

Minutes
Advanced Television Systems Committee, Inc.
Board of Directors Meeting
National Association of Broadcasters, 1771 N Street, NW, Washington, DC
May 8, 2003

1. Call to Order; Determination of Quorum; Approval of Agenda

Phil Livingston called the meeting to order at 10 AM. The Attendance List is **Attachment 1**. A quorum was determined. The agenda (**Attachment 2**) was approved

2. Opening Comments

Phil Livingston welcomed the attendees. He thanked NAB for providing the room and CBS for providing lunch. Mr. Livingston mentioned that the tentative March Board meeting had not been held.

3. Consideration of the Draft Minutes of January 30, 2003

The Board approved the draft Minutes of the Board meeting on January 30, 2003.

4. Report of the President

a) Membership Report

Mr. Richer presented the membership report (**Attachment 3**).

b) Status of Letter Ballots

Mr. Richer reported the status of letter ballots (**Attachment 4**).

c) Financial Report

Mr. Richer gave the final financial report for 2002 as of the end of December and the financial report for 2003 (**Attachment 5**).

d) Other

Mr. Richer mentioned the great success of the Annual Meeting and the DTV Drafthouse.

Mr. Richer reviewed his letter to Chairman Powell made in response to the letter from Congressman Markey regarding the PSIP region ratings table. The response indicated that we have revised the PSIP standard with clarifications that describe the methodology that may be used to extend or replace the content advisory system. Furthermore, a small group met with the Commission staff and others met with Markey's staff member. All parties seemed pleased with ATSC's efforts, and were hoping that CEA would make complementary changes to clarify either their Standard 766A or Recommended Practice CEB12. Mr. Justus, CEA said the appropriate amendment to CEB12 is underway. Mr. Richer indicated that these issues have also been elucidated in ATSC's comments to the FCC.

Mr. Richer reported that an agreement has been reached with DVB to exchange documents on a regular basis, and that the ATSC had received the first two from DVB: Commercial Module Chairman's Report to the Steering Board, and the Report on the 50th Meeting of the Technical Module (TM) of the DVB Project. Mr. Richer announced his intention to reciprocate by sending to DVB the summary report on the Technical Group activities (**Attachment 6**) and T3 Report (**Attachment 7**). After a discussion, the Board agreed that sharing this document with DVB promotes the sense of strategic cooperation and harmonization that the ATSC is attempting to foster. The AS, IS, and T3 chairs agreed to review the documents and return edits to Jerry Whitaker within the week.

Mr. Richer reported that the ATSC staff would soon begin planning a seminar to take place in autumn. He suggested that a PSIP seminar would be especially well timed due to the work of T3/S1 and the serious consideration the FCC is giving to mandating PSIP.

Victor Tawil offered the idea of a technology 'seminar' for regulatory people, given the level of interest at present in the legislative arena regarding digital technology and standards. It is agreed that there is a need to educate people that the standard is live and dynamic, that this education must extend further than broadcasters and engineers, to non-technical management and executives. Mr. Richer agreed to work with Mr. Tawil to arrange a seminar for FCC staff.

Mr. Richer mentioned that the staff is exploring the logistics of operating a bulletin board for the professional community as a way to promote ATSC, and that the staff is considering expanding the computer capacity of the ATSC office in the interest of providing back-up for the email reflectors and possibly hosting the website in-house.

Lastly, Mr. Richer announced that he has accepted an invitation to speak at the NHK Open House in Tokyo, where he will be giving a general presentation on the status of terrestrial DTV in the US and the work of ATSC.

5. FCC Second Periodic Review

Mr. Richer thanked those who had offered support and suggestions on the ATSC comments, which were filed on time. He reported having scanned through the other comments filed and noting that many refer specifically, and positively, to PSIP and its potential mandate. It is his belief that there is no need to file reply comments, but he encouraged other organizations to file comments endorsing ATSC's comments. Mr. Richer also suggested supporting the Disney/ABC comments which suggest the idea of automating the process so any time a change is made to A/53 or A/65, the revised document would go out for public comment for a pre-determined period, and if there are no objections the FCC rule would be revised accordingly.

6. Appointment of Nominating Committee Chair

Jay Adrick, Harris, declined to serve as chair of the Nominating Committee a second time in order to avoid conflict of interest when he seeks a Board nomination at the end of his current term later this year. Mr. Richer reminded the Board of the structure of the Nominating Committee. The JCIC permanently hold five seats, and of the six remaining, at least three must not be Directors. Two Board members, Pat Griffis of Microsoft and Wayne Luplow of Zenith, were nominated for the position of chair. Mr. Luplow won the seat in a ballot, and agreed to have a recommendation for the Board about how the Nominating Committee will proceed to fill its vacancies.

7. Consideration of Appointment of Ex. Officio Board Members

As per the discussion at the last Board meeting, Mr. Richer introduced the idea of Ex Officio Board members as a way of recognizing international members and inviting them to participate in the Board's activities, although they would not have a vote. After some discussion it was decided that this would be counter productive to the considerable efforts made to decrease the size of the Board. Lynn Claudy, NAB, suggested a role be created for a Board member to act as international liaison, filling the gap left when the Board lost its Canadian, Argentine, and Mexican members, and providing a mechanism by which members from those countries and others can have a voice before the Board. In this way it could be discovered if these countries have issues that are not being addressed. This is generally agreed to be a valuable idea. Mr. Richer suggests the Nominating Committee consider this idea of international representation on the Board in the course of their deliberations over the next weeks and months in forming the new Nominating Committee and process.

8. Membership Committee Report

Jay Adrick, the chair of this group, reiterated his strong belief in the necessity of more participation and activity by cable and broadcast groups. Mr. Adrick solicited suggestions from the Board on how this may be accomplished. Phil Livingston endorsed Mr. Adrick's comments, accenting the importance of generating station level interest that may then be likely to escalate internally. Mr. Richer remarked that the best way to solicit new members is for existing members, especially those on the Board, to utilize personal contacts at non-member companies, and enthuse about the value of the committee. He exhorted Board members to take a personal responsibility in doing outreach to grow the membership. It was pointed out that some obstacles to more broadcasters joining is the 'historical' precedent of the same small group of participants doing the standards work, as well as the FCC and others' perception that the original work of the ATSC is complete. Andy Scott, NCTA, mentioned that those he has spoken to in the cable industry don't feel a need to join because cable is already represented by NCTA. However, he has had some positive conversation with MSO's. Mr. Adrick will accept constructive suggestions on enlarging the membership by phone or email.

9. Report of the Technology Group on Distribution

Mr. Justus presented the T3 report (**Attachment 7**).

There was some discussion on the T3 voting eligibility. Since T3 now holds only four meetings a year, it was questioned whether the rules should be revised. (These are: must be a member of technology group for three months, and attend two of the last three meetings **or** all meetings of the technology group in the three month period preceding the vote). Mr. Richer said that he did not think there was a major issue regarding voting eligibility. It was agreed that Mr. Richer and Mr. Justus should examine these issues and suggest a course of action if necessary.

Mr. Claudy brought up the Notice of Inquiry regarding receiver performance specifications that had recently been issued by the FCC and pointed out that the 75-day period of response is passing. As it specifically mentions voluntary receiver performance standards, ATSC may want to file comments.

The document submitted to ATSC by ATTC concerning the minimum target performance for receivers has become the responsibility of S10 since T3 was asked to consider it last December. The Board approved a motion by Joe Flaherty, CBS to direct T3 to ask T3/S10 to report whether they plan to produce an output document. If so, what type of document (Standard, Recommended Practice, Engineering Guide etc.) will it be, and when will a draft for consideration by T3 be complete. The Board would like a response by its meeting on June 26th.

10. Report of the Implementation Subcommittee

Art Allison, NAB, presented the IS report (**Attachment 8**). He expressed the hope that an IS Finding regarding the timing of audio with respect to video that has been a work in progress for two years will shortly be released. Mr. Allison also mentioned that the Chair of the RF Issues Working Group remains open.

11. Applications Subcommittee Report

Sterling Davis, Cox, presented the Applications Subcommittee report (**Attachment 9**) and the draft Applications and Requirements of a DTV Emergency Alert System (**Attachment 10**). Mr. Davis commented that there has been increased broadcaster participation in the AS, and he expects this trend to continue. Andy Scott asked that NCTA be added to the liaisons list. Mr. Allison indicated his willingness to work on the issues mentioned in the report as more appropriate for IS consideration.

12. DASE Harmonization with OCAP

Mr. Richer reported that a great deal of progress has been made at the recent rounds of meetings, and that February's meetings especially resulted in significant changes. These were summed up and their rationale explained in an email to the Board from Mr. Richer in March. Mr. Richer expressed the hope that a draft specification will be handed off into the ATSC due process as early as mid May, and may reach T3 as a candidate standard in June. Mr. Richer feels strongly that the momentum of this project demands an aggressive pace, and that it will be a coup for ATSC and the industry to have a single standard called DCAP that all industry segments are using and referencing. Andy Scott, NCTA, agreed that the cable industry also wants to have a harmonized standard in place as quickly as possible. Mr. Richer mentioned he has continued discussions with DVB regarding their potential adoption of the ATSC declarative specification.

13. ATSC Forum

Mr. Luplow, Zenith reported that the Forum's focus is on Brazil, but that the recent change of government in that country has made progress slow. It is the belief of the Forum that the efforts of the last few years have put the ATSC standard in the lead in Brazil, but there is no guarantee as to what will happen in future. The primary interest is in the potential businesses, jobs, factories, etc. enabled by the adoption of a standard. Brazil continues to be interested in mobile applications, and the demo given by LINX and Microsoft at NAB 2003 seems to have given evidence that mobile is possible within a single carrier system. Harris is supporting an experimental station in Columbia which is transmitting data using ATSC Standards. There is hope that Mexico will declare for the ATSC standard later this year. Mr. Luplow mentioned that the Commerce Department has been giving the Forum considerable support, and seems to be recognizing that international standards benefit the US as well as other countries. Mr. Luplow also noted that much of the efforts of the Forum staff go toward fundraising.

Michael McEwen, CDTV, informed the Board that broadcasters in Vancouver, Toronto, and Montreal are applying for DTV licenses, and that some may be offering digital HD services by cable and satellite by this fall, perhaps transmitting over the air by spring 04. Mr. McEwen felt that the Canadian regulators would mandate must-carry. He also noted that while multicasting is possible, it requires a separate license for each service.

14. Executive Session

No Executive Session was held.

15. Other Business

Mr. Griffis described the LINX – Microsoft mobile demonstration at NAB 2003. He indicated that he considered the demonstration successful and that the participants learned a great deal from the experience.

16. Schedule of Future Board Meetings

The next Board meeting will be June 26 at Harris in Mason, Ohio.

17. Adjournment

The meeting was adjourned at 3:08 PM.

Attachments

- Attachment 1: Attendance list
- Attachment 2: Draft agenda
- Attachment 3: Membership Report
- Attachment 4: Letter Ballot Report
- Attachment 5: Financial Report
- Attachment 6: ATSC Technical Group Activities
- Attachment 7: T3 Report
- Attachment 8: IS Report
- Attachment 9: AS Report
- Attachment 10: draft Applications and Requirements of a DTV Emergency Alert System

**ATSC Board of Directors Meeting
Attendance List
May 8, 2003**

Board Members Present

Jay Adrick, Harris
Lynn Claudy, NAB
Sterling Davis, NAB
Joe Flaherty, CBS
Ira Goldstone, Tribune
Pat Griffis, Microsoft
Tom Hankinson, ABC
Ralph Justus, CEA
Phil Livingston, Panasonic
Wayne Luplow, Zenith
Brian Smith, Philips
Peter Symes, SMPTE
Victor Tawil, MSTV
Yiyang Wu, IEEE

Board Members Absent

Bill Check, NCTA

ATSC Members and Guests

ATSC President	Mark Richer
ATSC Operations Director	Tara Healy
ATSC Technical Director	Jerry Whitaker*
ATSC IS Chairman	Art Allison
CDTV	Michael McEwen
DirectTV	Bob Plummer
NCTA	Andy Scott
PBS	John Tollefson
Samsung	C.B. Patel
Warner Bros	Wendy Aylsworth

Draft Agenda
Advanced Television Systems Committee, Inc.
Board of Directors Meeting
May 8, 2003
10:00 AM to 3:30 PM

National Association of Broadcasters (NAB)
1771 N Street NW, Washington, DC

1. Call to Order; Determination of Quorum; Approval of Agenda
2. Opening Comments (P. Livingston)
3. Consideration of Draft Minutes of January 30, 2003 Meeting
4. Report of the President (M. Richer)
 - a. Membership Report
 - b. Status of Letter Ballots
 - c. Financial Report
 - d. Annual Meeting Review
 - e. Other
5. FCC Second Periodic Review (M. Richer)
6. Appointment of Nominating Committee Chair
7. Consideration of Appointment of Ex. Officio Board Members
8. Membership Committee (J. Adrick)
9. T3 Report (R. Justus)
10. IS Report (A. Allison)
11. AS Report (S. Davis)
12. DASE Harmonization with OCAP (M. Richer)
13. ATSC Forum Report (M. Richer/W. Luplow)
14. Executive Session
15. Other Business
16. Schedule of Future Board Meetings
17. Adjournment

ATSC Membership Report

May 8, 2003

New Members

Advanced Digital Broadcasting
Coding Technologies
Cordillera Communications
IEEE – CE Society
Pappas Telecasting
Peter Storer & Associates
Sergei Nesterenko (Observer)
Texas Instruments, Inc.
Time Warner Cable

Resignations:

B2C2
C&S technologies
DemoGraFX
iSurf
ITRI
Metabyte Networks
NagraVision
NEC America
Pathfire
PowerTV acquired by Scientific Atlanta
Research Channel
TSTC
Verticalband
WOW DTV

Total Members & Observers:

January 30, 2003	141
May 8, 2003	136

Letter Ballot Status

Letter Ballot Description	Results	Status
ATSC Ballots:		
Transport Stream File System	18 yes, 2 no, 1 abs	closed February 25, 2003
Editorial privileges	18 yes, 1 no, 2 abs	
(Proposed Standard) Revision B to PSIP Standard	21 yes, 0 no, 1 abs	closed March 18, 2003
Editorial privileges	21 yes, 0 no, 1 abs	
Revised (Draft) Amendment 2 to ATSC DTV Standard (A/53B)		closes May 19, 2003
T3 Ballots:		
Revised (Draft) Amendment 2 to ATSC DTV Standard (A/53B)	17 yes, 2 no, 2 abs	closed February 6, 2003
Editorial privileges	17 yes, 2 no, 2 abs	
(Working Draft) Direct-To-Home Satellite Broadcast Standard	16 yes, 2 no, 2 abs	closed February 21, 2003
Editorial privileges	17 yes, 1 no, 2 abs	
(Working Draft) Content Identification and Labeling for ASTC Transport Standard	13 yes, 0 no, 0 abs	closed March 12, 2003
Editorial privileges	13 yes, 0 no, 0 abs	
(Draft) Revision of A/53B Annex D Relating to an EVSB Transmission Mode		closes May 27, 2003

ATSC, Inc.
2002 Financial Report as of 12-31-02

	2002 Budget	2002 Jan - Dec Actual
REVENUE		
Membership Dues	\$ 925,000	\$ 931,433
Seminar Revenue	\$ 64,800	\$ 33,214
Interest Income	\$ 22,000	\$ 9,232
Meeting Sponsorships	\$ 3,000	\$ 4,000
Newsletter Sponsorships	\$	\$ 3,500
TOTAL REVENUE	\$ 1,014,800	\$ 981,378
EXPENSE		
Program Services:		
Seminars	\$ 60,420	\$ 15,322
ATTC Dues	\$ 50,000	\$ 50,000
Seed Funding for "ATSC Forum"	\$ 100,000	\$ 108,000
Total Program Services:	\$ 210,420	\$ 173,322
Management & General:		
Salaries & Benefits	\$ 622,766	\$ 623,423
Professional Fees	\$ 36,960	\$ 16,181
Travel & Business	\$ 48,950	\$ 46,930
Rent	\$ 47,765	\$ 45,336
Telephone & Internet	\$ 27,502	\$ 32,080
Duplication & Printing	\$ 14,200	\$ 13,477
Office Supplies & Equipment	\$ 12,600	\$ 9,898
Insurance	\$ 13,125	\$ 8,274
Postage & Shipping	\$ 3,600	\$ 1,127
Newsletter	\$ 26,800	\$ 29,387
Meetings	\$ 19,100	\$ 17,700
Other	\$ 5,400	\$ 9,532
Total Management & General:	\$ 878,768	\$ 853,345
GRAND TOTAL EXPENSES	\$ 1,089,188	\$ 1,026,667
ESTIMATED NET INCOME	(\$74,388)	(45,289)

Cash Reserves as of December 31, 2002 \$ 454,000

ATSC, Inc.
2003 Financial Report as of April 30, 2003

	Proposed	Actual
	<u>2003</u>	<u>Jan - April 2003</u>
REVENUE		
Membership Dues	\$ 855,700	\$ 834,380
Seminar Revenue	\$ 68,400	\$ 2,875
Interest Income	\$ 6,000	\$ 2,063
Meeting Sponsorships	\$ 3,000	\$ 8,500
Newsletter Sponsorships	\$ 10,500	\$ 10,000
Miscellaneous Income		\$ 5,399
TOTAL REVENUE	<u>\$943,600</u>	<u>\$ 857,818</u>
EXPENSE		
Program Services:		
Seminars	\$ 60,420	\$ 614
ATTC Dues	\$ -	
ATSC Forum	\$ 25,000	\$ 25,000
Total Program Services:	<u>\$ 85,420</u>	<u>\$ 25,614</u>
Management & General:		
Salaries & Benefits	\$ 639,760	\$ 215,646
Professional Fees	\$ 21,460	\$ 2,231
Travel & Business	\$ 48,950	\$ 19,455
Rent	\$ 47,765	\$ 14,252
Telephone & Internet	\$ 29,470	\$ 12,346
Duplication & Printing	\$ 10,200	\$ 3,502
Office Supplies & Equipment	\$ 11,100	\$ 2,997
Insurance	\$ 16,763	
Postage & Shipping	\$ 2,600	\$ 440
Newsletter	\$ 29,200	\$ 6,642
Meetings	\$ 19,100	\$ 23,720
Other	\$ 5,400	\$ 1,984
Total Management & General:	<u>\$ 881,768</u>	<u>\$ 303,215</u>
GRAND TOTAL EXPENSES	<u>\$ 967,188</u>	<u>\$ 328,829.34</u>
ESTIMATED NET INCOME	<u><u>(\$23,588)</u></u>	

Technology Group on Distribution

6 May 2003

The ATSC Technology Group on Distribution, with due regard for existing standards organizations and activities, develops and recommends voluntary, international technical standards for the distribution of television programs to the public using advanced television technology. Technologies considered may be improvements to current systems or entirely new systems that are compatible or incompatible with current systems. All forms of distribution systems may be considered, such as terrestrial broadcasting, cable systems, direct satellite broadcasting, and pre-recorded media. With respect to distribution systems, sound, vision, display, conditional access, and data sub-systems may be considered.

Ralph Justus, CEA, chairs the Technology Group on Distribution. The secretary of T3 is Jerry Whitaker of ATSC. To join T3, please fill out the Subcommittee Signup Form. Policies relating to the ATSC, in general, and T3, in particular, can be found on the ATSC Policies page (<http://www.atsc.org/policies.html>).

Overall Goals (as approved by the Board on 29 January 2003):

- Standards and Recommended Practices—complete T3/S9 technical work on VSB enhancements (advance specifications to Candidate or Proposed Standard by May 1, 2003), support FCC action as required, and complete associated transport, video and audio coding, and data specifications by September 30, 2003.
- Harmonize DASE and OCAP--complete "DCAP" by July 1 2003.
- Revise A/54 (Guidelines to ATSC DTV Standard A/53) by July 1, 2003.
- Complete DTH Satellite Standard by April 15, 2003.
- Complete PSIP Metadata Standard by September 30, 2003.
- Revise A/90 by July 1, 2003.
- Conduct 5-year review of A/63 (Coding for 25/50 Hz Video) by the end of 2003.

T3 Specialists Group	Document Responsibility	Current Work	Active Reflectors
<p>T3/S1: PSIP Metadata Communications, Graham Jones, NAB, chair</p> <p>The Specialist Group on PSIP Metadata Communication, T3/S1, under the supervision and direction of the Technology Group on Distribution, will develop a standard for exchange of PSIP-related metadata (including duplicate data that needs to be entered in other locations in the transport stream) between DTV systems and equipment that affect production of the transport stream and PSIP tables.</p> <p>The expected output is a standard that lists all the functions and processes that take place along any expected operational timeline, in a clear and coherent manner. It should utilize an industry standard communications protocol, and should describe every transaction and the appropriate messages to be used by each of the expected participants. The standard should be capable of future revisions to incorporate additional metadata and transactions as may be required.</p> <p>This activity will include liaison with other ATSC Specialists Groups, specifically with T3/S8 and T3/S13. T3/S1 will also liaise with other standards development organizations working on standards that include metadata, specifically with appropriate SMPTE Technology Committees.</p>		<p>Developing a standard for exchange of PSIP-related metadata between systems, to be known as ""Programming Metadata Communications Protocol"</p>	<p>s1@list.atsc.org</p> <p>Glossary/Systems s-1-@list.atsc.org</p> <p>Content ID s-2-@list.atsc.org</p> <p>Timing s-3-@list.atsc.org</p> <p>XML Schema s-4-@list.atsc.org</p> <p>XML Transport s-5-@list.atsc.org</p>

<p>Goals:</p> <p>Develop a standard for exchange of PSIP-related metadata between systems and equipment that affect production of the transport stream and PSIP tables. The target for completion of a draft PSIP Metadata Standard is May 2003, leading to final approval in September 2003. Following completion of the PSIP Metadata Standard, review and report on what other metadata related to production of the ATSC transport stream (if any) could usefully be added as an extension to the standard.</p>			
<p>T3/S6: Video and Audio Coding, William Miller, ABC, chair</p> <p>The Specialists' Group on Audio and Video Coding, under the supervision and direction of the Technology Group on Distribution, develops recommendations for audio and video coding for use in the ATSC television system. T3/S6, as directed by T3 and the ATSC Board of Directors, has the following work items:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Audio and video coding for robust transmission mode (investigate more efficient coding methods) <input type="checkbox"/> Update Sections 5 and 6 of A/54 (reconcile with changes to A/52 and A/53) <input type="checkbox"/> Maintain other ATSC audio and video coding documents <p>Goals:</p> <p>Revise Section 5 of A/54 by June 1. Complete audio/video coding work relating to robust mode by September 30. Also, conduct 5-year review of A/63 (Coding for 25/50 Hz Video) by the end of 2003.</p>	A/52, A/53, A/63	<p>Studying video/audio coding for proposed robust transmission mode.</p> <p>Revising Section 5 of A/54.</p>	s6@list.atsc.org
<p>T3/S8: Data Multiplex/Transport, Mark Eyer, Sony, chair</p> <p>The ATSC T3/S8 Specialist Group on Service Multiplex and Transport Systems Characteristics supports the T3 Technology Group on Distribution to describe, specify, and document all aspects of the transport subsystem of the ATSC DTV system except data broadcasting. This work includes:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Documenting constraints against and extensions to the MPEG-2 Transport Stream specification <input type="checkbox"/> Developing standards for delivery of system and service information, including caption service signaling <input type="checkbox"/> Developing standard methods for conditional access <input type="checkbox"/> Considering standard methods for transport of program metadata such as television parental guidelines, digital rights management data and copy protection data, including support for program metadata applicable to future as well as current programming <input type="checkbox"/> Developing methods for unambiguous identification of content <input type="checkbox"/> Preparing guidelines for effective use of transport-related standards <input type="checkbox"/> Maintaining resulting documents 	A/53, A/54, A/57, A/65, A/68, A/69, A/70	Considering transport stream issues relating to proposed robust transmission mode.	<p>s8@list.atsc.org</p> <p>Robust Mode Transport Issues s8-1@list.atsc.org</p> <p>Generalized Transport of Metadata s8-2@list.atsc.org</p> <p>Advanced EPG Functionality s8-3@list.atsc.org</p> <p>Transport Stream Updates s8-4@list.atsc.org</p>

<p>Goals: Complete transport specification for robust mode(s); expect by September 30, 2003.</p>			Conditional Access s8-5@list.atsc.org
<p>T3/S9: RF Transmission, John Tollefson, PBS, chair T3/S9 analyzes issues and develops technical documents related to terrestrial RF transmission and reception. Current activities include consideration and development of both compatible and non-compatible enhancements to VSB modulation (as standardized in ATSC A/53) that address existing and emerging requirements for DTV. As a basis for this work, T3/S9 considers broadcaster requirements as defined by the Task Force on RF System Performance, and market and technical input from the CEA. The goal of this effort is to develop specifications for consideration as a new standard or as a revision of existing ATSC standards. T3/S9 coordinates with other ATSC specialist groups as required.</p> <p>Goals: T3/S9 delivered a consensus recommendation on a robust mode E-VSB system to T3 on March 12, 2003. The specialists group is currently awaiting T3 ballot results.</p>	A/49, A/64, A/75	Awaiting T3 ballot results on enhanced VSB transmission system. Considering comments and feedback on CS/110A, the Distributed Transmission Synchronization system.	s9@list.atsc.org
<p>T3/S10: Receivers, John Henderson, Hitachi, chair (scope pending)</p> <p>Goals: T3/S10 is beginning consideration of "minimum target performance for receivers" based on a document submitted to ATSC by ATTC. The specialists group has held two face-to-face meetings on this subject (as of this date).</p>		Considering ATSC proposal on receiver performance.	s10@list.atsc.org
<p>T3/S11: Compliance, John Henderson, Hitachi, chair (scope pending)</p>		No current activities.	
<p>T3/S13: Data Broadcasting, Michael Dolan, TBT, chair This specialist group is defining the mechanisms for serving the needs of data broadcast applications utilizing the ATSC digital broadcast as a delivery medium. This includes television program-related data services as well as stand-alone data services. Specifically, T3/S13 is working to describe a scheme for using ATSC broadcast to transport IP packets, data files (including executable code), and streams. The group also addresses other generic requirements imposed by these applications, for example, low-latency needs of some interactive applications.</p>	A/90, A/91, A/92, A/93, A/94, A/95	Updating A/90 Data Broadcast Standard. Data-related signaling for robust mode.	s13@list.atsc.org

<p>Goals:</p> <p>S13 has the following open tasks:</p> <ol style="list-style-type: none"> 1. Draft a revision to A/90 (A/90-A) to address the collected errata documented in S13-105R9 and to roll-up the existing amendments and corrigenda. 2. Work with S8 on robust mode signaling. <p>Work on #1 has been suspended per the direction of T3 until the DCAP work is completed.</p>			
<p>T3/S14A: Satellite Broadcast, Dipak Shah, DirecTV, chair</p> <p>This specialist group is defining specifications and standards for transmitter and receiver subsystems for direct-to-home (DTH) service via satellite, including but not be limited to specifications for: modulation/demodulation, transport/de-multiplexing, conditional access, and source coding and decoding of video, audio, and data program, services, and system information. DTH implies direct-to-home (DTH), end user, and service provider.</p> <p>Goals:</p> <p>Complete any needed work on the DTH Satellite Broadcast Standard and provide comment resolution support as requested by the ATSC President and Chair of T3.</p>	A/80	Finishing comment resolution on direct-to-home (DTH) satellite broadcast standard T3 ballot.	s14@list.atsc.org
<p>T3/S15: Terrestrial Microwave Point to Multipoint, Andy Butler, PBS, chair (Scope pending)</p>		No current activities.	
<p>T3/S16: Transactional Services, Edwin Heredia, Microsoft, chair</p> <p>This specialist group is working to standardize the parameters necessary to provide digital broadcast interactive services. Emphasis of initial work is 1) to define protocols and minimum performance of transport facilities and lower layers for the return channel, and 2) to define downstream protocols needed to support interactive services. The specialist group will employ system profiles with varying degrees of latency and scaleable data return rates. These protocols will be scaleable and media-independent, and whenever possible, use industry standards which drive interoperable services. The scope of work includes review of DAVIC, DVB, and other standards efforts, as appropriate, for developing protocols suitable for ATSC.</p> <p>Goals:</p> <p>Because of the ATSC/CableLabs harmonization process, the group believes that a very stable document (with 90% completion) should be ready by the time the harmonization project generates its output documents. After the harmonization process, it will take at most two more months to complete any details in preparation for submission to T3.</p>		Developing specifications necessary to provide digital broadcast interactive services.	s16@list.atsc.org

<p>T3/S17: DTV Application Software Environment "DASE", Glenn Adams, XFSI, chair</p> <p>The objective of the T3/S17 (DASE) Specialist Group is to design and specify functionality that permits the creation and deployment of DASE Applications (application content) for processing and presentation upon ATSC compliant receivers that implement a DASE System (application environment). The specification of such functionality includes:</p> <ul style="list-style-type: none"> <input type="checkbox"/> An application content format consisting of one or more content types which represent multimedia, monomedia, and metadata content (media) types <input type="checkbox"/> An application environment to be embodied by a receiver <input type="checkbox"/> An application delivery system binding by means of which applications are delivered through an ATSC compliant data service <input type="checkbox"/> A conformance model which applies to a DASE Application and Application Systems <p>Goals:</p> <p>Harmonization of DASE with CableLabs OCAP specification. Provide T3 with draft "DCAP" specification for consideration as Candidate Standard by June 24, 2003</p>	<p>A/100-x</p>	<p>Harmonization of DASE with OCAP. -Work with DVB regarding ATSC use of GEM and DVB use of DCAP Declarative specifications.</p> <p>Consideration of DASE Level 2.</p>	<p>s17@list.atsc.org</p> <p>Available: S17-1@list.atsc.org S17-2@list.atsc.org S17-3@list.atsc.org</p>
<p>A-Team:T3 Architectural Team, Mike Dolan, TBT, chair</p> <p>The Architecture Team is a permanent group that reports to T3. Membership is composed of the T3 chair and vice chairs, specialist group chairs, and the chair of the Implementation Subcommittee. The team is advisory in nature, writing reports if necessary but not developing standards. The purpose and scope of the Architecture Team is:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Oversee ATSC technical document structure and architecture <input type="checkbox"/> Facilitate communication between specialist groups <input type="checkbox"/> Provide a forum for addressing inter-specialist group issues <input type="checkbox"/> Provide a forum to which ATSC staff and T3 can pose technical questions of a general nature and get a formal response <input type="checkbox"/> Work with ATSC Code Points Registrar in an advisory capacity 		<p>Code Point Registry support activities.</p>	<p>a-team@list.atsc.org</p>

Implementation Subcommittee

The ATSC ATV Implementation Subcommittee, with due regard for existing standards organizations and activities, investigates and reports on the requirements for implementation of advanced television. The Subcommittee evaluates technical requirements, operational impacts, preferred operating methods, time frames, and cost impacts of implementation issues. Based upon this analysis, the Subcommittee identifies potential requirements for standards, recommended practices, or rules and refer such to the ATSC Board of Directors. Art Allison of NAB chairs the IS.

Overall Goals (as approved by the Board on 29 January 2003)

- Identify system issues and recommend appropriate action.
- Identify PSIP implementation issues and potential solutions.
- Identify RF implementation issues and potential solutions.
- Identify captioning implementation issues and potential solutions.
- Identify data broadcast implementation issues and potential solutions.
- Identify field interoperability (transmitted bit stream-receiver) issues and recommend appropriate action.
- Promote and facilitate DTV education and training through development of materials.
- Maintain Guide to DTV Standards.
- Maintain Web Site FAQs.

IS Working Groups	Current Work	Active Reflectors
<p>Closed Captioning Working Group, Gerry Field, NCAM/WGBH, Chair</p> <p>The ATSC Implementation Subcommittee Closed Captioning Working Group (CCWG) was formed to identify and address issues and questions concerning implementation of closed captioning systems within digital television environments, including:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Clarification of EIA/CEA-608-B and EIA/CEA-708-B implementation <input type="checkbox"/> Generation points for caption data (including related data for PSIP) <input type="checkbox"/> Modification points for caption data (including related data for PSIP) <input type="checkbox"/> Monitoring points for caption data (including related data for PSIP) <input type="checkbox"/> Generic interfaces to related equipment <input type="checkbox"/> Standardization of file formats for authoring and encoding <input type="checkbox"/> Methods for local insertion (bridging, real-time) <input type="checkbox"/> Timing issues <input type="checkbox"/> Coordination of related end-to-end system support <ul style="list-style-type: none"> <input type="checkbox"/> The CCWG will engage in the following activities: <input type="checkbox"/> Creation and dissemination of informational material and tutorials for a wide engineering and management audience, with specific focus on ATSC A/53A (Digital Television), ATSC A/65 (PSIP), and EIA/CEA-708-B (DTV Closed Captioning) <input type="checkbox"/> Identify the need for additional engineering guidelines or standards, and provide draft language where appropriate <input type="checkbox"/> Coordination with related efforts within the ATSC including (but not limited to) the System Evaluation Working Group (SEWG), and the Field Interoperability Evaluation Working Group (FEWG) <input type="checkbox"/> Coordination with other standards organizations including SMPTE, CEA, and SCTE <input type="checkbox"/> Coordination with other related efforts such as those of NCAM 		<p>is-cc@list.atsc.org</p>

<p>Data Implementation Working Group, Rich Chernock, Triveni Digital/LG, chair</p> <p>A number of groups within ATSC are addressing problems associated with data broadcast, including T3/S13 and T3/S16. The standards emerging from these groups are addressing aspects required for data delivery: transport and protocols. The actual implementation details are not being currently addressed. Without a set of standards (or at least a statement of recommended practice), implementation of data services within ATSC broadcasts will become quite difficult and may impede the roll-out of these services. Many of the considerations for data implementation are common with needs for other connections to the multiplex, such as video servers or remotely located encoders. These other connections will be addressed to the degree they are common with data connections. Situations where tight coupling between the encoder(s) and multiplexor are needed will be considered outside the scope of this group (e.g. stat mux). The primary issues to be considered are:</p> <ul style="list-style-type: none"> <input type="checkbox"/> How to connect a source into the ATSC multiplex? <input type="checkbox"/> How are control/communications for these connected services to be handled (is flow control needed)? <input type="checkbox"/> What are the communications protocols between the source and the broadcasting system? <p>The aim of this Working Group is to create a list of requirements and recommended practices that will allow for sources to be connected to ATSC broadcast systems in a known and implementable way. The intended participants include: multiplexor manufacturers, data server manufacturers, data service suppliers, and members of T3/S13 T3/S16 and the appropriate IS groups (note these are not mutually exclusive).</p>	<p>Initial work completed; final report issued: IS/151 "DIWG-1 Final Report" DIWG is inactive until sufficient new issues arise to warrant reactivation.</p>	<p>is- diwg@list.atsc.org</p>
<p>Systems Evaluation Working Group, Paul Berger, CBS, chair</p> <p>The Systems Evaluation Working Group will assess the technical and operational issues of systems for Digital Television, with regard to end-to-end functionality. The Group will address integration and design requirements of these systems and evaluate the need for additional design and/or development of equipment and standards to enable the proper functionality of digital television services. The group will report on its findings of needs to the Implementation Subcommittee of the ATSC and to appropriate working groups and Standards-writing bodies for development of technical solutions. Separate sub-working groups may be formed upon approval of the IS to focus on specific issues determined by the group to be particularly complex or time-sensitive.</p>	<p>Report issued: SEWG/235 "Report on Latency and Timing Issues"</p>	<p>is-sys@list.atsc.org</p>
<p>RF Issues Working Group (examine DTV/RF propagation factors - scope pending)</p>		<p>is-rf@list.atsc.org</p>
<p>Field Interoperability Evaluation Working Group, Ralph Justus, CEA, and Tom Gurley, MSTV, chairs (examine implementation issues after reception of the DTV signal- formal scope pending)</p>		<p>fewg@list.atsc.org</p>
<p>PSIP Implementation Working Group, Graham Jones, NAB, chair</p> <p>This group is currently inactive, since the work begun by the PSIP Implementation Working Group has been taken on by T3/S1. If and when new PSIP implementation issues are identified, they may be considered by the PSIPWG.</p>	<p>Completed initial assessment, issued one report, Doc. IS/275 "Assessment of Data Content and Delivery for Control of the Digital Broadcast Transport Stream and PSIP Generation."</p>	<p>is- psip@list.atsc.org</p>

	Modified Findings have been adopted by IS, Doc IS/277 "ATSC Implementation Subcommittee Finding: Assessment of Data Content and Delivery for Control of the Digital Broadcast Transport Stream and PSIP Generation." Reassessing protocol recommendation.	
IS Findings	IS/095, IS/161, IS/190r5, IS/225, IS/232, IS/266, IS/277	
IS Reports	IS/065r4, IS/151, IS/161, IS/214r2, IS/233	

Application Subcommittee

<p>The ATSC Applications Subcommittee, with due regard for existing standards organizations and activities, considers business opportunities that may be enabled by digital television standards. Based upon this analysis, the Applications Subcommittee makes recommendations to the Board of Directors regarding development of voluntary standards for digital television. These recommendations are supported by a list of user requirements. The AS also responds to inquiries about market requirements from Technology Groups, from other ATSC subcommittees, and from other standards organizations. Sterling Davis of Cox Broadcasting chairs the AS. The AS currently has one active reflector, as@list.atsc.org.</p> <p>Overall Goals (approved by the Board on 29 January 2003)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Document at least two new applications of DTV with initial requirements, define requirements for a DTV Emergency Alert Standard, and further define applications of "robust" mode. <input type="checkbox"/> Increase broadcaster involvement <input type="checkbox"/> Development of a roadmap for new DTV System functionality <input type="checkbox"/> Consider requirements for DTV rating services (relationship to PSIP) <p>Work currently underway includes:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Identifying the ideal ATSC receiver, its capabilities, specs, and features. The AS is working to get a handle on what the "Broadcaster Gateway" should be. The Subcommittee needs to determine the proper set of capabilities should be in the base system and at what cost that should be. From that the Subcommittee needs to finish prioritizing options, and whether adding those options would be economically viable. <input type="checkbox"/> Addressing possible additional requirements for the "robust" mode of transmission including additional forms of compression. <p>Possible AS Projects:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Automation interface to MUX/Encoder (with and without DCC) <input type="checkbox"/> Robust stream uses and how dealt with at high level <ul style="list-style-type: none"> News flash, interrupts, signaling Amber Alerts Weather Radar EAS

- Promotional material
- Advertising
- Still images
- Sports scores
- Audio and video from main channel
- Readings for the blind, unrelated to any video
- Higher compression video schemes (MPEG family.)
- Trickle feeds to storage devices
- Numbering/ID system for above
- Bandwidth utilization
- Distributed transmission uses & limitations
- Carriage of IP services
- Carriage of web services
- Advanced navigation features

Technology Group on Distribution: Report to Board

1. OVERVIEW

This document summarizes the actions taken at the most recent meeting of the Technology Group on Distribution, which was held on March 12, 2003, in Washington, D.C.

2. ARCHITECTURE TEAM

T3 accepted the Architecture Team document "Approved Document Types for Normative References in ATSC Standards," which is a summary of document types suitable for use as normative references in ATSC Standards. A-Team Chair Mike Dolan (TBT) explained this document is to be used by ATSC document editors when forming the normative reference list in standards; editors may use these document types without further review and consideration by ATSC.

3. SPECIALISTS GROUPS

The following actions were reported relating to T3 specialists groups.

3.1 T3/S1, PSIP Metadata Communications

- **Scope Approved.** T3/S1 was formed in response to direction from T3 at the December 2, 2002, meeting. Specialists Group Chair Graham Jones (NAB) presented a proposed scope, which was accepted by T3. Mr. Jones reported that the work of T3/S1 is on a fast track because of feedback from vendors and end-users that this work is needed in the market to solve a number of pressing problems. Coordination and liaison efforts involve T3/S8, T3/S13, IS-CCWG, and SMPTE.

3.2 T3/S6, Video/Audio Coding

- **RFI Responses.** A total of 11 responses were received to the Request for Information (RFI) released by T3/S6 on advanced audio/video coding. T3/S6 has held a series of in-place and teleconference meetings to analyze the proposals, with the goal of identifying common points and promising technologies in various fields. T3/S6 Chair William Miller (ABC) reported that the specialists group hopes to offer some recommendations on moving forward at the June 24 T3 meeting.

3.3 T3/S8, Data Multiplex/Transport

The report from T3/S8 chair Mark Eyer (Sony) included the following items:

- **A/65B Published.** The latest revision of the PSIP Standard was approved by the membership on March 18 and is now posted on the ATSC Web site.
- **Amendment 2 to A/53B.** Following resolution of comments received during the second ballot of this document at the Technology Group level, certain substantive changes to Amendment 2 were approved by T3 and the document was then sent to a vote of the membership. The ATSC ballot closes on May 19.
- **Content Identification and Labeling.** This document was approved by T3 in a letter ballot that closed on March 12. Comments were received during this ballot and the resolution process is now nearing completion. The Content Identification and Labeling document is the replacement for A/57 (to be known as A/57A) upon approval of the ATSC membership.

3.4 T3/S9, RF Transmission

- **E-VSB Ballot.** Based on test results, T3/S9 reached consensus to recommend to T3 the Zenith/NxtWave/ATI proposal for robust mode transmission as an optional element of A/53. T3/S9 Chair John Tollefson (PBS) reported that all laboratory and field testing has

been completed, and that the documents describing those tests have been widely distributed within ATSC. He said one clear conclusion of the testing program was that operation of the recommended system resulted in no significant impact on receivers in the field. He added that the laboratory and field testing generally supported the respondents' claims. Mr. Tollefson reported the consensus of T3/S9 that the robust mode system, defined in the form of an amendment to A/53B, be balloted by T3 as a Proposed Standard. T3 accepted this recommendation and approved sending the proposed revision of Annex D to A/53B to a letter ballot. T3 also directed that the Architecture Team coordinate an effort to draft an informational document to accompany the ballot that outlined the related ATSC standards work required for robust mode operation. This work has been completed and the ballot has been issued; it closes on May 27.

3.5 T3/S13, Data Broadcast

The report from T3/S13 Chair Mike Dolan (TBT) included the following items:

- **Transport Stream File System.** This document was approved by the ATSC membership on February 25 and has been published on the ATSC Web site.
- **A/90 Revision.** Preliminary work has been completed to develop a full revision of A/90, the Data Broadcast Standard. Further work, however, has been suspended pending completion of a draft DCAP specification.

3.6 T3/S14A, Satellite Broadcast

- **DTH Satellite Broadcast.** The T3 letter ballot on the draft direct-to-home (DTH) satellite standard was approved on February 21. Comments were received during the ballot and an ad-hoc group of T3/S14A, led by Chair Dipak Shah (DirectTV) is addressing the issues raised in a series of teleconferences. It is expected that T3 will be asked at the June 24 meeting to accept any substantive changes made to the Proposed Standard and forward it to the ATSC membership for a letter ballot.

3.7 T3/S16, Transactional Services

- **Drafting Work.** T3/S16 continues to meet periodically to define a series of core protocols that will enable ATSC receivers to communicate with remote servers, establish secure channels, and exchange data for transactions. T3/S16 Chair Edwin Heredia (Microsoft) said the specialists group hopes to bring a Working Draft document to T3 for consideration early next year.

3.8 T3/S17, DASE

- **DASE-1.** The DASE-1 suite of standards has been published on the ATSC Web site. This move follows approval by the ATSC membership of the Transport Stream File System Standard, A/95, which is referenced in A/100x.
- **DASE-2.** Work continues on this extension of DASE, but at a slow pace. T3/S17 Chair Glenn Adams (XFSI) said this work has been impacted by the ongoing DCAP efforts.
- **DCAP.** Mr. Adams outlined for T3 possible evolutionary scenarios for DASE and DCAP, but cautioned that no decisions have been made on the path ahead. He also stated that the current timeline for developing a DCAP document is aggressive. T3 urged that every effort be made by T3/S17 to complete the specified work in the timeframes outlined by the Board.

4. NEXT MEETING

The next meeting of the Technology Group on Distribution will be held on June 24, 2003.

ATSC Implementation Subcommittee [IS]

May 2003 Report to ATSC Board of Directors

The last meeting of the ATSC Implementation Subcommittee was March 13, 2003.

The IS considered the need for performance testing for broadcast DTV signals during that meeting. The main issue was felt to be the configuration settings not the equipments' ability to comply with the Standard per se. A small group was formed to address educational activities about how to properly configure the elements of the DTV signal. There was also a brief discussion of the coordination with the AS with the focus on avoiding duplication of effort.

The first meeting of the Field Evaluation Working Group under the leadership of Tom Gurley and Ralph Justus was held April 16, 2003. The reflector list now has 19 members excluding ATSC staff. The scope was discussed in the first call and the new FEWG will facilitate creation and exchange of test bit streams, conduct "plugfests" between encoder and decoder manufacturers, and provide a forum for technical interchange on interoperability issues among broadcasters and consumer and professional equipment suppliers. A face-to-face meeting will be held at NAB on May 28, 2003.

The Systems Evaluation Working Group (SEWG) continues to be very active and is addressing *Multichannel Audio Program Delivery Specifications*, other audio-related documents (which were also discussed in some depth at the last IS meeting). The need for preference for broadcasters to use one of the two methods to enable tuning to alternate languages for a video program is being discussed. An informal survey of DTV monitoring equipment availability and capability has begun.

The Directed Channel Change AHG is inactive.

The Chairmanship of the RFWG remains open.

The next meeting of the IS will be on June 25, 2003 in Mason, OH.

Applications Subcommittee Report to the Board of Directors May 8, 2003

The Committee met on May 7 and completed work on a modified Application & Requirements of a DTV Emergency Alert System document, a copy of which is attached. This document is for board consideration and review and is presented without a recommendation for disposition. The committee intends to make a recommendation on this document at the June board meeting, however, if the board were to choose to take action on it today, we would not object. The modifications break the document into the main body and an appendix to more clearly state the issues. There was consideration of where additional liaison and input from outside organizations was needed during any standardization process. As was pointed out earlier, a cable standard has already been created and perhaps that could be a model for ATSC work.

The work plan of the committee has been formalized with priorities for action into three areas:

- First, is Future Work, consisting of: Return Paths for ENG operations, Barker Channel and low bit rate devices, Amber Alerts and last Advanced Navigation Features. “Volunteer” groups within the AS are formalizing definitions of these work items.
- Second, is developing White Papers for management and creative people within the industry that will explain in non-technical terms how various ATSC systems can be used. This will elicit additional input into the ATSC process and create industry awareness of the practical uses for the ATSC system. These topics are: E-VSB, DASE/DCAP, DCC, CA, Data broadcasting, a Broadcast Demo Receiving System and Distributed Transmission. The first four on this list now have volunteers assigned to create draft documents for our next meeting in June.
- Third, is work where we identified areas of work that require attention, which are outside the subject matter for the Applications Subcommittee, but are most appropriately handled by the Implementation Subcommittee. We submit these four items to the board for consideration and referral to that committee. These items are: Automation control of multiplexers and encoders, Quality of service and bit rate allocation, Dynamic video format switching and PSIP implementation issues.

Submitted, May 7, 2003

Sterling Davis, Chair

DRAFT
Application & Requirements
of a
DTV Emergency Alert System

Introduction

Digital television provides an opportunity to improve and enhance the ability to utilize the transmission infrastructure to transport emergency information to first responders and the public. As the transition to digital television progresses, a new methodology for distributing emergency alert information that leverages the capabilities of DTV should be developed. It is also understood that conventional EAS video and audio methodology will continue to support analog receivers and DTV receivers that are not equipped with the capability to utilize the new approach.

The Media Security and Reliability Council (MSRC) is in the process of defining a strategy for development of a common alert protocol that can flow over all digital transmission media (terrestrial television and radio, satellite television and radio, and cable). The assumption is that the development of the “Media Common Alert Protocol (MCAP)” will be coordinated by a government entity and that the specific transport specifications will be defined by industry organizations such as the ATSC.

Scope of Activity

The ATSC should define the methodology for carriage of emergency alert information to be defined in the Media Common Alert Protocol (MCAP). The ATSC should define a standard method for carriage of alert information over ATSC transports, and if feasible, develop a common strategy that can be used by broadcast, cable and satellite digital television service providers.

Media Common Alert Protocol (MCAP)

Specifications for the source data stream to be the input for carriage in the DTV transport need to be developed. These specifications may be developed by government entities or other standards development organizations and should address the preliminary requirements listed in Appendix A.

Liaison

It is critically important to coordinate this activity with relevant government and industry organizations and committees. Liaisons for this purpose should include:

- Federal Communications Commission (FCC)
- Federal Emergency Management Agency (FEMA)
- Department of Justice
- Media Security and Reliability Council (MSRC)
- Society of Broadcast Engineers (SBE)
- Society of Cable Telecommunication Engineers (SCTE)
- Digital radio service providers
- National Oceanic and Atmospheric Administration (NOAA)
 - National Weather Service (NWS)
- Consumer Electronics Association (CEA)
- Partnership for Public Warning (PPW)
- American National Standards Institute (ANSI)
- National Association of Broadcasters (NAB)
- National Institute of Science and Technology (NIST)

Appendix A

Media Common Alert Protocol (MCAP)

Preliminary Requirements

1. Application: The methodology shall provide the ability to deliver alert information to the public on a geographic and/or other basis such as national, local, regional and impact area/path and may correspond to government defined codes and areas
2. Addressable: The methodology shall support information from the media to the public. Other applications may need to provide for non-private government to government, government to media, and government to public.
3. Scaleable
 - a. The methodology should support variable allocation of the bit stream
4. Security
 - a. The methodology should support encryption and conditional access dependent upon the application.
5. Interoperability
 - a. To the extent possible, the methodology should be interoperable with existing standards.
6. Target types of receiving devices
 - a. Consumer receivers
 - b. Specialized receivers
7. Accessibility
 - a. The methodology should support hearing Impaired, visually impaired, multiple languages and other specialized users.