

Minutes:
ATSC Technology and Standards Group (TSG)

13 December 2006, 10:00 a.m. until 12:30 p.m. EST
NAB, 1771 N Street, N.W., Washington, D.C.

1. WELCOME, INTRODUCTIONS, AND DETERMINATION OF QUORUM

Chairman William Miller was not able to attend today's meeting in person because of illness. John Henderson (TSG Vice-Chair, Hitachi) agreed to serve as acting chairman.

Mr. Henderson called the meeting to order at 10:00 a.m. at the headquarters of the National Association of Broadcasters 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

Mr. Henderson asked for consideration of the draft agenda, distributed to the TSG reflector on November 22, with the last update posted on December 8 (**Attachment 2**). Rich Chernock (Triveni) suggested an agenda item on TSG-1. This was accepted and added under Other Business. No further changes were requested and the draft agenda was approved as amended.

3. APPROVAL OF THE DRAFT MINUTES OF THE LAST MEETING

Mr. Henderson called members' attention to the draft Minutes of the May 9 TSG meeting, distributed to the TSG reflector on November 22 (**Attachment 3**). No changes were requested and the document was approved as submitted.

4. OPENING REMARKS

Mr. Henderson noted that TSG has a very full agenda today, and a compressed time schedule. Chairman Miller, who participated by telephone, thanked Mr. Henderson for leading the meeting.

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**. Mr. Richer noted that all ballots authorized at the last TSG meeting were approved. He called attention to the results of the Board election, specifically:

- Glenn Reitmeier, NBC Universal, was elected the Board Chairperson for 2007

The following persons were elected to the Board:

- Jay Adrick, Vice President Broadcast Technology Architecture, Broadcast Communications Division, Harris
- John Godfrey, Vice President of Government and Public Affairs, Samsung
- Craig Todd, Senior Vice President and CTO, Dolby Laboratories

- Joseph Flaherty, Senior Vice President, Technology, CBS, was reelected to the Board

5.2 Other

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

- The ATSC Strategic Plan has been completed. This work, undertaken by the Board of Directors earlier this year, looks at the future of ATSC over the next five years.
- The Planning Committee is working to develop a field trial of the ACAP standard for interactive television. The first demonstration is planned for the 2007 Hollywood Post Alliance Technology Retreat in Palm Springs. Mr. Richer said that in the process of planning the field trial certain updates to A/101 have been identified and discussed. As such, he said that TSG/S2 may need to be reactivated to deal with these issues. He pointed out that a chair will be needed for the committee.
- ATSC's Office Manager, Meredith Friday, is about to receive her bachelors degree in International Business from Catholic University here in Washington. Upon her graduation, Meredith is going to return home to Pittsburgh. Her last day at ATSC will be December 15th.
- ATSC is beginning to plan the "DTV Hotspot" for the 2007 NAB Convention. Mr. Richer encouraged organizations interested in participating in the event to contact ATSC headquarters.
- The 2007 meeting calendar is posted on the ATSC Website. Members are encouraged to review the dates.

6. BRIEF REPORTS ON ACTIONS FROM THE PREVIOUS MEETING

The following action items were developed at the September 23 meeting of the Technology and Standards Group. Items carried forward from a previous meeting are noted with [meeting date].

- 1) Mr. Whitaker to integrate Amendment No. 2 to A/53E into Part 4 and issue a letter ballot on documents TSG-800-1 through 800-6 as Proposed Standards.
Completed.
- 2) Mr. Eyer to forward to Mr. Whitaker document S8-640r2 for issuance of a TSG letter ballot.
Completed.
- 3) Mr. Allison, as the liaison to SCTE, to forward the TSG ballot on S8-640r2, along with the Working Draft, to SCTE encouraging comments.
Completed.
- 4) Mr. Whitaker to issue a two-week TSG letter ballot on TSG-799r2 as a Corrigendum to A/54A.
Completed.
- 5) Chairman Miller to report to the ATSC Board the recommendation of TSG that the SRM Working Draft document go forward to ballot as a Proposed Standard, rather than an informational document as originally specified in the NWIP approved by the Board.
Completed. The Board accepted the TSG recommendation.
- 6) Mr. Whitaker to issue a TSG letter ballot on S13-351r3 contingent upon approval from the Board of this document moving forward as a Proposed Standard.
Completed.

7. NEW WORK ITEMS FOR DISCUSSION

Mr. Richer called attention to TSG-727r0, “ATSC Work Item: Advanced Emergency Alerting,” which was approved by the Board at its October 11 meeting (**Attachment 5**). The scope of the document is as follows:

“TSG should specify how to carry advanced emergency alert information, defined by FEMA and other appropriate governmental authorities, using digital television bit streams. The ATSC solution should be open, non-proprietary and, if feasible, compatible with cable and satellite digital television (DTV) service providers. The proposed work should include an assessment of requirements, research of possible solutions, and development of the appropriate technical ATSC document as defined in the Bylaws if this is found to be required.

The Planning Committee is asked to continue to look at consumer implications of advanced EAS.”

Mr. Henderson suggested that this work be assigned to TSG/S13. This approach was accepted by the committee and by Mike Dolan, the chair of TSG/S13. He urged member organizations who committed to support this work in the original NWIP to join the TSG/S13 reflector and contribute to the project.

Mr. Richer noted that the Strategic Plan will lead to additional work items—both for TSG and the Planning Committee.

8. ARCHITECTURAL TEAM

Mr. Henderson noted that the A/53 restructuring work has been completed and the documents (TSG-800-1 through TSG-800-6) are now at membership ballot. He recognized the efforts of Mr. Waddell in developing the documents

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.

9.1 Status Report

Mr. Allison noted that the specialist group has not met since the last TSG meeting. He said there may be some issues to deal with after SMPTE S22-10 has completed its work.

9.2 TSG/S1 Action Items

No action items relating to TSG/S1 were developed at this meeting.

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

Dane Ericksen (Hammett & Edison, representing SBE), Chair of TSG/S3, reported on current activities within the specialist group (**Attachment 6**).

10.1 Request to Extend Candidate Standard Period for CS/TSG-696r1

Mr. Ericksen reported that no errors or corrections have been identified to date in CS/TSG-696r1, "Candidate Standard: ATSC Automatic Transmitter Power Control Data Return Link Standard." Still, he said, equipment manufacturers need additional time to develop prototype DRL hardware; this effort has been delayed due to the need to fulfill Sprint Nextel orders for the 2 GHz TV BAS transition. Mr. Ericksen noted that the TV BAS radio manufacturers participating in TSG/S3 have indicated that new 2 GHz band plan digital radios now being shipped should be compatible with expected DRL hardware and enhanced operational capabilities.

Mr. Ericksen reported the consensus recommendation of TSG/S3 that the Candidate Standard status of CS/TSG-696r1 be extended until 20 May 2007. Mr. Henderson recognized the **motion** from the Chair of TSG/S3 to extend the Candidate Standard status until 20 May 2007. The motion was **approved** on a voice vote.

10.2 Field Communications Project

Mr. Ericksen reported that progress is being made on the ATSC Field Communications System Standard working draft (S3-061r10). He said TSG/S3 now expects to request elevation from a Working Draft to a Candidate Standard at the May 2007 TSG meeting.

10.3 TSG/S3 Action Items

The following action items relating to TSG/S3 were developed at this meeting:

- Jerry Whitaker to update CS/TSG-696r1, as posted on the ATSC Web site, to show a Candidate Standard period ending 20 May 2007.

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 7**).

11.1 Recommendation Regarding S6-434r3 as Draft Amendment 1 to A53, Part-4

Mr. Waddell called attention to S6-434r3, "Amendment No. 1 to ATSC Digital Television Standard, Doc. A/53-4-2006, Part 4 – MPEG-2 Video System Characteristics, Userdata," posted to the TSG reflector on November 29 (**Attachment 8**). He said the purpose of this document is to:

- Facilitate the movement of the `cc_data()` structure into CEA 708
- Facilitate the use of a common of `cc_data()` in other codecs and transports
- Enable managed userdata space
- Clarify syntax

Mr. Waddell noted that this document was drafted approximately one year ago as part of CS/TSG-674, "Candidate Standard: Draft Amendment to ATSC Digital Television Standard, Doc. A/53D Annex A," and has since been re-drafted by Mr. Dolan against A/53 Part 4. Mr. Waddell reported that S6-434r3 has been accepted by TSG/S6 and that a consensus was reached to recommend a TSG letter ballot as a Proposed Standard.

Mr. Waddell noted, however, that certain changes have recently been suggested by TSG/S6 members, at least one of which is substantive. He therefore recommended that TSG consider

elevating the document to Candidate Standard until these issues can be worked through. He said it is important to have this information publicly available. He suggested a Candidate Standard period ending 20 September 2007.

Mr. Waddell **moved** to elevate S6-434r3 to Candidate Standard for a period of time ending 20 September 2006. **Seconded** by Mr. Allison. The motion was **approved** on a voice vote.

11.2 Recommendations on Candidate Standards CS/TSG-658r1, CS/TSG-659r2, and CS/TSG-674r1

Mr. Waddell noted that the Candidate Standard periods for the following TSG/S6 documents are due to expire before the end of the year:

- 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”
- CS/TSG-674r1, “Candidate Standard: Draft Amendment to ATSC Digital Television Standard, Doc. A/53D Annex A”

Mr. Waddell reported that TSG/S6 believes all three documents require updates and therefore recommends that the Candidate Standard period on each be extended until 31 December 2007.

Mr. Waddell **moved** on behalf of TSG/S6 that the Candidate Standard period of CS/TSG-658r1, CS/TSG-659r2, and CS/TSG-674r1 be extended to 31 December 2007. Discussion followed regarding the ongoing work on closed captioning underway in other SDOs as it relates to CS/TSG-674r1; it was agreed that explanatory text on the ATSC Web site would be useful. Mr. Waddell took an action item to work with Mr. Dolan and Mr. Whitaker to develop the appropriate text. The motion was **approved** on a voice vote.

11.3 Low Bitrate Coding

Mr. Waddell reported that discussions have begun in TSG/S6 on the issue of low bitrate coding. He said this work may take some time to bring to a close, adding that he is looking for someone who can lead the effort. The goal will be to determine what is possible within the current constraints, thereby giving guidance to users and manufacturers. Mr. Waddell noted that Sam Narasimhan (Motorola) has an action item to develop technical documentation on this issue, which should help move the project along. Mr. Narasimhan provided background on the technical issues involved.

11.4 TSG/S6 Action Items

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

- Pat Waddell to work with Mike Dolan and Jerry Whitaker to develop appropriate explanatory text for the ATSC web site posting of CS/TSG-674r1.
- Jerry Whitaker to post S6-434r3 as a Candidate Standard for a period of time ending 20 September 2007.
- Jerry Whitaker to update CS/TSG-658r1, as posted on the ATSC Web site, to show a Candidate Standard period ending 31 December 2007.
- Jerry Whitaker to update CS/TSG-659r2, as posted on the ATSC Web site, to show a Candidate Standard period ending 31 December 2007.

- Jerry Whitaker to update CS/TSG-674r1, as posted on the ATSC Web site, to show a Candidate Standard period ending 31 December 2007.

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

Mark Eyer (Sony), Chair of TSG/S8, was unable to attend today's meeting; Mr. Henderson gave the TSG/S8 report (**Attachment 9**). Mr. Chernock, Vice-Chair of TSG, took over chairing the meeting during the TSG/S8 report.

12.1 Content Identification Work

Mr. Henderson reported on work underway within the S8-6 Content Identification ad-hoc group. He said S8-6 continues to define a TSID-based house-number content identifier method as an alternative to ISAN. The current document structure approach is to put everything "content ID related" in a revised version of A/57 (A/57B) and to amend A/65C to remove old, obsolete references to prior content ID methods.

12.2 A-VSB Transport Questions and Issues

Mr. Henderson said TSG/S8 has been studying elements of the proposed A-VSB system that could impact the transport stream, including:

- The feasibility of rescinding the current prohibition of adaptation fields in PSI/PSIP packets. He reported the consensus of the specialist group was that some existing receivers may be adversely affected, and absent exhaustive testing, the risk of allowing adaptation fields to be present in PSI/PSIP packets is too great.
- Restricting PSI/PSIP packets to a one-in-52 cadence may be problematic for PSIP "central casting" architectures.
- SFN networks designed to A/110A, which prohibits adaptation fields in Operations and Maintenance Packets (OMP), could be impacted. This issue is under consideration now in TSG/S8 and TSG/S9.

Mr. Henderson said TSG/S8 has asked the A-VSB proponents to consider the impact of allowing PSIP/PSI packets to not include SRS (no 1-in-52 cadence).

Discussion followed on technical points relating to these issues.

12.3 Recommendation on Candidate Standard Status of CS/TSG-660r1

Mr. Henderson noted that the Candidate Standard period for CS/TSG-660r1, "Candidate Standard: Amendment to ATSC A/53D to Define Transport of AVC Codec in Annex C," will expire at the end of the year. He said the document needs to be updated to reconcile it with work underway in TSG/S6 and in DVB.

Mr. Henderson reported the consensus recommendation of TSG/S8 to extend the Candidate Standard status of CS/TSG-660r1 until the end of calendar year 2007. Mr. Chernock recognized the **motion** from TSG/S8 to extend the Candidate Standard status of CS/TSG-660r1 until the end of calendar year 2007. The motion was **approved** on a voice vote.

12.4 ISO-639 Language Reminder

Mr. Henderson noted that A/53E Annex C, Section 5.7.3.1 states: "Effective 1 March 2008, audio language shall be indicated by including the optional ISO-639 Language bytes within the

AC-3_audio_stream_descriptor(), at which point the use of the ISO-639 Language Descriptor to indicate language shall be optional.”

He pointed out that:

- For manufacturers of PSIP generators, it means you need to update your product to add the ISO-639 language bytes to the AC-3_audio_stream_descriptor() and make that update available to your customers.
- For broadcasters, it means you have until March 2008 to bring your updated PSIP generator online. After that deadline, you may continue to also send the MPEG ISO-639 Language Descriptor if desired to support legacy DTV receivers relying on the old signaling method.
- For receiver manufacturers, it means you should begin looking for and processing the optional ISO-639 language bytes inside the AC-3_audio_stream_descriptor() right away, in anticipation of this transition. Receivers should accept audio language bytes found in either old or new location.

Mr. Henderson said TSG/S8 will post reminder notes on these issues on an ongoing basis, twice a year.

12.5 TSG/S8 Action Items

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

- Jerry Whitaker to update the published version of CS/TSG-660r1 to show a Candidate Standard period ending 31 December 2007.

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

Charles Einolf (MSTV/CBS), Chair of TSG/S9, reported on current work within the specialist group (**Attachment 10**).

13.1 A-VSB Project Status Report

Mr. Einolf reported that since the last TSG meeting work on the proposed A-VSB system has been largely conducted in two ad-hoc groups, specifically:

- **S9-4** – Chaired by Mr. Allison, S9-4 has completed a review of the A-VSB disclosure documents for completeness (the documents are S9-304r3 and S9-307r2). Both documents have been forwarded to TSG/S6 and TSG/S8 for review, since portions of the system may impact areas within those specialist groups.
- **S9-5** – Chaired by Victor Tawil (MSTV), S9-5 is responsible for developing an A-VSB verification plan for laboratory and field testing. CRC (Canada) is performing the tests, funded by the proponents (Samsung/Rohde & Schwarz). Mr. Einolf said the laboratory tests have been completed (S9-311r1), and the results are currently under review.

Mr. Einolf reported that TSG/S9 is considering mobile, portable, and/or hand-held field testing. At this time, he said, the proponents do not wish to revise the NWIP to include mobile and handheld services. The focus, instead, will be on A-VSB for fixed and portable reception. Mr. Einolf said the proponents believe that A-VSB can provide a “certain level” of mobile (vehicular) services and have requested that S9-5 include some limited field-testing to show the potential application of A-VSB for mobile services.

Discussion followed on specifics of the A-VSB work, which is currently underway within TSG/S9.

13.2 TSG/S9 Action Items

No action items relating to TSG/S9 were developed at this meeting.

14. 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 (**Attachment 11**).

14.1 SRM Status

Mr. Dolan noted that the TSG ballot on TSG-717r0, "System Renewability Message Transport," passed, with comments received from two members (**Attachment 12**). The comments were resolved, resulting in editorial changes to TSG-717r1 (**Attachment 13**). Mr. Dolan pointed out that this document is now at membership ballot, which closes on 3 January 2007.

14.2 TSG/S13 Action Items

Except for the new EAS assignment, no action items relating to TSG/S13 were developed at this meeting.

15. OTHER BUSINESS

15.1 TSG-1 Status Report

Mr. Chernock, Chair of TSG-1, called attention to TSG-720r1, "Proposed Corrigendum No. 1 to A/78, Transport Stream Verification," which recently passed TSG ballot. He noted that ballot comments received included some not directly related to the corrigendum. Since he expects that more issues may be found, he suggested moving forward with the current corrigendum and developing another corrigendum when additional issues, if any, are identified.

Mr. Chernock suggested that a note be added to the ATSC Web site posting of A/78 noting that changes are expected to the document. The committee agreed to this approach.

15.1.1 TSG-1 Action Items

The following action items relating to TSG-1 were developed at this meeting.

- Rich Chernock to work with Jerry Whitaker to develop text for the ATSC web site posting of A/78 indicating that certain changes to the document will be forthcoming.

15.2 Liaison Reports

Mr. Allison, the ATSC liaison to SCTE, reported that SCTE is reconsidering its approach on parameterized services. He said there is the potential to fundamentally shift the planned approach to more closely align with the ATSC system.

15.3 Planning Committee

Mr. Henderson noted that the PC will meet today beginning at 1:30 p.m.

16. SCHEDULE OF NEXT TSG MEETINGS

The 2007 schedule of meetings is as follows: February 8, May 16, September 20, and November 29.

17. ADJOURNMENT

There being no further business before the committee, the meeting was adjourned at 12:30 p.m. EST.

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) Jerry Whitaker to update CS/TSG-696r1, as posted on the ATSC Web site, to show a Candidate Standard period ending 20 May 2007.
- 2) Pat Waddell to work with Mike Dolan and Jerry Whitaker to develop appropriate explanatory text for the ATSC web site posting of CS/TSG-674r1.
- 3) Jerry Whitaker to post S6-434r3 as a Candidate Standard for a period of time ending 20 September 2007.
- 4) Jerry Whitaker to update CS/TSG-658r1, as posted on the ATSC Web site, to show a Candidate Standard period ending 31 December 2007.
- 5) Jerry Whitaker to update CS/TSG-659r2, as posted on the ATSC Web site, to show a Candidate Standard period ending 31 December 2007.
- 6) Jerry Whitaker to update CS/TSG-674r1, as posted on the ATSC Web site, to show a Candidate Standard period ending 31 December 2007.
- 7) Jerry Whitaker to update the published version of CS/TSG-660r1 to show a Candidate Standard period ending 31 December 2007.
- 8) Rich Chernock to work with Jerry Whitaker to develop text for the ATSC web site posting of A/78 indicating that certain changes to the document will be forthcoming.

ATTACHMENTS

ATTACHMENT 1. Attendance List

ATSC	Mark Richer
ATSC	Jerry Whitaker
CEA	Brian Markwalter
Comcast	Bill Warga
Cox Broadcasting	Sterling Davis
ETRI	Sung-Hoon Kim
Harmonic	Pat Waddell
Harris	Chris Lennon
Hitachi	John Henderson
Micronas	Bob Rast
Motorola	Sam Narasimhan
MWG/Tribune	S. Merrill Weiss
NAB	Art Allison
NBC Universal	Glenn Reitmeier
NBC Universal	Dan Berkowitz
NCTA/Consultant	Jeffery Kruass
PBS	Jim Kutzner
Philips	Glenn Adler
Philips	Martin Freeman
Samsung	John Godfrey
Samsung	CB Patel
Sharp	Craig Tanner
Sinclair Broadcast Group	Mark Aitken
Sony	Robert Blanchard
Techwell, Inc.	Paul Snopko
Time Warner Cable	Steve Johnson
Triveni Digital	Rich Chernock
UPN/CBS/MSTV	Charles Einolf
Zenith	Wayne Bretl
Zenith	Wayne Luplow

Attending by telephone:

ABC	William Miller
Auvitek	Jordan Cookman
CBC	Guy Bouchard
CRC	Yiyan Wu
Cox Communications	Craig Smithpeters
DirecTV	Kuriacose Joseph
Dolby	Walt Husak
Eastman Kodak	Mark Henry
Harris	Joe Seccia
JVC	John Meehan
Microsoft	Patrick Griffis
MPAA	Brad Hunt
News Corp.	P.J. Harr
Nielson Media Research	Michael Dolan
Nielson Media Research	Joseph Rodolico
Pioneer	Rich Annibaldi
Sarnoff Corporation	Hans Baumgartner
SBE	Dane Ericksen
SMPTE	William Miller
Sun Microsystems	Bill Sheppard
Tandberg Television	Matthew Goldman
Thomson Broadcast & Multimedia	Brett Jenkins
Toshiba	John Gawel

ATTACHMENT Links

ATTACHMENT 2. TSG-713r2, Draft Agenda

http://www.atscmembers.org/sg/T3/2006_12_13/documents/Attachment-2-TSG-713r2-Agenda-2006-12-13.doc

ATTACHMENT 3. TSG-692r2, Draft Minutes of September 26 Meeting

http://www.atscmembers.org/sg/T3/2006_12_13/documents/Attachment-3-TSG-692r2-Minutes-2006-09-26.doc

ATTACHMENT 4. TSG-725r0, Status of Ballots

http://www.atscmembers.org/sg/T3/2006_12_13/documents/Attachment-4-TSG-725r0-Status-of-Ballots.doc

ATTACHMENT 5. TSG-727r0, Emergency Alerting Work Item

http://www.atscmembers.org/sg/T3/2006_12_13/documents/Attachment-5-TSG-727r0-Emergency-Alerting.doc

ATTACHMENT 6. TSG/S3 Status Report

http://www.atscmembers.org/sg/T3/2006_12_13/documents/Attachment-6-S3-109r0-Status-Report.ppt

ATTACHMENT 7. TSG/S6 Status Report

http://www.atscmembers.org/sg/T3/2006_12_13/documents/Attachment-7-S6-440-S6-Report-12-13-06.ppt

ATTACHMENT 8. S6-434r3, Draft Amendment 1 to A/53 Part4

http://www.atscmembers.org/sg/T3/2006_12_13/documents/Attachment-8-S6-434r3-draft-Amendment-1-A53-4.doc

ATTACHMENT 9. TSG/S8 Status Report

http://www.atscmembers.org/sg/T3/2006_12_13/documents/Attachment-9-S8-680r1-S8-Status-Report-2006-12.ppt

ATTACHMENT 10. TSG/S9 Status Report

http://www.atscmembers.org/sg/T3/2006_12_13/documents/Attachment-10-TSG-S9-Status-December-2006.ppt

ATTACHMENT 11. TSG/S13 Status Report

http://www.atscmembers.org/sg/T3/2006_12_13/documents/Attachment-11-S13-360r0-Status-20061213.ppt

ATTACHMENT 12. TSG-722r1, TSG Ballot Comment Resolution on TSG-717r0

http://www.atscmembers.org/sg/T3/2006_12_13/documents/Attachment-12-TSG-722r1-Ballot-Comments-on-TSG-717r0.doc

ATTACHMENT 13. TSG-717r1 Redline

http://www.atscmembers.org/sg/T3/2006_12_13/documents/Attachment-13-TSG-717r1-SRM-Carriage.doc

ATTACHMENT 14. TSG-719r0, TSG Voting Eligibility

http://www.atscmembers.org/sg/T3/2006_12_13/documents/Attachment-14-TSG-719r0-TSG-Voting-After2006-09-26.xls