- Working Draft A/72, Part 1 (AVC Video), Part 2 (Transport)
- Working Draft A/73, Part 1 (VC-1 Video), Part 2 (Transport)

Mr. Waddell said TSG/S6 is working on both Part 1s while TSG/S8 is working on both Part 2s.

15. REPORT OF SPECIALIST GROUP ON DATA MULTIPLEX/TRANSPORT, TSG/S8 (MARK EYER)

Mark Eyer (Sony), Chair of TSG/S8, reported on current work of the specialist group (**Attachment 16**).

15.1 New Codec Transport Work

Mr. Eyer said documents are being prepared that address the transport elements of advanced video codecs (see Item 14.3 above), specifically:

- S8-686r0, “A/73 Part 2: Transport Subsystem Characteristics: VC-1 Video in the ATSC Digital Television System.” Ann Marie Rohaly (Microsoft) is serving as the document editor.

- S8-681r1, “A/72 Part 2: Transport Subsystem Characteristics: AVC Video in the ATSC Digital Television System.” Mr. Waddell is serving as the document editor. The starting point for this work is CS/TSG-660, “Candidate Standard: Amendment to ATSC A/53D to Define Transport of AVC Codec in Annex C”.

Mr. Eyer said first drafts of these documents have been circulated and reviewed by TSG/S8.

15.2 Other Issues

Mr. Eyer reported that a number of small items pertaining to A/65C are being collected, waiting for a “critical mass” of proposed changes, including: 1) coordination with CEA-708C (Caption Service Descriptor), and 2) removal of references to the old content identifier descriptor. He added that TSG/S8 continues to seek volunteers to work on updating of A/69, “PSIP Implementation Guidelines for Broadcasters,” first published in June 2002.

16. REPORT OF THE SPECIALIST GROUP ON RF TRANSMISSION, TSG/S9 (CHARLES EINOLF)

Charles Einolf (UPN/CW), Chair of TSG/S9, reported on current work within the specialist group (**Attachment 17**).

16.1 Draft Corrigendum to A/110A

Mr. Einolf called attention to TSG-760r0, “Working Draft Corrigendum to A/110A,” posted to the TSG reflector on August 29 (**Attachment 18**). He said this Corrigendum clarifies certain text and addresses non-substantive issues identified in the current published version of the standard.

Mr. Einolf reported the consensus recommendation of TSG/S9 to issue a letter ballot on TSG-760r0, “Working Draft Corrigendum to A/110A,” as a Proposed Standard and that ATSC staff be instructed to consolidate the Corrigendum into a new A/110B version once it has been approved by the membership. Chair Miller recognized the **motion** from the Chair of TSG/S9. The motion was **approved** on a voice vote.

16.2 S9-5 AHG Status

Mr. Einolf reported that the A-VSB field test report has been received from CRC and circulated within S9-5 for review. He said the sub-group is planning to have a draft evaluation report available for the next TSG/S9 meeting on October 9.

16.3 S9-6 AHG Status

Mr. Einolf reported that an ad-hoc group has been formed (S9-6) to develop a Working Draft Corrigendum to A/53 Part 2:2007, “RF/Transmission System Characteristics.” The group, led by Wayne Bretl (Zenith), will focus on informative text improvements. Mr. Einolf encouraged committee members interested in this work to join the S9-6 AHG.

16.4 Other Issues

Mr. Einolf noted the following issues that TSG/S9 wanted to bring forward to TSG:

- TSG/S9 wishes to assure TSG that it will continue with its review and possible recommendation for standardization of A-VSB.
- TSG/S9 notes that its work may overlap some of the work of TSG/S4.

- TSG/S9 cautions that test data obtained for A-VSB in its laboratory and field tests may not be directly comparable with systems that may be tested by TSG/S4.

Glenn Reitmeier (NBC Universal) asked about the differences that might be expected between the planned TSG/S4 tests and the tests already completed by CRC on the A-VSB system as managed by TSG/S9. JoonSoo Kim (Samsung) said that improvements have been made to the system, including the SRS signal, and certain improvements to the receiver. Mr. Kim said he is preparing a document for TSG/S4 that outlines the specifics of these updates.

Mr. Weiss said that TSG could, at a point in the future, find itself in a situation where TSG/S4 and TSG/S9 are working on different system implementations. He questioned why the A-VSB work seems to be moving along parallel paths. Mr. Richer acknowledged that at some point TSG will have to deal with this question. He added that at some point the Board may or may not provide guidance. Lynn Claudy (NAB) suggested TSG request that the updates document mentioned by Mr. Kim be produced as soon as possible so that TSG can make an informed decision. John Godfrey (Samsung) said that the document will be available from Samsung prior to the November TSG meeting.

17. REPORT OF THE SPECIALIST GROUP ON RECEIVERS, TSG/S10 (JOHN HENDERSON)

John Henderson (Hitachi), Chair of TSG/S10 reported on current work within the specialist group (**Attachment 19**).

17.1 Working Draft A/74-Amendment

Mr. Henderson called attention to TSG-761r0, “Working Draft Amendment to A/74,” posted to the TSG reflector on September 5 (**Attachment 20**). He said that certain users of A/74 have requested clarification of the receiver phase noise performance recommended in the document, specifically a more complete description of the phase noise profile.

Mr. Henderson reported the consensus recommendation of TSG/S10 that TSG-761, “Working Draft Amendment to A/74,” be sent to a two-week letter ballot as a Proposed Recommended Practice and that ATSC staff be instructed to consolidate the Amendment into a new A/74A version once it has been approved by the membership. Chair Miller recognized the **motion** from the Chair of TSG/S10. The **motion** was approved on a voice vote.

17.2 Additional A/74 Work

Mr. Henderson said that additional updates to A/74 are being considered by TSG/S10, including the following:

- A new Appendix on the impact of unlicensed “white space” devices
- Identification and description of existing field ensembles that have dropped symbols
- Additional “A/74 Annex D-like” studies of difficult cities
- Additional performance guidelines for lower signal strength levels than “ATSC low”
- An expanded section on “smart antennas” based on the CEA-909 Interface Standard.

Mr. Henderson encouraged interested persons to participate in the ongoing work of TSG/S10.

18. REPORT OF THE SPECIALIST GROUP ON DATA BROADCAST, TSG/S13 (MIKE DOLAN)

Mike Dolan, Chair of TSG/S13, updated the committee on work within the specialist group since the last TSG meeting (**Attachment 21**). He reported that TSG/S13 has focused on the non-real-time project, which is currently being done in the S13-1 AHG. With regard to other TSG/S13 activities, Mr. Dolan stated that:

- The A/90 revision is currently on hold pending additional interest and an editor to take on the project.
- The A/95 revision is on hold pending interest and an editor.
- E-VSB support for data services is on hold pending interest and an editor.
- The joint CEA/SMPTE caption harmonization work is nearing completion, with the last steps being done in TSG/S6.

18.1 NRT Progress (Rich Chernock)

Mr. Chernock reviewed the current status of work in the S13-1 AHG on non-real-time (NRT) services (**Attachment 22**). He called attention to and the Scope developed by the AHG, posted to the TSG reflector on July 17 (**Attachment 23**), and the original NWIP on NRT developed by the Planning Committee (**Attachment 24**). Mr. Chernock reviewed the current project plan, as given below:

- By October 15: determine what specifications are currently available and what will be needed, including a survey of existing standards and disclosures of existing technology from deployed systems.
- Date TBD: determine what new standards are necessary and oversee/coordinate/execute their creation.

Mr. Chernock said the target goal for completion of the NRT project is February 2009, which he said should be achievable.

19. OTHER BUSINESS

19.1 Liaison Reports

19.1.1 SCTE

Mr. Waddell reported on work underway in the SCTE Hybrid Management Sub-layer Subcommittee (HMS) focused on monitoring equipment. The HMS group is chaired by Hung Nguyen (Time Warner Cable). Using A/78, "Transport Stream Monitoring," as a starting point, the group has developed a document intended for cable applications. Chair Miller asked Mr. Waddell to monitor the HMS work and report back to TSG as appropriate.

19.1.2 SMPTE

Chair Miller called attention to recently approved SMPTE documents, including the following:

- SMPTE 334-1-2007, "Vertical Ancillary Data Mapping of Caption Data and Other Related Data"
- SMPTE 334-2-2007, "Caption Distribution Packet (CDP) Definition"
- RP 2007-2007, "Closed-Caption CDP and 'Grand Alliance' Serial Interfaces for DTV"

- SMPTE 2016-1-2007, “Television – Format for Active Format Description and Bar Data”
- SMPTE 2016-3-2007, “Television – Vertical Ancillary Data Mapping of Active Format Description and Bar Data”

Chair Miller also noted that SMPTE is currently revising RP 218-2002, “Specifications for Safe Action and Safe Title Areas for Television Systems.”

19.1.3 Planning Committee

Chair Miller noted that the Planning Committee will meet today beginning at 1:00 p.m. Graham Jones (NAB), Chair of the PC, highlighted items of interest on the draft agenda.

20. SCHEDULE OF NEXT TSG MEETINGS

The next meeting of TSG is scheduled for November 29 in the Los Angeles area. Chair Miller said that a venue is still being sought for the meeting.

21. ACTION ITEMS DEVELOPED AT THIS MEETING

The following action items were developed at today’s TSG meeting. Items carried forward from a previous meeting are so noted.

- 1) Chair Miller to work with Rich Chernock, Pat Waddell, Mark Richer, and Mark Eyer to draft a liaison statement to MPEG regarding document N8943. [2007-05-16]
- 2) Assuming approval by the Board of Directors, TSG/S13 to begin work on a New Work Item on Carriage of SCTE 127 in the ATSC Transport.
- 3) Jerry Whitaker to issue a two-week letter ballot to reaffirm A/49, “Ghost Canceling Reference Signal for NTSC.”
- 4) Chair Miller and Mark Richer to distribute to the ATSC membership and ATSC Forum a statement regarding possible withdrawal of A/80, “Modulation and Coding Requirements for Digital TV (DTV) Applications over Satellite.”
- 5) TSG/S6 to undertake work to merge A/63, “Standard for Coding 25/50 Hz Video,” into A/53 Part 4.
- 6) Jerry Whitaker to begin the process of withdrawal of A/68, “PSIP Standard for Taiwan,” per Section 17.2 of B/3, “Procedures for Technology Group and Specialist Group Operation.”
- 7) TSG/S9 to undertake a review of A/64A, “Transmission Measurement and Compliance for Digital Television, Rev. A.”
- 8) TSG/S9 to undertake a review of A/75, “Developing DTV Field Test Plans.”
- 9) TSG/S13 to undertake a review of A/91, “Implementation Guidelines for the Data Broadcast Standard,” with the work deferred until after A/90 is updated.
- 10) Jerry Whitaker to issue a membership ballot on TSG-762r1, “Proposed Amendment to A76A, Programming Metadata Communication Protocol.”
- 11) Jerry Whitaker to issue a letter ballot on CS/TSG-696r2, “Candidate Standard: ATSC Automatic Transmitter Power Control Data Return Link Standard,” as a Proposed Standard.
- 12) Jerry Whitaker to issue a letter ballot on CS/TSG-744r1, “Amendment No. 1 to ATSC Digital Television Standard, A/53 Part 4:2007 – MPEG-2 Video System Characteristics,

Userdata,” as a Proposed Standard. The CS document is to remain available on the ATSC website while it is being balloted and while comments are reconciled.

- 13) Jerry Whitaker to issue a letter ballot on TSG-760r0, “Working Draft Corrigendum to A/110A,” as a Proposed Standard.
- 14) Samsung to provide to TSG, prior to the next TSG meeting, a summary of changes and updates to the A-VSB system, comparing the system being considered by TSG/S4 with the system documented and tested by TSG/S9.
- 15) Rich Chernock to add to the draft agenda of the November TSG meeting an item on “Comparison of A/VSB System Versions.”
- 16) Jerry Whitaker to issue a two-week letter ballot on TSG-761, “Working Draft Amendment to A/74,” as a Proposed Recommended Practice.
- 17) Pat Waddell to monitor the HMS work in SCTE and provide liaison reports to TSG as appropriate.
- 18) TSG/S8 to document a standardized method for transport of private data in the private area of the Transport Stream adaptation field, and a method to signal the presence of and tag that data, per the recommendations contained in the TSG-3 output document (TSG3-019r9).

22. ADJOURNMENT

There being no further business, the meeting was adjourned at 12:12 p.m. EDT.

ATTACHMENTS

ATTACHMENT 1. Attendance List

ABC	Thomas Hankinson*
Alticast	Thomas Jung
Ascent Media (observer)	Frank Bell
ATSC	Jerry Whitaker, Mark Richer
Auvitek	Jordan Cookman*
Broadcom	Randall Perlow*
CBS	Ren McMann*
CEA	Brian Markwalter
Coherent Logix	Michael Doerr
Comcast	Walter Michel*, Bill Warga*
Cox Broadcasting	Sterling Davis
CRC	Yiyan Wu*
Delphi	Todd Brandenburg
DirectTV	Kuriacose Joseph
Dolby	Walt Husak
DTS	Phillip Maness, Bill Zou, Patrick Watson
ETRI	Sung-Hoon Kim
Harmonic	Pat Waddell
Harris	Chris Lennon, Joe Seccia, Jay Adrick
Hitachi	John Henderson
Ion Media	Dan Borowicz, Brett Jenkins
Kodak	Mark Henry*
Micronas	Richard Citta
Microsoft	Pat Griffis*
MobiTV (rep)	Steve Smith
MPAA	Jim Williams*
MSTV	Bruce Franca*
NAB	Lynn Claudy, Graham Jones, Art Allison
NBC Universal	Glenn Reitmeier
Nielsen Media Research	Michael Dolan*
Panasonic	Peter Fannon*

PBS	James Kutzner
Philips	Mark Laramie
Pioneer	Adam Goldberg, Rich Annibaldi
Rohde & Schwarz	Mike Simon*
Samsung	JoonSoo Kim, C.B. Patel (consultant), John Godfrey
Sun	Jens Paetzold*
Sanyo	Glenn Rockland
SBE	Dane Ericksen*
Sharp	Tadashi Motoyama, Craig Tanner
Sinclair	Mark Aitken
SMPTE	William Miller
Sony	Mark Eyer
TANDBERG Television	Matthew Goldman*
Techwell	Paul Snopko
Time Warner Cable	Steve Johnson
Toshiba	John Gawel*
Tribune	S. Merrill Weiss (MSG)
Triveni	Rich Chernock
UPN/CW	Charles Einolf*
Universal	Mindy Lauck
Zenith	Wayne Luplow, Wayne Bretl

ATTACHMENT 2. TSG-749r5, Draft Agenda

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-2-TSG-749r5-Agenda-2007-09-20.doc

ATTACHMENT 3. TSG-738r6, Draft Minutes of May 16 Meeting

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-3-TSG-738r6-Minutes-2007-05-16.doc

ATTACHMENT 4. NWIP on SCTE 127 Carriage

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-4-SCTE127_NWIP-draft2.doc

ATTACHMENT 5. Final Report of TSG-3 AHG

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-5-TSG-3_026R1_Report.ppt

ATTACHMENT 6. TSG-3 Survey of Adaptation Field Usage and Constraints

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-6-TSG3-003r17Survey.doc

ATTACHMENT 7. TSG-3 Report on Adaptation Field Private Data Usage

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-7-TSG3-019r9_TSG-3-report-to-TSG_privatedata.doc

ATTACHMENT 8. TSG-3 Summary of A-VSB Implications for the Transport Layer

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-8-TSG3-024r5_UpdatedSummaryA-VSBImplications.doc

ATTACHMENT 9. TSG-762r0, Working Draft Amendment to A/76A

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-9-TSG-762r0-Working-Draft-Amendment-A76A.pdf

ATTACHMENT 10. TSG-763r0, Rational for Draft Amendment to A/76A

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-10-TSG-763r0-Rationale%20for-Draft-Amendment-A76A.pdf

ATTACHMENT 11. TSG/S2 Status Report

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-11-S2-Status-Report-2007-09.ppt

ATTACHMENT 12. TSG/S3 Status Report

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-12-S3-122r0-Status-Report.ppt

ATTACHMENT 13. TSG/S4 Status Report

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-13-S4-0-Report-09202007r0.ppt

ATTACHMENT 14. TSG/S4 Scope

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-14-S4-004r2-Scope.doc

ATTACHMENT 15. TSG/S6 Status Report

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-15-S6-485r3-S6-Report-to-TSG-for-092007.ppt

ATTACHMENT 16. TSG/S8 Status Report

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-16-S8-689r0-S8-Status-Report-2007-09.ppt

ATTACHMENT 17. TSG/S9 Status Report

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-17-ATSC-TSG-S9-Status-September-2007.ppt

ATTACHMENT 18. TSG-760r0, “Working Draft Corrigendum to A/110A

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-18-TSG-760r0-Draft-Corrigendum-A110A.pdf

ATTACHMENT 19. TSG/S10 Status Report

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-19-S10-Status-Report-to-TSG-9-20-07.ppt

ATTACHMENT 20. TSG-761r0, “Working Draft Amendment to A/74

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-20-TSG-761r0-Working-Draft-Amendment-A74.pdf

ATTACHMENT 21. TSG/S13 Status Report

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-21-S13-395r0-Status-20070920.ppt

ATTACHMENT 22. S13-1 Status Report

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-22-S13-1-011r1-NRT_TSG_Status.ppt

ATTACHMENT 23. S13-1 Scope

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-23-S13-1-000r3-Scope1.doc

ATTACHMENT 24. NWIP on NRT Services

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-24-PC3-020R4_NRT_NWIP.doc

ATTACHMENT 25. TSG-753r0 TSG Voting Eligibility

http://www.atscmembers.org/sg/T3/2007_09_20/documents/Attachment-25-TSG-753r0-elig_9_20_final.xls