

PCC.II/RES. 18 (IV-04)¹

DIGITAL TERRESTRIAL TELEVISION (DTT) IMPLEMENTATION GUIDE

The IV Meeting of the Permanent Consultative Committee II: Radiocommunications including Broadcasting,

CONSIDERING:

- a) That in the III meeting of PCC.II it was agreed among other things:
- To work together to encourage the successful transition from analogue to digital terrestrial television technology as rapidly as possible, recognizing the economic and social conditions in individual countries; and
 - To continue to support Member States in the implementation of Digital Terrestrial Television (DTT) broadcasting;
- b) That a number of countries in the Americas region have been examining the benefits of Digital Terrestrial Television broadcasting for several years, and that extensive testing of DTT systems has been conducted in some countries in the region, and that DTT services have already been deployed in some of these countries;
- c) That countries that have not yet begun the transition to DTT broadcasting could benefit from understanding the policies and experiences of those that have gone ahead;
- d) That Resolution PCC.II/RES. 15 (III-04) approved “ to conduct a work program between now and the end of 2005 to support the CITELE Member States in their efforts *i*) to establish goals and to define policies for the implementation of Digital Terrestrial Television broadcasting, and *ii*) to develop their individual plans for the implementation of DTT services; and to assist the Member States with the actual implementation of those plans”; and
- e) That said Resolution PCC.II/RES. 15 (III-04) includes the development of a DTT Implementation Guide with a draft outline,

RECOGNIZING:

That the specific needs, goals and conditions in each Member State may well warrant unique approaches for individual countries;

RESOLVES:

1. To approve the table of contents for the Digital Terrestrial Television (DTT) Implementation Guide attached in the Annex.
2. To adopt the following work program:
 - a. The first draft of the national approaches related to chapter 2 of the DTT Guide and the national experiences stated in chapter 5 will be submitted by the corresponding

¹ CCP.II-RAD/doc. 575/04 rev.1 cor.1

Administrations in the V meeting of the PCC.II. The format is free but it must not be longer than ten pages in each case.

b. The chapters of the DTT Guide will have the coordinators indicated below, whose responsibility is to produce a draft of the chapter which takes into account the contributions and considerations of the Administrations concerned. Drafts will be submitted in the V meeting of the PCC.II.

Chapter 1:Administration of United States: Mr. Robert Graves <rgraves@atscforum.org>

Chapters 3 and 4: Administration of Brazil: Mr. Pedro Lobo, <phlobo@anatel.gov.br >

Chapter 6: Administration of Mexico: Mr. Arturo López Torres, <alopezt@sct.gob.mx

c. There will be extensive use of the discussion group in the electronic forum of CITELE to collect and assess the corresponding contributions.

3. That the completed Guide will continue to be updated and expanded to include new information and the experiences of additional countries, and that the Guide will be reissued from time to time, after 2005, to reflect this additional information.

4. To revoke Resolution PCC.II/RES.15 (III-04).

ANNEX TO RESOLUTION PCC.II/RES. 18 (IV-04)
OUTLINE
DIGITAL TERRESTRIAL TELEVISION BROADCASTING IMPLEMENTATION GUIDE

TABLE OF CONTENTS

- 1. Introduction and Background**
 - 1.1 Benefits of Digital Terrestrial Television (DTT) Broadcasting
 - 1.2 CITEL's Guide to assist with the development of national DTT policies and DTT implementation (explains the purpose of this guide)

- 2. National Goals for DTT Broadcasting**
 - 2.1 Assessing the unique needs and goals of your nation with respect to DTT broadcasting
 - 2.1.1 National Approaches for determining needs, goals and policies
 - 2.1.1.1 Argentine approach
 - 2.1.1.2 Brazilian approach
 - 2.1.1.3 Canadian approach
 - 2.1.1.4 Mexican approach
 - 2.1.1.5 U.S. approach
 - 2.1.1.6 (add others in alphabetical order as they become available)
 - 2.2 Providing access to free over-the-air television to all citizens
 - 2.3 Upgrading the video and audio technical quality of television broadcasts
 - 2.4 Expanding the quantity and variety of broadcast TV services, including revolutionary new information services
 - 2.5 Addressing pressing social problems in education, health care, public safety, etc. Promoting social inclusion and the universal availability of innovative DTT services
 - 2.6 Achieving more efficient use of the broadcast television spectrum, including the possibility of recovering spectrum for new uses
 - 2.7 Adopting a flexible DTT system that provides affordable solutions that meet national goals
 - 2.8 Other goals

- 3. National Policies for DTT Broadcasting**
 - 3.1 Eligibility for DTT licenses
 - 3.1.1 Existing broadcasters, new entrants, others?
 - 3.2 Procedures for awarding DTT licenses and DTT channel assignments
 - 3.3 Terms and conditions for DTT licenses
 - 3.3.1 Linked to analog TV license, or separate?
 - 3.3.2 Duration of license, eligibility for renewal
 - 3.4 Scope of permitted terrestrial DTT services
 - 3.4.1 Public interest obligations?
 - 3.4.2 Minimum service requirements, hours of operation
 - 3.4.3 Degree of flexibility afforded to DTT broadcasters
 - 3.4.4 Requirements for high-definition or other types of services?
 - 3.4.5 Pay services? Spectrum use fees for any pay services?
 - 3.4.6 Requirements to carry analog TV programming on digital channels?
 - 3.5 Transition plans and timetables
 - 3.5.1 Rationale and timetable for making DTT channel allotments and assignments
 - 3.5.2 Construction deadlines for stations. Vary by size of market?
 - 3.5.3 Goals and/or deadlines for cessation of analog TV broadcasts and recapture and reuse of spectrum

- 3.6 Expediting the DTT transition
 - 3.6.1 Engendering production of value-added programming
 - 3.6.2 Engendering program distribution
 - 3.6.2.1 Requirements for carriage of terrestrial broadcasts over other transmission media, e.g., cable, satellite and MMDS
 - 3.6.3 Engendering distribution of consumer equipment
 - 3.6.3.1 Requirements for DTT receivers and other consumer electronics products
 - 3.1.6.1.1 Requirement for all-format decoding
 - 3.1.6.1.2 Requirements for reception and decoding capability in all receivers
 - 3.1.6.1.3 Potential performance requirements for receivers
 - 3.1.6.1.4 Compatibility with other transmission media, e.g., cable, satellite and MMDS
 - 3.7 Protecting broadcast television content from unauthorized redistribution.
- 4. Spectrum Planning for DTT Broadcasting**
- 4.1. Principles for channel planning
 - 4.1.1 Coverage and service availability objectives
 - 4.2. Channel planning parameters
 - 4.3. Algorithms and software tools for channel planning
- 5. National Experiences and Approaches to DTT Planning and Implementation**
- 5.1 Argentina
 - 5.2 Brazil
 - 5.3 Canada
 - 5.4 Mexico
 - 5.5 United States
 - 5.6 (add others in alphabetical order as they become available)
- 6. Examples of DTT Services, Applications and Implementation Approaches**
- 6.1 CBS (Attachment 6-1)
 - 6.2 WRAL (Attachment 6-2)
 - 6.3 APTS (Attachment 6-3)
 - 6.4 Implementation Approaches and Cost Implications
 - 6.5 Others

APPENDIX 1

ATSC Standards, Recommended Practices, and Implementation Guidelines to Support DTT Broadcasting in the Americas

- 1.1. Overview of ATSC Standards and Standards Activities (Appendix 1-1)
- 1.2. Guide to DTV Standards (Appendix 1-2)
- 1.3. ATSC Standard A/52B: Digital Audio Compression (AC-3) Standard, Rev. B (Appendix 1-3)
- 1.4. ATSC Standard A/53C with Amendment No. 1: ATSC Digital Television Standard, Rev. C (Appendix 1-4)
- 1.5. ATSC Recommended Practice A/54A: Guide to the Use of the ATSC Digital Television Standard (Appendix 1-5)
- 1.6. Approved Proposed Standard A/57A: Content Identification and Labeling for ATSC Transport (Appendix 1-6)

- 1.7. ATSC Standard A/64A: Transmission Measurement and Compliance for Digital Television, Rev. A (Appendix 1-7)
- 1.8. ATSC Standard A/65B: Program and System Information Protocol for Terrestrial Broadcast and Cable, Rev. B (Appendix 1-8)
- 1.9. ATSC Recommended Practice A/69: Program and System Information Protocol Implementation Guidelines for Broadcasters (Appendix 1-9)
- 1.10. ATSC Standard A/70A: Conditional Access System for Terrestrial Broadcast, Rev. A (Appendix 1-10)
- 1.11. ATSC Standard A/76: Programming Metadata Communication Protocol Standard (Appendix 1-11)
- 1.12. ATSC Standard A/80: Modulation and Coding Requirements for Digital TV (DTV) Applications Over Satellite (Appendix 1-12)
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- 1.17. ATSC Standard A/93: Synchronized/Asynchronous Trigger Standard (Appendix 1-17)
- 1.18. ATSC Standard A/94: ATSC Data Application Reference Model (Appendix 1-18)
- 1.19. ATSC Standard A/95: Transport Stream File System Standard (Appendix 1-19)
- 1.20. ATSC Standard A/96: ATSC Interaction Channel Protocols (Appendix 1-20)
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 - 1.21.1. A/100-1, DASE-1 Part 1: Introduction, Architecture, and Common Facilities (Appendix 1-21.1)
 - 1.21.2. A/100-2, DASE-1 Part 2: Declarative Applications Environment (Appendix 1-21.2)
 - 1.21.3. A/100-3, DASE-1 Part 3: Procedural Applications and Environment (Appendix 1-21.3)
 - 1.21.4. A/100-4, DASE-1 Part 4: Applications Programming Interface (Appendix 1-21.4)
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 - 1.21.8. A/100-8, DASE-1 Part 8: Conformance (Appendix 1-21.8)
- 1.22. ATSC Candidate Standard CS/T3-606 Revision A: Amendment No. 1 to ATSC Standard: Program and System Information Protocol for Terrestrial Broadcast and Cable (Doc. A/65B) (Appendix 1-22)
- 1.23. ATSC Candidate Standard CS/T3-608 Revision A: Amendment to ATSC Digital Television Standard, Doc. A/53C (AVC/H.264 Version) (Appendix 1-23)
- 1.24. ATSC Candidate Standard CS/T3-609 Revision A: Amendment to ATSC Digital Television Standard, Doc. A/53C (VC-9 Version) (Appendix 1-24)
- 1.25. ATSC Candidate Standard CS/T3-614 Revision A: Amendment to ATSC Digital Television Standard, Doc. A/53C, Annex G: High Efficiency Audio System Characteristics (Appendix 1-25)

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