

**Minutes:**  
**ATSC Technology and Standards Group (TSG)**

9 May 2006, 11:00 a.m. until 5:00 p.m. EDT  
Westfield Marriott Hotel, Chantilly, VA

**1. WELCOME, INTRODUCTIONS, AND DETERMINATION OF QUORUM**

Chairman William Miller (SMPTE) called the meeting to order at 11:00 a.m. at the Westfield Marriott Hotel in Chantilly, VA. 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**

Chairman Miller asked for consideration of the draft agenda, distributed to the TSG reflector on April 17, with the last update posted on May 5 (**Attachment 2**). No changes were requested and the draft agenda was approved as submitted.

**3. APPROVAL OF THE DRAFT MINUTES OF THE LAST MEETING**

Chairman Miller called members' attention to the draft Minutes of the February 8 TSG meeting, distributed to the TSG reflector on April 5 (**Attachment 3**). Mr. Whitaker reported that an editorial correction to action item #7 had been identified by Mike Dolan (TBT) to clarify that the TSG/S13 action was dependent on action by TSG/S3. Mr. Whitaker said he agreed with this change. No further changes were requested and the document was approved as amended.

**4. OPENING REMARKS**

Chairman Miller noted that TSG has a very full agenda today, and encouraged members to move the discussions along expeditiously. He noted that a reception follows this meeting, beginning at 6:00 p.m.

**5. COMMENTS BY THE PRESIDENT (MARK RICHER)**

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

**5.1 Status of Ballots**

The status of ballots is detailed in **Attachment 4**. In summary:

TSG ballots:

- **TSG-661r2**, "Amendment to ATSC Digital Television Standard, Doc. A/53, to Revise Annex C and Define E-VSB Transport." This ballot was issued on 24 January 2006 and closed on 21 February 2006. It was approved: Comments were received and resolved.
- **TSG-677**, "Working Draft Recommended Practice: E-VSB Implementation Guidelines." This ballot was issued on 24 January 2006 and closed on 21 February 2006. It was approved. Comments were received and resolved.

Membership Ballots

- **PS-661r3**, "Amendment to ATSC Digital Television Standard, Doc. A/53, to Revise Annex C and Define E-VSB Transport." This ballot was issued on 21 March 2006 and closed on 18 April 2006. It was approved. Editorial comments were received. Publication is pending.
- **TSG-677**, "Proposed Recommended Practice: E-VSB Implementation Guidelines." This ballot was issued on 21 March 2006 and closed on 18 April 2006. It was approved. Editorial comments were received. Publication is pending.

Additional detail on these ballots can be found on the Ballot Status page of the ATSC Members' Web site: [http://www.atscmembers.org/sg/Ballot/ballot\\_status.html](http://www.atscmembers.org/sg/Ballot/ballot_status.html).

## 5.2 Other

Other items included in Mr. Richer's report included the following:

- The DTV Hot Spot at the NAB Convention went very well, with nearly a dozen exhibits of advanced technologies relating to digital television. Mr. Richer thanked NAB and the participating organizations for their support.
- The ATSC Annual Meeting is set for tomorrow. Mr. Richer outlined some of the logistics for the meeting. He encouraged all TSG members to attend.
- The ATSC Board of Directors has embarked on a strategic planning program that will look at the future of digital television over the next five years or so. Developmental work is currently underway, with a two-day retreat planned for mid-July.

## 6. BRIEF REPORTS ON ACTIONS FROM THE PREVIOUS MEETING

The following action items were developed at the last meeting of the Technology and Standards Group:

- 1) Mark Eyer and TSG/S8 to update PS-606 to conform with the current state of references, and bring the document back to TSG for consideration. [2005-12-14]  
*Completed.* On agenda.
- 2) Mark Eyer and TSG/S8 to consider revising A/70A to point users to the DVB registry for CA\_system\_id values. [2005-12-08]  
*Completed.* On agenda.
- 3) Mark Eyer to work with Mark Richer to develop a liaison statement to DVB relating to the A/70A CA\_system\_id registry issue. [2005-12-08]  
*Completed.*
- 4) Jerry Whitaker to post TSGS1-280 as a Candidate Standard for a period of time ending 12 May 2006.  
*Completed.*
- 5) Dane Ericksen to report to TSG/S3 the acceptance by TSG of a new target date for the DRL Candidate Standard draft by 9 May 2006.  
*Completed.*
- 6) Dane Ericksen to distribute TSGS3-061 to TSG/S13, once it is fully developed in TSG/S3.  
*Completed.*

- 7) Upon submission from TSG/S3, Mike Dolan and TSG/S13 to examine the requirements described in TSGS3-061 and report back with an opinion on whether A/9x can meet the needs identified in the document.  
*Completed. On agenda.*
- 8) Craig Tanner to investigate whether A/63 is being used and report back to at the next meeting.  
*Carried forward.*
- 9) Pat Waddell to report to TSG/S6 approval by TSG of the draft Work Statement, with changes agreed to in today's meeting.  
*Completed.*
- 10) Mark Eyer to work with Jerry Whitaker to post a note to the ATSC "admin" reflector calling attention to the A/65C Table 6.13 inconsistency and asking for feedback from contributors.  
*Closed. On agenda.*
- 11) Mark Eyer and TSG/S8 to draft a summary report on the ISO-639 language issue in time for consideration at the next TSG meeting.  
*Completed. On agenda.*
- 12) Charles Einolf to report to TSG/S9 the acceptance by TSG of the A-VSB Work Plan as presented.  
*Completed.*
- 13) Mike Dolan to report to TSG/S13 the acceptance by TSG of the SRM Work Plan as presented.  
*Completed.*
- 14) Mike Dolan to report to TSG/S13 the consensus of TSG that some form of bit rate cap is appropriate for the SRM specification.  
*Completed.*
- 15) Pat Waddell to report to TSG/S6 a new work item to develop a Recommended Practice on proper delivery of low bit rate audio and video within the existing framework of A/53, using the guidance developed by ATSC subgroups and document PC-055.  
*Completed. On agenda.*

## **7. NEW WORK ITEMS FOR DISCUSSION**

### **7.1 Assigned by Board of Directors**

Mr. Richer reported there are no new work items from the Board.

Chairman Miller noted that on May 11 the Board is expected to act on a New Work Item Proposal (NWIP) relating to advanced emergency alerting. He said that, should the Board approve this project, he will discuss with the Architecture Team how to address it.

## **8. ARCHITECTURE TEAM**

John Henderson (Hitachi) reported progress on the A/53 restructuring work. He said the effort is proceeding, with particular emphasis within the Architecture Team on the planned Part 1. Pat Waddell (Harmonic) has done a first-cut partitioning, which has been shared with other specialist

groups. Mr. Henderson said he hoped this effort could be completed during the summer, after which a letter ballot would be issued.

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

Art Allison (NAB), chair of TSG/S1, reviewed current work of the specialist group (**Attachment 5**).

### **9.1 Status Report**

Mr. Allison reported that schema changes to add multiple language support for the RRT in CS/76A have been finalized, and that implementation feedback from Korea has been reviewed. As a result, he said, certain changes into the document are appropriate.

### **9.2 Consideration of Recommendation from TSG/S1 Regarding Balloting of CS/76A as a Proposed Standard**

Mr. Allison reported the consensus recommendations of TSG/S1 that CS/76A is ready for ballot as a Proposed Standard once the changes detailed above are integrated. He suggested that TSG authorize a letter ballot on this document as a Proposed Standard contingent upon agreement by TSG members to the changes, which are expected to be available by May 19. He suggested a two-week TSG comment period, after which the document would move forward if no substantive issues arise.

Mr. Allison **moved** that a letter ballot be authorized on CS/76A as a Proposed Standard contingent upon agreement by TSG to planned changes to the specification; a two-week comment period will be allowed, after which the document will move forward unless substantive issues are raised. The motion was **approved** without objection.

Chairman Miller suggested liaison with SMPTE S22.10 regarding possible future efforts with regard to a Recommended Practice on PMCP issues.

### **9.3 TSG/S1 Action Items**

The following action items relating to TSG/S1 were developed at this meeting:

- Art Allison to forward to Jerry Whitaker CS/76A, with appropriate updates, for issuance of a TSG letter ballot as a Proposed Standard, following a two-week TSG comment period and assuming no substantive issues are identified.
- Art Allison to initiate an informal liaison with the SMPTE S22.10 Chair regarding possible future efforts with regard to a Recommended Practice on PMCP issues.
- Chairman Miller to follow-up with SMPTE officials on the TSG/S1 liaison relating to PMCP issues.

## **10. 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 work within the specialist group (**Attachment 6**).

### **10.1 Status Report**

Mr. Ericksen noted that S3-010r30, "ATSC Data Return Link (DRL) Standard," was posted to the TSG reflector on April 20 (**Attachment 7**). Following discussions at the April 26 meeting at NAB, the scope of possible applications for DRL channels was expanded. This expanded scope

is reflected in a revised version, S3-010r32, posted to the TSG reflector on May 2 (**Attachment 8**).

Additional conversations suggested changing the title of S3-010 from “ATSC Data Return Link (DRL) Standard” to “ATSC Automatic Transmitter Power Control (ATPC) Data Return Link (DRL) Standard.” Mr. Ericksen said he supports this change; however, it has not been formally reviewed by TSG/S3.

Mr. Ericksen noted that at the April 26 TSG/S3 meeting, possible implementation efforts during the planned Candidate Standard period were discussed and will be explored by various parties. He said the target date for requesting elevation (by letter ballot) of S3-010 to Proposed Standard is the December 13 TSG meeting.

#### 10.2 Request for Elevation of S3-010r32 (DRL Standard Working Draft) to Candidate Standard

Mr. Ericksen reported the consensus recommendation of TSG/S3 that S3-010r32 be elevated to Candidate Standard status for a period of time ending 15 December 2006. Additionally, he requested TSG consideration of the proposed title change from “ATSC Data Return Link (DRL) Standard” to “ATSC Automatic Transmitter Power Control (ATPC) Data Return Link (DRL) Standard.” Chairman Ericksen pointed out that the title change was within the purview of the specialist group and could be taken up by TSG/S3 at a later date.

Mr. Ericksen **moved** on behalf of TSG/S3 that S3-010r32 be elevated to Candidate Standard status for a period of time ending 15 December 2006. The motion was **approved** without objection.

#### 10.3 ENG Communications Specification

Mr. Ericksen said that, in his view, the request to TSG/S13 for an opinion on whether the S3-061r4 ENG Communications System Working Draft “Requirements” could be met by the A/9x Data Broadcasting suite of standards has been adequately addressed. He said the feedback from Mr. Dolan will be discussed at the May 18 TSG/S3 meeting.

#### 10.4 TSG/S3 Action Items

The following action item relating to TSG/S3 was developed at this meeting:

- Dane Ericksen to forward to Jerry Whitaker S3-010r32 for posting as a Candidate Standard for a period of time ending 15 December 2006.

### 11. 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 9**).

#### 11.1 Consideration of S6-413r3: "Draft Corrigendum to ATSC Digital Television Standard, Doc. A/53E Annex A" (Dealing with AFD and Bar Data)

Mr. Waddell called attention to document S6-413r3, “Corrigendum to ATSC Digital Television Standard, Doc. A/53E Annex A” posted to the TSG reflector on April 22 (**Attachment 10**) and the rationale for the proposed changes as detailed in **Attachment 11**. He said the Working Draft corrigendum, developed in parallel with SMPTE and CEA, deals with Active Format Description

(AFD) and Bar Data. It corrects semantics and clarifies several elements previously not well documented. He suggested that a liaison with DVB on this subject may be desirable.

Mr. Waddell reported the consensus recommendation of TSG/S6 that S6-413r3 be sent to a TSG letter ballot as a Proposed Standard. He so **moved**. Discussion followed, with some concern expressed by Sam Narasimhan (Motorola) regarding the scope of the proposed changes. He suggested the document is really an “amendment” rather than a “corrigendum.” Art Allison (NAB) agreed. Chairman Miller agreed that changing the document title was probably a good idea. Mr. Richer confirmed that the document was properly an Amendment, not a Corrigendum, quoting the definition of an Amendment from the ATSC Bylaws. There was no objection to making the title change. Chairman Miller called the motion. It was **approved** on a voice vote.

#### 11.2 A/53 Document Restructuring

Mr. Waddell said he has produced a “partitioned” draft of A/53 and supplied the relevant Parts to TSG/S6, TSG/S8, and TSG/S9. He said this work is ongoing, but that good progress is being made. Mr. Waddell suggested that although the changes being proposed are “only editorial” the resulting document should probably go through the usual letter ballot process (first TSG, then the ATSC Membership).

#### 11.3 Advanced Codecs and Channel Change Times

Mr. Waddell reported on preliminary efforts relating to the impact of advanced codecs on channel change times. He said this work will be taken up by an AHG within TSG/S6.

#### 11.4 Low Bit Rate Work

Mr. Waddell updated the committee on the work assigned to TSG/S6 by TSG at the last meeting to develop an informational document, presumably a Recommended Practice, on the use of the low-bit rate modes. Discussion focused on the scope of the planned work. Mr. Richer suggested that a small group consisting of Mr. Waddell, Chairman Miller, and Graham Jones (NAB, as Chair of the Planning Committee) review the project before additional work is done. Chairman Miller and the committee agreed to this approach.

#### 11.5 Recommendation Regarding Candidate Standards

Mr. Waddell noted that TSG/S6 currently has three documents at Candidate Standard status, specifically:

- **CS-TSG-658**, “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-659r1**, “Candidate Standard: Amendment to ATSC Digital Television Standard, Doc. A/53D, to define Video System Characteristics of AVC as new Annex F”
- **CS-TSG-674**, “Candidate Standard: Draft Amendment to ATSC Digital Television Standard, Doc. A/53D Annex A”

He reported the consensus recommendation of TSG/S6 that the expiration dates for each of these documents be extended to 31 December 2006. He so **moved**. The motion was **approved** without objection.

#### 11.6 TSG/S6 Action Items

The following action items relating to TSG/S6 were developed at this meeting:

- Pat Waddell to forward to Jerry Whitaker document S6-413r3, with the title changed to “Amendment” from “Corrigendum,” for issuance of a TSG letter ballot.
- Jerry Whitaker to update document CS/TSG-658 to show a CS end date of 31 December 2006.
- Jerry Whitaker to update document CS/TSG-659r1 to show a CS end date of 31 December 2006.
- Jerry Whitaker to update document CS/TSG-674 to show a CS end date of 31 December 2006.
- Jerry Whitaker to create an email reflector for the TSG/S6 low delay AHG group.
- A group consisting of Mark Richer, Pat Waddell, Chairman Miller, and Graham Jones to review the TSG/S6 low-bit rate project before additional work is done.

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

Mark Eyer (Sony), Chair of TSG/S8, reported on activities in the specialist group (**Attachment 12**).

### **12.1 Review and Approval of TSG/S8 Scope**

Mr. Eyer called attention to S8-615r2, “Scope of TSG/S8 Specialist Group on Transport Systems” (**Attachment 13**). He said the draft revision includes:

- Documenting constraints against and extensions to the MPEG-2 Transport Stream specification
- Developing standards for delivery of system and service information, including caption service signaling;
- Developing standard methods for conditional access
- Developing standard methods for transport of program metadata
- Developing methods for unambiguous identification of content;
- Preparing guidelines for effective use of transport-related standards
- Maintaining the resulting documents

Mr. Eyer asked for approval (reaffirmation) of the TSG/S8 Scope, and the new (shortened) name. Chairman Miller observed the consensus of TSG to accept the recommendation from TSG/S8 as presented.

### **12.2 Review and Approval of TSG/S8 Work Plan**

Mr. Eyer called attention to S8-617r1, “Draft S8 Work Plan” (**Attachment 14**). He said the draft revision includes:

- Define Transport of AVC Codec (CS/TSG-660)
- Revise A/65 for E-VSB (PS-606)
- Evaluate Parameterized Services approach and make appropriate recommendation to TSG
- Reach consensus on a resolution to possible inconsistency in the `table_id_extension` field in A/65C Table 6.13
- Consider revising A/70A to point users to the DVB registry for `CA_system_id` values

- Work on A/53 restructuring and resulting documents, as needed
- Revisit the question of constraint on number of MPEG-2 video streams to ensure it is properly specified
- Coordinate with TSG/S6 on low delay mode documents for submission to TSG
- Update A/63

Mr. Eyer asked for approval of the TSG/S8 Work Plan. Chairman Miller observed the consensus of TSG to accept the TSG/S8 Work Plan as presented.

### 12.3 Recommendation Regarding Candidate Standard Status of CS/TSG-660

Mr. Eyer called attention to CS/TSG-660, “Candidate Standard Amendment to ATSC A/53D to Define Transport of AVC Codec in Annex C,” which will revert to Working Draft on May 10 unless action is taken by TSG today. Mr. Eyer reported the consensus recommendation of TSG/S8 to extend the CS status until 31 December 2006. Mr. Eyer so **moved**. The motion was **approved** without objection.

### 12.4 Recommendation Regarding PS-606 (Amendment to A/65 to add delivery of PSIP data in Robust Stream)

Mr. Eyer called attention to PS-606, which adds PSIP for robust stream (E-VSB) operation. He reminded the committee that this document is being held for publication pending the availability of a normative reference. He called attention to S8-623r1, which itemizes the needed changes and identifies two errors in Section number references (**Attachment 15**). He reported the consensus recommendation of TSG/S8 that TSG accept S8-623r1 as editorial corrections to PS-606 to be made before publication.

Chairman Miller assigned an action item to Mr. Whitaker to work with Mr. Eyer to integrate appropriate editorial changes to PS-606, as documented in S8-623r1, and proceed with publication.

### 12.5 A/65C Inconsistency

Mr. Eyer reported that A/65C has inconsistency in the `ETT_table_id_extension` field; Table 6.13 indicates 0x0000 for `ETT_table_id_extension`, yet semantics say the field shall be unique. He said legacy receivers in Korea may be impacted.

Mr. Eyer said that TSG/S8 has prepared a White Paper, S8-626r1 (**Attachment 16**), that formally describes the issue. He said TSG/S8 recommends wide distribution of S8-626r1 to collect feedback and opinions from ATSC members and users.

Chairman Miller assigned an action item to Mark Eyer to prepare a cover note for S8-626r1 and forward the document to Jerry Whitaker for distribution to the ATSC “admin” reflector. He also asked Mr. Allison to transmit S8-626r1 to SCTE as liaison.

### 12.6 ISO 639 Language Issue

Mr. Eyer, following up on an action item to review the ISO-639 language issue, said TSG/S8 has prepared a White Paper on the topic, S8-627r2 (**Attachment 17**). He went on to summarize the specialist group’s findings and observations, namely:

- The broadcast application is different from film content distribution and archiving, and Internet applications
- Broadcast content is prepared to be suitable for viewers in the region of the broadcast

- The DTV standard requires the Component Name Descriptor to tag language tracks if the ISO 639 code is the same on multiple tracks
- For text, ISO 639 is sufficient for now; ATSC users in Taiwan may wish to consider whether they need to distinguish between Mandarin and Taiwanese Chinese, which both use the same ISO 639 code (“chi”)

Mr. Eyer reported the recommendation of TSG/S8 that there is no current need to extend the ISO 639-2 language signaling beyond what is currently part of the ATSC DTV standard.

#### 12.7 Amendment 1 to A/70A

Mr. Eyer called attention to S8-620r5 (**Attachment 18**), a draft amendment to A/70A. He said the Working Draft amendment would:

- Define a normative requirement that values of the CA\_system\_id shall be as defined in ETR 162 SI codes for DVB Systems
- Define DVB as the Registration Authority for CA\_system\_id.
- Add a normative reference to ETR 162 and update other references

Mr. Eyer said that S8-620r5 combines the rationale with the amendment.

Mr. Eyer, on behalf of TSG/S8 **moved** that S8-620r5 be advanced to Proposed Standard by letter ballot. The motion was **approved** without objection.

#### 12.8 TSG/S8 Action Items

The following action items relating to TSG/S8 were developed at this meeting:

- Mark Eyer to report to TSG/S8 approval of the proposed Scope, with shortened name, by TSG.
- Mark Eyer to report to TSG/S8 approval of the proposed Work Plan as presented.
- Jerry Whitaker to update the posted version of CS-660 to reflect a new end date of 31 December 2006.
- Jerry Whitaker to work with Mark Eyer to integrate appropriate editorial changes to PS-606, as documented in S8-623r1, and proceed with publication.
- Mark Eyer to prepare a cover note for S8-626r1 and forward to Jerry Whitaker for distribution to the ATSC “admin” reflector.
- Art Allison to transmit S8-626r1 to SCTE as liaison.
- Mark Eyer to forward to Jerry Whitaker S8-620r5 for issuance of a TSG letter ballot as a Proposed Standard.

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

Charles Einolf (CBS), Chair of TSG/S9, reported on current work within the specialist group (**Attachment 19**).

#### 13.1 Status Report

Mr. Einolf noted the publication of A/112, “E-VSB Implementation Guidelines,” following an affirmative vote of the ATSC membership. He recognized the work of Wayne Bretl (Zenith) in leading efforts on the document.

Mr. Einolf reviewed the current status of the A-VSB system project, currently focused in the S9-4 ad-hoc group chaired by Mr. Allison. The scope of the AHG is to review A-VSB disclosure document for completeness. He said the AHG is continuing to receive inputs to the disclosure document from system proponents.

Mr. Einolf went on to review the current status of the TSG/S9 Work Plan.

### 13.2 TSG/S9 Action Items

No new action items were developed relating to TSG/S9.

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

Mike Dolan (TBT), Chair of TSG/S13, updated the committee on work within the specialist group (**Attachment 20**).

### 14.1 Recommendation to Advance ACAP Signaling (CS/TSG-675) to PS

Mr. Dolan noted that S13-278 was elevated to Candidate Standard in December as CS/TSG-675. He said no comments have been received. Mr. Dolan reported the consensus of TSG/S13 (without objection) to advance the document to Proposed Standard. He so **moved**. Chairman Miller said a four-week letter ballot would be appropriate. The motion was **approved** without objection.

### 14.2 System Renewability Messages

Mr. Dolan reviewed the current SRM Work Plan, specifically to present the planned output document as a Candidate Standard recommendation to TSG at the September 27 meeting. He said an RFI was issued and distributed, and three technical proposals were received:

- Sony new table section
- Update Logic A/97 application
- Motorola/ETRI IPMP (13818-11) application

Mr. Dolan reported there is no evidence that any of these proposals fail to meet the requirements. He said the SRM evaluation criteria include the following:

- Simplicity
- Efficiency (i.e., bandwidth)
- Use of existing standards
- Flexibility (e.g., future SRM schemes)
- ATSC design practice (e.g., long-form tables)

Mr. Dolan noted there are some open SRM issues, including the encoder insertion model, which may affect the requirements, design, and acquisition model. He said it was previously considered out of scope. Discussion followed on this point.

Chairman Miller observed the consensus of TSG to expand the Scope to include the encoder insertion model. Mr. Dolan noted that experts in this field need to participate in TSG/S13 in order to make this practical.

### 14.3 ENG Requirements Feedback

Mr. Dolan said that while no formal feedback or recommendation has been agreed to by TSG/S13, he has provided general input to Mr. Ericksen and others in TSG/S3. He said TSG/S13 will re-engage if additional information is forthcoming from TSG/S3. Mr. Dolan said that his personal assessment was that A/90 could be used to address at least some of the requirements described in S3-061.

### 14.4 TSG/S13 Action Items

The following action items relating to TSG/S13 were developed at this meeting:

- Mike Dolan to forward to Jerry Whitaker S13-278 for issuance of a TSG letter ballot as a Proposed Standard.
- Mike Dolan to report to TSG/S13 that TSG approved expansion of the SRM Scope to include the encoder insertion model.

## 15. REPORT OF THE AD-HOC GROUP ON BITSTREAM VERIFICATION, TSG-1 (RICH CHERNOCK)

Rich Chernock, Chair of the TSG AHG on Bit Stream Compliance (TSG-1), updated the committee on current efforts (**Attachment 21**).

### 15.1 Motion to Elevate Document to Proposed Recommended Practice

Mr. Chernock noted that Working Draft TSG1-0023r6 was sent to the TSG reflector for comment on April 10, and that subsequent discussion resulted in a new version, TSG1-0023r7, which was posted to the TSG reflector on May 5 (**Attachment 22**).

Mr. Chernock reported the unanimous recommendation of TSG-1 that the document be considered a Recommended Practice, rather than an informational document, as originally directed when the work began. He said making this change would be a minor editorial task. He added that TSG1-0023r7 is ready for ballot.

Chairman Miller noted the consensus **motion** of TSG-1 to change the document classification and issue a letter ballot as a Proposed Recommended Practice. The motion was **approved** without objection.

Chairman Miller said he would brief the Board of Directors on this change at the May 11 meeting.

### 15.2 TSG1 Action Items

The following action item relating to TSG1 was developed at this meeting:

- Rich Chernock to forward TSG1-0023, with appropriate editorial changes, to Jerry Whitaker for issuance of a letter ballot as a Proposed Recommended Practice.

## 16. OTHER BUSINESS

### 16.1 Liaison Reports

Mr. Allison reported that work on CEB-16 on Active Format Description data is nearing completion. Chairman Miller recognized CEA and SMPTE for their efforts with regard to AFD.

## 16.2 Planning Committee

Mr. Jones noted that the next meeting of the PC is set for May 11. He said a New Work Item Proposal (NWIP) dealing with advanced emergency alerting, developed by PC, will be considered by the Board on May 11. He said three other NWIPs are at various stages of development, focusing on DVR applications, low bit rate video, and stream text data. Other items covered in Mr. Jones' report included the following:

- The PC-1 AHG on codec transition issues is still active and is seeking a practical migration strategy.
- A field trial of ACAP is being planned for later this year. This effort is being led by Jon Dakss (NBC Universal).
- The PC is looking at potential DTV applications for handheld, portable, and mobile services.

## 16.3 Audio Level Consistency

Bernard Lechner (consultant) said he has observed continued problems with audio program levels for DTV. Mr. Jones reported on work underway within SMPTE in an effort to address such issues. Mr. Narasimhan reported on work in DVB relating to audio.

## 17. SCHEDULE OF NEXT TSG MEETINGS

The next meeting of the ATSC Technology and Standards Group will be held on September 27.

## 18. ADJOURNMENT

There being no further business before the committee, the meeting adjourned at 2:15 p.m. EDT.

## Action Item Summary

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

- 1) Art Allison to forward to Jerry Whitaker CS/76A, with appropriate updates, for issuance of a TSG letter ballot as a Proposed Standard, following a two-week TSG comment period and assuming no substantive issues are identified.
- 2) Art Allison to initiate an informal liaison with the SMPTE S22.10 Chair regarding possible future efforts with regard to a Recommended Practice on PMCP issues.
- 3) Chairman Miller to follow-up with SMPTE officials on the TSG/S1 liaison relating to PMCP issues.
- 4) Dane Ericksen to forward to Jerry Whitaker S3-010r32 for posting as a Candidate Standard for a period of time ending 15 December 2006.
- 5) Pat Waddell to forward to Jerry Whitaker document S6-413r3, with the title changed to "Amendment" from "Corrigendum," for issuance of a TSG letter ballot.
- 6) Jerry Whitaker to update document CS/TSG-658 to show a CS end date of 31 December 2006.
- 7) Jerry Whitaker to update document CS/TSG-659r1 to show a CS end date of 31 December 2006.
- 8) Jerry Whitaker to update document CS/TSG-674 to show a CS end date of 31 December 2006.
- 9) Jerry Whitaker to create an email reflector for the TSG/S6 low delay AHG group.
- 10) A group consisting of Mark Richer Pat Waddell, Chairman Miller, and Graham Jones to review the TSG/S6 low-bit rate project before additional work is done.
- 11) Mark Eyer to report to TSG/S8 approval of the proposed Scope, with shortened name, by TSG.
- 12) Mark Eyer to report to TSG/S8 approval of the proposed Work Plan as presented.
- 13) Jerry Whitaker to update the posted version of CS-660 to reflect a new end date of 31 December 2006.
- 14) Jerry Whitaker to work with Mark Eyer to integrate appropriate editorial changes to PS-606, as documented in S8-623r1, and proceed with publication.
- 15) Mark Eyer to prepare a cover note for S8-626r1 and forward to Jerry Whitaker for distribution to the ATSC "admin" reflector.
- 16) Art Allison to transmit S8-626r1 to SCTE as liaison.
- 17) Mark Eyer to forward to Jerry Whitaker S8-620r5 for issuance of a TSG letter ballot as a Proposed Standard.
- 18) ATSC staff to issue a TSG letter ballot on CS/TSG-675 as a Proposed Standard.
- 19) Mike Dolan to report to TSG/S13 that TSG approved expansion of the SRM Scope to include the encoder insertion model.
- 20) Rich Chernock to forward TSG1-0023, with appropriate editorial changes, to Jerry Whitaker for issuance of a letter ballot as a Proposed Recommended Practice.
- 21) Craig Tanner to investigate whether A/63 is being used and report back to at the next meeting. [2006-02-08]

## ATTACHMENTS

### ATTACHMENT 1. Attendance List

ABC	Tom Hankinson
ATI Technologies	Brian Matthews
ATSC	Jerry Whitaker
ATSC	Mark Richer
Auvitek	Jordan Cookman*
Auvitek	Tan Dadurian
CBC	Guy Bouchard
CBS	Ren McMann*
CBS	Richard Streeter*
CEA	Aditya Bhatnager
CEA	Brian Markwalter
Comcast	Bill Warga
Corning Inc.	Steve Swanson
Cox Broadcasting	Sterling Davis
Cox Cable	Craig Smithpeters*
CW/UPN/CBS/MSTV	Charles Einolf
CW/UPN/MSTV	Charles Einolf
DirecTV	Bob Plummer
Doradus Technology	Hossein Dehghan
Fox	P. J. Harr*
Harmonic	Pat Waddell
Harris	Joe Seccia
Hitachi	John Henderson
JVC Americas	John Meehan
Kodak	Mark Henry
Kodak/consultant	Art Cosgrove
Merrill Weiss Group/ Tribune	S. Merrill Weiss
Micronas	Bob Rast
Microsoft	Ann Marie Rohaly*
Microsoft	Pat Griffis*
Motorola	Sam Narasimhan
MPAA	Jim C. Williams
MSTV	Victor Tawil
NAB	Art Alison
NAB	Graham Jones
NBC	Glenn Reitmeier
NCTA	Andy Scott
NCTA/consultant	Jeff Krauss
Nielsen	Mike Dolan
Nielsen	Joe Rodolico
Philips	Brian Smith
Pioneer Research Center	Rich Annibaldi
Pixelworks	Tom Kochuta
Pixelworks	Felix Dujmenovic

Rohde & Schwarz	Mike Simon
Samsung	John Godfrey
Samsung	C. B. Patel (consultant)
Samsung	Jungwan Ko
Sarnoff	Hans Baumgartner*
SBE	Dane Ericksen*
Sharp	Adam Goldberg
Sony	Mark Eyer
Sun Microsystems	Bill Sheppard*
Tandberg Television	Matthew Goldman
Techwell	Paul Snopko
Thales Broadcast & Multimedia	Brett Jenkins*
The Weather Channel	Stephen Fuss
Time Warner Cable	Steve Johnson
Triveni Digital	Rich Chernock
Triveni Digital	Rich Kaye
USDTV	Louis Libin
William Miller	SMPTE
Zenith	Wayne Bretl
Zenith	Wayne Luplow

\* Denotes participation by telephone.

## ATTACHMENT Links

**ATTACHMENT 2.** TSG-684r3, Draft Agenda

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_2\\_TSG-684r3-Agenda-2006-05-09.doc](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_2_TSG-684r3-Agenda-2006-05-09.doc)

**ATTACHMENT 3.** TSG-671r2, Draft Minutes of February 8 Meeting

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_3\\_TSG-671r2-Minutes-2006-02-08.doc](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_3_TSG-671r2-Minutes-2006-02-08.doc)

**ATTACHMENT 4.** TSG-690r0, Status of Ballots

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_4\\_TSG-690r0-Letter-Ballot-Status.xls](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_4_TSG-690r0-Letter-Ballot-Status.xls)

**ATTACHMENT 5.** TSG/S1 Status Report

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_5\\_TSG-S1-286%20\(Status%20Report\\_May2006\).ppt](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_5_TSG-S1-286%20(Status%20Report_May2006).ppt)

**ATTACHMENT 6.** TSG/S3 Status Report

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_6\\_S3-082-S3-Status\\_report.ppt](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_6_S3-082-S3-Status_report.ppt)

**ATTACHMENT 7.** S3-010r29, DRL Working Draft

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_7\\_S3-010r29-DRL-Working-Draft.pdf](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_7_S3-010r29-DRL-Working-Draft.pdf)

**ATTACHMENT 8.** S3-010r32, DRL Working Draft Redline

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_8\\_S3-010r32-DRL-Working-Draft\\_redline.pdf](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_8_S3-010r32-DRL-Working-Draft_redline.pdf)

**ATTACHMENT 9.** TSG/S6 Status Report

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_9\\_S6-418%20S6%20Report%20to%20TSG%20for%20050906.ppt](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_9_S6-418%20S6%20Report%20to%20TSG%20for%20050906.ppt)

**ATTACHMENT 10.** S6-413r3, Working Draft Corrigendum to A/53E

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_10\\_S6-413r3-correg-to%20A53E%20for%20AFD-bar-data.doc](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_10_S6-413r3-correg-to%20A53E%20for%20AFD-bar-data.doc)

**ATTACHMENT 11.** S6-415r1, Rationale for S6-413r3

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_11\\_S6-415r1-Rationale%20for%20S6-413.doc](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_11_S6-415r1-Rationale%20for%20S6-413.doc)

**ATTACHMENT 12.** TSG/S8 Status Report

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_12\\_S8-631r0-S8-Status-Report-2006-05.ppt](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_12_S8-631r0-S8-Status-Report-2006-05.ppt)

**ATTACHMENT 13.** S8-615r2, Draft TSG/S8 Scope

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_13\\_S8-615r2-Scope-statement.pdf](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_13_S8-615r2-Scope-statement.pdf)

**ATTACHMENT 14.** S8-617r1, Draft TSG/S8 Work Plan

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_14\\_S8-617r1-S8-Work-Plan.pdf](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_14_S8-617r1-S8-Work-Plan.pdf)

**ATTACHMENT 15.** S6-623r1, Prepublication Review of PS-606

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_15\\_S8-623r1-Prepublication-review-PS-606.pdf](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_15_S8-623r1-Prepublication-review-PS-606.pdf)

**ATTACHMENT 16.** S8-626r1, table\_id Extension Issue

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_16\\_S8-626r1-table\\_id\\_extension-issue.pdf](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_16_S8-626r1-table_id_extension-issue.pdf)

**ATTACHMENT 17.** S8-627r2, ISO-639 Language Code Issue

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_17\\_S8-627r2-ISO-639-Language-Code-issue.pdf](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_17_S8-627r2-ISO-639-Language-Code-issue.pdf)

**ATTACHMENT 18.** S8-620r5, Working Draft Amendment to A/70A

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_18\\_S8-620r5-Amendment-1-to-A70A.doc](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_18_S8-620r5-Amendment-1-to-A70A.doc)

**ATTACHMENT 19.** TSG/S9 Status Report

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_19\\_ATSC%20TSG%20S9%20Status%20May%202006.ppt](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_19_ATSC%20TSG%20S9%20Status%20May%202006.ppt)

**ATTACHMENT 20.** TSG/S13 Status Report

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_20\\_S13-340r0-Status-20060509.ppt](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_20_S13-340r0-Status-20060509.ppt)

**ATTACHMENT 21.** TSG-1 Status Report

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/TSG-1%20\(Bitstream%20Verification\)%20Status.ppt](http://www.atscmembers.org/sg/T3/2006_05_09/documents/TSG-1%20(Bitstream%20Verification)%20Status.ppt)

**ATTACHMENT 22.** TSG1-0023r7, “ATSC Technology Group Report: Transport Stream Verification

[http://www.atscmembers.org/sg/T3/2006\\_05\\_09/documents/Attachment\\_22\\_TGS1-0023r7.doc](http://www.atscmembers.org/sg/T3/2006_05_09/documents/Attachment_22_TGS1-0023r7.doc)