

**ATNP WG3  
WP 7-2**

Aeronautical Telecommunication Network Panel (ATNP)  
Applications and Upper Layer Work Group (WG3)  
Seventh Meeting  
Munich, Germany  
24-29 June 1996

**Meeting Report from the Sixth Meeting of ATNP WG3**

Presented by the WG3 Rapporteur

Attached is the proposed final meeting report from the sixth meeting of ATNP WG3.

**AERONAUTICAL TELECOMMUNICATION NETWORK PANEL (ATNP)**  
**Working Group 3 -- Applications and Upper Layers**  
**Sixth Meeting**

**(Brussels, Belgium - 15-26 April 1996)**

**I. Introduction**

The sixth meeting of ATNP Working Group 3 (WG3) took place on 15-26 April 1996 in Brussels, Belgium, hosted by EUROCONTROL.

Mr. Ron Jones, US Member and Rapporteur of WG3, welcomed the participants. After introductions by the WG3 participants, the list of working papers was prepared.

A copy of the meeting agenda is presented in Attachment 1. A list of participants is presented in Attachment 2. A list of working papers with presenter and agenda item is presented in Attachment 3. A list of flimsies is contained in Attachment 4. A list of SARP's editors is presented in Attachment 5.

**II. Minutes of the Meeting**

**1. Administrative Items and Approval of the Agenda**

**1.1 Administrative announcements**

Mr. Eike Meyenberg, the panel member from EUROCONTROL and the host for the meeting, welcomed the ATNP/WG3 members. Danny Van Roosbroek of EUROCONTROL described the meeting arrangements. Mr. Ron Jones, Rapporteur of WG3 proposed the meeting hours and went over other administrative items.

**1.2 Discuss arrangements for Seventh WG3 meeting (June 1996 in Munich)**

Mr. K. Graff presented WP6-39 (information paper) describing the arrangements for the ATNP working group meeting being hosted in Munich, Germany. A block of hotel rooms have been reserved for the meeting and ATNP WG members are requested to contact the hotel directly for their reservations no later than 24 May 1996. The hotel reservation desk can be reached at:

Munich Penta Hotel  
Hochstraße 3  
D-81669 Munich  
Germany  
Telephone: +49/89/4803 1005 or +49/89/4803 1050  
Fax: +49/89/4488277

**1.3 Review schedule for ATNP/2 and eighth WG3 meeting**

Mr. Jones indicated that as agreed in Brisbane, the final working group meetings prior to ATNP/2 will be hosted in the U.S. from 7-18 October.

Mr. Paydar, the ATNP Secretary, has issued a letter to the ATN Panel members soliciting opinion on presenting the SARPs to ATNP/2 in English only. Mr. Jones reported that the ATNP secretary has indicated that schedule for ATNP/2 may be extended by starting on Monday, 4 November 1996, instead of Tuesday as previously proposed.

#### **1.4 Review Agenda**

The proposed agenda (WP6-1, Attachment 1) was reviewed by the working group. The validation discussion and the ICC SARPs agenda items were covered out of original order.

### **2. Review and Approve Report of the fifth meeting (Brisbane) of WG3**

Mr. Jones, Rapporteur of WG3 presented WP6-2, the WG3-5 (Brisbane) meeting report. The meeting report was approved by WG3 with minor editorial changes and the final document was issued as an outcome of the meeting in Brussels.

#### **2.1 Review issues and action items from previous WG3 meeting**

In addition to the tasking to the WG3 subgroups for the continued development of SARPs and GM, the following specific actions resulted from the fifth meeting of WG3:

- a) WG3 subgroups are requested to review their draft SARPs and identify any potential system level requirements. The list of such requirements should be provided to Mr. Steve Van Trees or Mr. Tom Kraft (see WG3 mailing list) as soon as possible.

Status: Mr. Asbury provided an updated Sub-Volume 2, Part 0. Mr. Van Trees attended the system level requirements meeting to provide his subgroup's input.

- b) The Subgroup chairmen shall produce working papers from WG3 to the ATN Panel describing their SARPs Sub-Volume or major part (i.e., MHS, ICC, ADS, CM, CPDLC, FIS, ULA). These working papers will need to be reviewed and approved by WG3 at the Munich meeting, in June 1996. These working papers will need to be kept to 6 pages maximum length and will need to be submitted to ICAO shortly after the conclusion of the Munich WG3 meeting.

Status: Mr. Jones provided a common outline (Flimsy 6-10) at this meeting for the ATNP/2 description of each SARPs.

- c) A question was raised for entries under the ATN Support column on the APRLs; should capitals vs. lower-case characters be used? The WG3 draft SARPs have consistently used lower-case for the ISO base standard column. Unless an ISO definition differs, we will use upper-case for the ATN Support column. This has not been consistently done in all of the draft SARPs presented to WG3 for this meeting. Mr. Van Trees will check ISO 9646-7 and ISO TR 1000 for guidance and report findings to the WG3 document editors.

Status: ISO 9646-7 uses lower-case letters in all examples. Its acronym list allows use of both cases. The CNS/ATM-1 SARPs will consistently use upper-case characters for both the ISO Status and ATN Requirement entries.

- d) Mr. Van Trees had the action to update Flimsy 8 from the fifth meeting of WG3 to reflect the decisions of WG3 and to transmit the flimsy to WG2 for their further action.

Status: The flimsy was updated and submitted electronically to WG2. WG2 have justified their use of the fields of the Security Label, and have also indicated that it is transmitted only once over the air-ground link. WG2 have also indicated that they will accept the Dakar ATSC Class table as a firm user requirement.

### **3. Review inputs received from other ATNP working groups and other ICAO bodies**

Tom Kraft led a short introduction of Sub-Volume 1. The Sub-Volume 1 work has greatly progressed since the January 1996 Toulouse meeting of the drafting group. The Sub-Volume 1 SARPs have collected all system requirements. These are the requirements that span multiple Sub-Volumes. The Sub-Volume 1 Guidance Material presents establishment of the safety case of an agreed scenario (e.g., 30/30 in the North Atlantic) by hazard analysis, and thence derivation of performance, integrity, and availability.

The Sub-Volume 1 work affects WG3 deliverables as system requirements adduced in individual Sub-Volumes will be carried forward into Sub-Volume 1. They will be held in hidden text until their appearance in Sub-Volume 1, version 0.5.

#### **3.1 Review inputs received from the panel Secretary**

Mr. Jones reported his recent conversations with Mr. Paydar. Mr. Jones suggested that a small editorial group visit Montreal to work several days with Mr. Paydar on presentation aspects of the SARPs. Mr. Jones indicated that Mr. Paydar believes that ATNP will not have Guidance Material available for ATNP/2

#### **3.2 Review inputs from the ADS Panel**

Mr. Mike Asbury recounted the Dakar meeting of the ADSP (WP6-34 - information paper). The group completed the draft ICAO Manual of ATS Data Link Applications. Work was also done on the necessary amendments to ICAO Annexes and PANSRAC 4444. The documents are being sent forward for translation for the September 1996 ADSP meeting.

Mr. Asbury then led a discussion of changes to the ADSP Manual. ADSP reviewed all the operational requirements. The ATNP CM application is now called Data Link Initiation Capability (DLIC) by the ADSP. The ADS section was regarded as mature, and took only minor editorial modification. The group inserted some significant changes to CPDLC. The most significant change was adding a message for Unlawful Interference (equivalent to existing code 7500). There were also changes related to Down-Stream Clearances (DSC). The ground-ground aspects of the air-ground CPDLC application were not approved by the working group. There is a ground forwarding requirements for ADS and DLIC (CM), but there is no such explicit requirements for CPDLC. This was discussed further during the review of the air-ground applications SARPs under agenda item 9

R. Jones presented WP6-14 on the use of ATSC traffic classes. This WP proposed a position on the use of traffic types (e.g., Operational) and ATSC Traffic Type (e.g., A-J) to select an appropriate communication path. The WP was proposed to be used as the basis of a flimsy from WG3 to WG2. Mr. Pearce and Mr. Asbury discussed the view expressed by the ADSP on the operational use of traffic types as a means of influencing selection of communications paths. Mr. Pearce provided specific comments against WP6-14 related to the specific routing action expected to be taken by an intermediate system when a path valid for traffic type exists, but no path exists that is an exact match by the ATSC Class with that specified in the CLNP packet. The WP indicated that a closest match selection would be made. Mr. Pearce indicated that a lowest cost routing policy would be more appropriate. After a brief discussion, Mr. Jones indicated that he would update the WP to reflect that cost then closest match should be used to select the path under the above conditions. Mr. Van Roosbroek commented that an explanation was needed for what is meant by weak routing policy. It was agreed that this would be included in an update to WP before coordination with WG2.

Subsequently an updated version of WP6-14 was prepared and discussed with WG2 at a JWG meeting. The central of the ensuing discussion was the use of weak vs. strong routing policies for ground routing of packets with the ATSC traffic classes. The issue was not resolved at the JWG meeting. A small sub-group was formed to review the issue and report back when the working groups later reconvened. WG2 produced a flimsy 13 asking WG3 for clarification of 4 questions. WG3 reviewed this WG2 flimsy and produced Flimsy 6-8 to provide the WG3 response. This flimsy indicated Weak Routing policy is preferred resulting in no packets discarded by the internet if any valid ATSC path is available. It was concluded that if a need exists to deny service to a given user, application time stamps could be used by the application to monitor actual end-to-end performance and to determine when service is to be denied based on the maximum allowed message delivery times. ATSC traffic classes are to be mapped to 8 classes with the top 2 reserved and the lower 6 mapped

to the 6 slower values from the ADSP and reflected in the draft Sub-Volume 1 version 0.5. The agreements reached between WG2 and WG3 is reflected in flimsy 6-8 rev. B

### **3.3 Review inputs from other ICAO bodies**

There were no other inputs considered than those from the ADSP.

## **4. Ground Application SARPs**

### **4.1 Report from SG1**

Mr. Jean-Yves Piram reported the excellent recent progress of SG1. The group has AMHS SARPs v1.0p (proposed for baseline), AMHS guidance material, and ICC (AIDC) SARPs, v1.0p (proposed for baseline).

### **4.2 Review of draft Ground Application SARPs material**

#### **4.2.1 Review of draft MHS SARPs**

Mr. Jean-Marc Vacher reviewed the latest edition of the draft SARPs for ATS Message Handling Services over the ATN (MHS), presented as WP 6-8. This edition is version 1.0b (2nd amended proposal) of the SARPs, which is the outcome of the SG1 meeting held last week in Brussels. Version 1.0b is derived from version 1.0a, which was distributed by E-Mail to WG3 participants on 25 March 1996, i.e. approximately in the timeframe agreed in Australia.

Version 1.0a was labeled First Amended Proposal. Version 1.0b takes into account all the comments submitted in written by WG3 or SG1 participants about Version 1.0a, and incorporates the resulting changes agreed by SG1, as listed in an SG1 working paper referenced WP112a which gives the list of comments with their status and the SG1 conclusion.

There were many editorial changes and few technical changes resulting from the Brisbane WG3 meeting. All Extended ATS Message Service is moved to CNS/ATM-2 SARPs. All of the transport service material has been updated to align with Sub-Volume 5. All ATN naming (including use of ATN AE-qualifiers) and addressing has been updated to align with Sub-Volume 4.

Messrs. Van Trees and Vacher coordinated during the course of the WG3 meeting to ensure that UL SARPs v.3.0 and MHS SARPs v1.0 AE-Title assignments are consistent.

The group then reviewed the requirement for message retention period. The Annex 10 statement for 30-day retention of Aeronautical Telecommunication messages was reviewed. The requirements are generally levied at sender and receiver. It was concluded that a specific requirement for the 30-day retention would be included in the MHS SARPs and this

subject should also be addressed by WG-1 in the Sub-Volume 1 by reference to the existing logging requirement defined in Annex 10, Volume 2.

WP 6-29 was presented by Messrs. Gene White and Jim Moulton. Mr. White presented the AFTN component of Chapter 3.1.3 of the draft SARPs for ATS Message Handling Services over the ATN (i.e., ATN Pass-Through Service and Type A Gateway). Mr. Moulton presented the ATN component of draft SARPs material contained in WP6-29. This WP presented draft material proposed for inclusion into the draft MHS SARPs.

Mr. Vacher questioned the draft SARPs lack of use of the Dialogue Service, as specified in the ULA SARPs, Sub-Volume 4. Mr. Van Roosbroek also indicated that the preservation of the ULA specified in Sub-Volume 4 was preferred. Mr. Moulton indicated that the Pass-Through Control Function could be rewritten in terms of the Dialogue Service. Mr. Van Trees added that his review showed that the Type A ULA work was in complete static conformance with the ATN ULA, and that the rewrite of the Type A ULA was strictly editorial rather than technical in nature.

Mr. Moulton and Mr. Van Trees undertook to rewrite MHS 3.4.6 (Pass Through Service -- Control Function) in terms of the Dialogue Service primitives. This was completed during the course of the WG3 meeting.

Mr. White then presented the AFTN-specific elements of WP6-29.

WG3 agreed that the references to base documents in each Sub-Volume shall be made by name (e.g. 'ISO/IEC 8650-1') rather than number (e.g., [417]). The full superseding reference shall be held in Sub-Volume 1.

Mr. Van Trees queried the inclusion of the MHS base references in Sub-Volume 3, Part 1 since the work is based on MHS ISPs. M. Vacher responded that Sub-Volume 3, Part 1 includes both general and detailed references to the base documents, which thus need to be included.

Mr. Valentine questioned the list of items defined for the traffic log. After discussion Mr. Valentine indicated that he would review the list of items to be logged and potentially propose a abbreviated list. Furthermore, Mr. Valentine's contribution on logging requirements (flimsy 3) was forward to SG1 for their review and taken into account in the update to the MHS SARPs being prepared for review by WG3 in Munich.

It was indicated that all editor's notes should be removed from the version of the draft SARPs submitted for review at the next WG3 meeting (Munich - June 1996).

A note is to be added to the MHS SARPs indicating industry addressing schemes apply.

Mr. Van Trees, chairman of SG3, agreed that references will be added in Sub-Volume 4 for the source of the assignment of the fields in the eight character facility indicator (used with

the ULA address). The last character is defined by Amendment 71 to ICAO Annex 10 and the paragraph reference will need to be obtained from ICAO as the amendment is not yet published.

Mr. Moulton presented WP6/6 detailing a NATO/U.S. Dept. of Defense system for an AUTODIN to X.400 gateway. This system is very similar to the Type B AFTN-to-ATN gateway being specified in the MHS SARPs. Commercial products are available for this NATO system and could be used as a basis for the MHS SARPs validation. Mr. Van Roosbroek indicated that X.400 products are commercially available and thus the ISP-compliant aspect of the AMHS could also be commercially validated. Mr. Edem pointed out that the AFTN-ATN gateway and user agent are then the only non-ISP matter, and is fully specified in the SARPs.

Mr. M. Okle presented Flimsy 6-2 providing comments on WP6-6. The Flimsy concluded that the alternative proposed in WP6-6 does not provide a technical alternative to the MHS SARPs. Mr. Okle concluded that although the military message format has some initial similarity with the AFTN message format, the content of the gateway specification comprises AFTN-AMHS conversion, and AFTN-specific interface description, and that this is largely independent of the military solution. Mr. Moulton agreed that there are differences, especially in the UA, but that the NATO inclination toward ISPs offered assistance for a short-fuse validation effort.

In response to Mr. Edem's intervention, Mr. Moulton withdrew his suggestion that the MHS SARPs adopt the NATO solution. Mr. Jones asked that SG1 give consideration to the military work for validation credit.

#### **4.2.2 Review of draft ICC SARPs**

M. LeClerc presented the draft ICC SARPs. Substantial drafting efforts took place during the course of the WG3 meeting. The format of the ICC SARPs is consistent with the format of the air-ground applications SARPs. Mr. Stephen Pearce presented the ICC (AIDC) draft SARPs. Mr. Van Roosbroek and Mr. Frederic Picard questioned why the draft SARPs defines its own control function (CF) rather than adopting the dialogue-service based CF in the ULA SARPs. Dr. Kerr questioned the duplication of the naming material from the ULA SARPs; suggesting this definitive material should be defined in one place only. Mr. Pearce proposed a modification to the AIDC SARPs to incorporate by reference the Naming Authority, Presentation Context, and Upper Layer APRLs in Sub-Volume 4. The specification of the CF can be realized with the Dialogue Service primitives presented in Sub-Volume 4, and this will be reflected in an AIDC note. The AIDC CF has been defined to use an 'implicit start' that is not considered in the current Sub-Volume 4 CF. It was recalled that the model employed by the AIDC drafters is based on the outline ASO template model that was presented in Banff as a proposal, for SG3 development in CNS/ATM-2 SARPs. WG3 had judged that the model was presented too late to be of use for the air-ground applications, so that the ATN ULA had included a completely constructed CF for air-ground applications rather than use the template. Mr. Van Trees

questioned the configuration management of the AIDC CF, since on a component level it must be the same as the Sub-Volume 4 CF. Mr. Van Trees also undertook to reflect the above discussion in the ULA GM.

The relationship of the terms ICC and AIDC was questioned. It was confirmed that ICC is the higher level category and AIDC is a specific example of an ICC application. Other future ICC applications might include for example, an automatic traffic flow management application.

WG3 then discussed the need to standardize applications in terms of complexity, validation effort, and cost. Mr. Burgemeister elaborated the need for an operational concept for overall integration of the system. Mr. Pearce affirmed the need for an operational concept, but emphasized that regional equipment and regional implementations needed to be specifically decided.

**ACTION: Mr. Pearce to provide his operations concept paper to WG3 Seventh Meeting in Munich.**

Mr. Asbury pointed to the difficulty the ADSP had in integrating increasingly complex components (e.g., ADS-B) into a single operational concept. He indicated that he thought that Packages were the correct approach, and that a single global data link concept was over-ambitious. Mr. Snively indicated that his aircraft were intended to operate world-wide, and he did not see that validation was possible without an operating concept. Mr. Asbury reiterated the difficulty of producing comprehensive and timely operating concepts. WG3 affirmed the need for WG1 to work the operations concept. Mr. Calow indicated that the World Wide Plan (WWP) was also working the high-level operations concept.

#### **4.3 Review draft Ground Application Guidance Material**

Mr. Vacher introduced the MHS draft GM, presented as WP 6-27. There was no discussion of the draft material. SG1 will continue with the development of this material for the next WG3 meeting, in June 1996.

#### **4.4 Review plans for Ground Application documentation for CNS/ATM-2 Package**

There was no material presented under the agenda item.

### **5. ATN Upper Layer SARPs**

#### **5.1 Report from SG3**

Mr. Van Trees reported on the progress that had been made by SG3 on Sub-Volume 4 SARPs and the related GM. Mr. Van Trees reported that SG3 met in Toulouse and

produced a new version of the draft SARPs taking into account defect reports that had been received against the version reviewed at the last WG3 meeting in Brisbane.

Mr. Van Trees reported the work with ISO and ITU-T to progress the upper layer base standards. He indicated that work in these standards bodies is progressing as envisioned at the initial WG3 meeting in October 1994. He reported that two defects had been found in the ITU-T fast byte recommendation. This has been corrected in parallel in the ISO standards activity and will be picked up by ITU-T later this year. It was indicated that SG3 was seeking WG3 guidance on revising the Sub-Volume 4 SARPs reference from the ITU-T standards to the equivalent ISO standards. The advantage accrued is that the ISO version has corrected two defects reported against the ITU-T version. The ISO version has also added some new features, but these are not specified for use in Sub-Volume 4.

Mr. Van Trees reported that the Sub-Volume 4 GM has been editorially updated since the last WG3 meeting in Brisbane.

Mr. Van Trees reported that draft SARPs material have been progressed for Package 2 to defined a connectionless ULA to work over a connectionless transport service.

## **5.2 Review of draft ULA SARPs material**

Mr. Van Trees, SG3 chairman, introduced WP6-26, WP6-4 and WP6-28. Dr. Tony Kerr, editor of the ULA SARPs, presented WP6-26. This document, version 2.0 final of the draft ULA SARPs, is the version that resulted from the comments coming out the Brisbane WG3 meeting. Since this version simply incorporated the changes already approved by WG3, this version was not reviewed in detail. Dr. Kerr then presented WP6-28 that provides a listing of the SARPs defects that have been identified against the version 2.0. There was further discussion on the use of ISO standards vs. ITU-T standards for the base documents for the upper layer efficiency enhancements. Dr. Kerr presented the SG3 proposal to migrate from the ITU-T base standard to the ISO base standard. This change has been included in the proposed version 3.0 of the draft ULA SARPs, WP6-4. This proposal was approved by WG3.

Dr. Kerr presented WP6-4, the proposed version 3.0 of the draft ULA SARPs. He pointed out where the changes had been made from the current baseline (version 2.0) in the proposed SARPs version 3.0. The changes were mainly editorial in nature. There were a small number of comments that identified minor defects in the draft SARPs. The document editor accepted an action item to propose corrections to the draft SARPs to correct the defects. Generally, these were editorial in nature. It was noted that there is an open item with WG2 on the format for passing the security parameter between the ULA and the transport service. This was later closed with WG2 no changes required to the ULA SARPs. Mr. Van Trees noted there were a few other items that also needed to be coordinated with WG2. WG3 accepted an offer from Mr. Van Trees to document these issues in a flimsy from WG3 to WG2.

Mr. Van Trees presented flimsy 6-6 on WG3 matters of interest to WG2. This flimsy addressed a number of issues related to technical issues of interest to both working groups.

Topics covered by the flimsy included:

- a) internet service description
- b) the security function
- c) DR/CP for traffic type (introduces WG3 WP6-14)
- d) default traffic type
- e) strong/weak QoS
- f) integrity architecture
- g) naming and addressing
- h) editorials
- i) connectionless communications
- j) efficient TP4
- k) CNS/ATM-2 planning
- l) World-Wide Plan review

This flimsy was coordinated with WG2 and the specific items of impacting the ULA SARPs were resolved. The remaining technical issues were also resolved and editing instruction were given after a discussion on the nature and level of information appropriate as introductory material for the SARPs.

Dr. Kerr agreed to update the draft ULA SARPs to reflect the WG3 authorized changes and issue the revised version as the new baseline (i.e., version 3.0). This was done during the meeting and issued as WP6-4 rev. A.

### **5.3 Review of draft ULA Guidance Material**

Mr. Van Trees introduced WP6-5, draft upper layer GM. He explained the changes that have been made since the previously version reviewed by WG3 in Brisbane. The organization of the GM has been improved and comments taken in Brisbane have now been incorporated. Mr. Van Trees noted that section 10.5 will need additional development. He also noted that section 10.6 on naming and addressing has been updated to clarify the implementation of the ULA construction of titles and addresses. It was noted that perhaps this material needs to be captured in the Context Management SARPs. There were a few minor comments. It was pointed out that it appeared that GM was needed on how to assign the SAP selector. After a brief discussion it was concluded this is a local matter and is so indicated in Sub-Volume 5.

### **5.4 Review plans for ULA documentation for CNS/ATM-2 Package**

Mr. Van Trees introduced WP6-25 which provided draft materials believed by SG3 to be appropriate for CNS/ATM-2 Package SARPs and GM. This material relates to ULA enhancements to provide functionality not supported by the Package-1 ULA SARPs. The significant enhancements proposed include:

- migrating from edition 2 of the ACSE standard to edition 3

- adding a connectionless ULA service for use over a connectionless transport service
- definition of an ASO template (i.e., applications development template)
- support relative Object Identifiers (OIDs) based on ongoing work in ISO
- support ISO upper layer efficiency enhancements (if not included in Package-1, see above)

The working paper included an action list of work to progress the ULA standards for the Package-2 ULA. It was noted that this list could be the basis for proposing the WG3 ULA related work program items to ATNP/2 for Package-2 related work.

## **6. Identify system-level requirements derived from WG3 draft SARPs materials**

Mr. Tom Kraft, editor of Sub-Volume 1 presented an overview and the background on the draft Sub-Volume 1. This Sub-Volume provides an introduction of the overall Package 1 SARPs and defines the system-level requirements.

Section 1 provides an introduction to Package 1 SARPs,

Section 2 describes the operational environment,

Section 3 defines the system level requirements,

Section 4 is a list of references for all Sub-Volumes

Section 5 is a glossary provide a definition of terms used in all Sub-Volumes

Mr. Jones described the approach used by the Sub-Volume 1 SARPs drafting group to develop the system level requirements that have been included in Sub-Volume 1. Materials from the ADSP and FAN II/4 were used as the primary sources for operational and institutional requirements. High level requirements extracted from the ATN Manual 2nd edition and the other CNS/ATM-1 Package Sub-Volumes were also reviewed. System level requirements were derived from these sources. It is intended that the highest level of function requirements from Sub-Volumes 2 through 5 will be traceable up to a higher level system requirement.

## **7. Baseline Draft Ground Application SARPs (follow-on to Agenda Item 4)**

### **7.1 Review/approve proposed baseline draft MHS SARPs**

The updated MHS (WP 6-8A) was provided by the end of the WG3 meeting. A list of changes from WP 6-8 was also provided as flimsy 6-11. The updated MHS SARPs included revisions by the document editor and a contribution from Mr. Moulton based on an update from WP6-29. WG3 agreed to baseline this updated MHS SARPs as version 1.0 (the initial baseline version). Defect reports against the v1.0 MHS SARPs are to be submitted to the document editor (Mr. Vacher) no later than 15 May 1996 using the defect report form found in the MHS Guidance Material

### **7.2 Review/approve proposed baseline draft ICC SARPs**

Mr. Peace reported that discussions subsequent to the initial presentation of the draft ICC SARPs had results in a proposal to reference the ULA SARPs and indicate the level of conformance between the ICC SARPs and the ULA SARPs. However the ICC SARPs would still contain its own definition of the control function. It was noted that the control function defined in Sub-Volume 4 was defined specifically to support the air-ground applications and it was the intent of SG3 (responsible for the ULA SARPs) that other applications may define their own control function, as needed. It was reported that the approach proposed for the draft ICC SARPs is consistent with this approach.

Mr. Pearce subsequently presented flimsy 6-9 describing the relationship of the ULA with the ICC draft SARPs. The flimsy noted that no new implementation complexity results from the proposed approach for the ICC SARPs. It was proposed that a note be added to the introductory chapter of the draft ICC SARPs and GM be provided to indicate the relationship to the Sub-Volume 4 (ULA) SARPs. More appropriate references to Sub-Volume 4 SARPs were identified than those indicated in the flimsy. Dr. Kerr, editor of Sub-Volume 4 proposed some detailed changes on the lower level mapping (as a subset of those defined in Sub-Volume 4). Mr. Pearce took a few specific action items to be addressed in the update to the draft ICC SARPs.

**ACTION: SG1 to make the changes authorized by WG3 and issue the updated draft ICC SARPs as version 1.0, the initial baseline.**

## **8. Package-1 Validation**

### **8.1 Validation approach**

Mr. R. Jones presented WP6-15 on proposed WG3 inputs on validation for JWG WP to ATNP/2. This WP provides draft text for a working paper from the ATNP JWG meeting in Munich (June 1996) to ATNP/2. This draft working paper summarizes the approach taken to validation the Package-1 SARPs and proposes ATNP/2 approve the SARPs based on the successful validation of the SARPs. There was some specific comments on the draft text for the JWG WP and the text was updated to reflect the comments.

### **8.2 Status of validation planning for Sub-Volume 2, 3 and 4**

Dr. Kerr presented WP6-35 on the ULA validation approach. The current version is consistent with the proposed version 3.0 SARPs submitted the WG3 meeting. Dr. Kerr plans to update the mapping of low-level requirements to ULA Validation Objectives to track the approved version 3.0 of the ULA SARPs coming out of the WG3 meeting.

### **8.3 Plans of member States and organizations to support validation activities**

Mr. Van Roosbroek presented WP 6-17 providing current results of Eurocontrol application SARPs validation activities. The WP described the status of the validation activities for ADS, CM, CPDLC and the ULA. The set of activities described in the WP

are: Requirements database, formal modeling, prototype implementation, API specification and interoperability test scenarios. Mr. Van Roosbroek reported that the first two activities have produced significant progress, particularly for the ULA and ADS area of the package 1 SARPs. Furthermore he noted that Eurocontrol expects to award a contract for the prototype implementation. In presenting WP6-17, Mr. Van Roosbroek reported that the development of interoperability test scenarios is currently underway. Dr. Kerr provided a detailed report of the validation activities detailed in the WP. This WP served to introduce a number of other WPs (i.e, WP6-16, WP6-18, WP6-19, WP6-20, WP6-22 and WP6-23) submitted by Eurocontrol providing an additional level of detail on the Eurocontrol validation efforts.

WP6-18, WP6-19 and WP6-20 were information papers which supported the demonstration of the Eurocontrol formal models of the ADS and ULA SARPs using the GEODE tool from Verilog. The demonstration was conducted by Mr. T. Maude

WP6-22 was presented by Dr. Kerr. This informed the WG of the status of the Eurocontrol validation database tool for the Air/Ground and the ULA SARPs. The tool is available on the CENA server for those who wish to use it in support of validation efforts.

Dr. Kerr presented WP6-16 and WP6-23. WP6-16 documents the Eurocontrol TES validation tools using a proforma adapted by Mr. F. Picard from the validation tool proforma used by WG2, and was offered as a potential input to the validation report for ATNP/2. WP6-23 informed the WG that Eurocontrol has developed an API specification for the Air/Ground applications to facilitate validation of the ASE specifications and to enable portable validation software to be produced. This specification is available from Mr. Van Roosbroek upon request.

Mr. Van Roosbroek indicated that the Eurocontrol objective is to have further substantial validation results by the planned Oct. 1996 meeting of WG3.

Ms. G. Loudon presented WP6-30 providing the status and progress of the U.S. upper layers and applications validation effort. Ms. Loudon described the progress of Computer Sciences Corp. (CSC) on prototyping the ULA, CM and CPDLC SARPs. She reported that work is just starting at Mitre to prototype the ADS application. She also indicated that the emphasis of the CSC efforts is on the ground version of the CM and CPDLC applications using script-based drivers serving as the airborne applications. She verbally provided a few updates to the material included in the SARPs. She indicated that the starting point for the ULA validation data base was version produced by WG3/SG3. She noted that there are in fact plans to validate FIS SARPs, but the plans for this are not yet final. It was also noted that the validation efforts will incorporate an incremental revision to align with the output of the Munich WG 3 meeting. It was pointed out that certain specific areas of the SARPs are not covered by the current FAA validation efforts. An issue was raised on the validity of the CM validation using a prototype CM that only implements a sub-set of the state table.

**ACTION: Mr. Van Trees took an action item to provide additional information with respect to sub-setting at the next WG3 meeting on the U.S. CM prototyping and validation efforts.**

#### **8.4 Validation documentation for ATNP/2**

A joint WG2/WG3 session was held to coordinate SARPs and validation documents to be prepared for ATNP/2. The JWG reviewed WG3 WP6-15 proposing a validation WP from the Munich JWG meeting to ATNP/2. The JWG agreed on the approach presented in the WP and the author (Mr. R. Jones) agreed to make some editorial changes and forward the revised WP to the WG1 Rapporteur.

Mr. S. Van Trees presented WG3 flimsy 6-5 on matters of style. The purpose of the flimsy was to document standard formats for the draft SARP materials. Some needed corrects to the proposals in the flimsy were agreed and an updated flimsy was subsequently issued. Members of WG2 noted that the Sub-Volume 5 VDB will not show tracability all the way down to each "shall" statement but generally to a function that is supported by a collection of shall statements.

### **9. Air-Ground Application SARPs**

#### **9.1 Report from SG2**

Mr. M. Asbury reported that SG2 held a meeting in mid-March 1996 in London, UK. The intent of the meeting was to progress the SARPs and GM for the air-ground application SARPs. The SG2 members undertook to add the ground forwarding function into the Sub-Volume 2 SARPs in Brisbane. The March SG2 meeting ended up focusing on the further refinement of the SARPs with much of the work on the ground forwarding function. The use of automatic tagging in the ASN.1 text results in change bars in much of the ASN.1. Comprehensive configuration control information is provided at the beginning of each Part of Sub-Volume 2. ADSP has accepted to use the ATNP WG3 defect reporting form for submitting defects to WG3/SG2. Mr. Asbury reported that Mr. Greg Saccone has taken over from Ms. J. Hamelink as the editor of the Context Management draft SARPs.

Based on the discussion it was noted that the drafts of Sub-Volumes 2 through 5 that are submitted to the Munich WG meetings will need to have the list of references and definition of terms removed as the consolidated list will appear in Sub-Volume 1. Mr. Asbury will ask SG2 to review Sub-Volume 1 and provide inputs to its editors. Mr. Asbury reviewed general changes that have been made to all of the parts of the Sub-Volume 2 SARPs. Mr. Asbury provided an overview of the functional changes to all of the parts of the Sub-Volume 2 SARPs. The draft SARPs submitted to the Brussels WG3 meeting are proposed version 3.0 of each of the parts of Sub-Volume 2 SARPs.

There was a discussion of the specification of timers in the Sub-Volume 2 SARPs. Mr. T. Maude explained why SG2 had included a specification of certain timers.

## 9.2 Review of draft Air-Ground Application SARPs material

Mr. M. Asbury presented WP6-33 on unlawful interference. This paper reflected a request from the ADSP to incorporate message elements in the CPDLC message set relating to Unlawful Interference. It was reported that for Package-2 consideration should be given to supporting a means of indicating unlawful interference as part of ADS. WG3 agreed to added the two proposed new messages to the CPDLC message set. This will have no other impact on the CPDLC draft SARPs.

Mr. Asbury introduced WP6-10, the CM draft SARPs (proposed version 3.0). The configuration sheet was reviewed for the changes from version 2.0 that was approved at the Brisbane WG3 meeting. Mr. Asbury lead the working group page-by-page through the draft SARPs indicating the changes.

Chapter 1 was reviewed and much of the material was removed from Chapter 1 as not being appropriate for SARPs. In the review of Chapter 2 it was suggested that most of this material should be move to Sub-Volume 1 SARPs and perhaps the Sub-Volume 1 GM. The existing text for version numbering and error processing would be retained in chapter 2 of the CM SARPs. The remaining material will be reviewed by the drafting group for Sub-Volume 1 (WG1) for inclusion in the documents being prepared by WG1. There was a discussion of version numbering. It was decided that a given application should be allowed to be updated independently of updates to the overall CNS/ATM-x Package. The was viewed as necessary to allow for defects to be corrected before publication of the subsequent CNS/ATM-x SARPs package. It was recognized that GM will need to be developed for the use version numbering to support backwards compatibility.

WG3 agreed that SG2 should move the material to be deleted from chapters 1 and 2 to hidden text for the time being. Also SG2 was requested review the chapter 1 and 2 materials from each part of Sub-Volume 2 and propose to the editors of Sub-Volume 1 text for inclusion in their materials (SARPs, GM and validation report).

**ACTION: SG1, SG2 and SG3 are instructed to use the decisions of WG3 on the desired scope and content of introductory and general requirement materials to be included in the CM SARPs as a model for the other Sub-Volumes and parts thereof.**

There were a few questions raised on chapters 3 and 4 but no needed changes to the draft CM SARPs were identified. (Note - one issue was taken off-line related to table 3-6). In the review of chapter 5 (Protocol definition), potential problems were identified with figures 5-18, 5-19 and 5-20 in chapter 5. The SG2 members agreed to review the figures to determine their correctness. Minor corrections to the state tables (section 5.5), related to the previous issues, were also noted.

There was discussion on how to best express the relationship between the RER parameter (para. 6.2.2.2) and expected residual error rate. It was agreed that the meaning of the RER parameter set to 'Low' implies an end-to-end RER of  $10^{-8}$  or better. This will need to be reflected in Sub-Volumes 1, 4 and 5. Mr. Van Trees included this in an update to flimsy 6 to WG2.

**ACTION: Mr. Kraft took an action item to reflect the meaning of the RER parameter when set to 'LOW' implies a RER of  $10^{-8}$  or better in Sub-Volume 1.**

The actual RER value of  $10^{-8}$  will only be included in Sub-Volume 1. Sub-Volumes 4 and 5 will only reflected that an RER parameter set to 'Low' results in a TP4 checksum being used.

There was an issue raised on the specification CM-air-user response times. After considerable debate on whether this was appropriate for inclusion as a standard, it was decided to revise these to the status of recommendations.

Mr. Van Roosbroek presented WP6-24 raising issues on the requirements and the technical approach for ground forwarding in the air-ground SARPs. The March 1996 ADSP working group of the whole meeting while endorsing the operational requirement for ground forwarding for ADS and CM message, did not explicitly endorse the equivalent requirement for CPDLC ground forwarding. However the draft manual for ATS applications, that was produced by the ADSP, includes implied general requirements for CPDLC ground-ground related information exchanges. After considerable debate the working group agreed to retain the ground forwarding function in CPDLC but SG2 was tasked to discuss issues related to the specification of the CPDLC ground forwarding.. Concerns were also raised in WP6-24 on the specific approach for incorporating ground forwarding where this function was incorporated into the same ASE of the air-ground CPDLC function. It was noted that the specific concerns expressed on the validation of the ground forwarding functionality in WP6-24 could also be applied to validation projects that desire to omit the downstream clearance service that was added between the version 1.0 and version 2.0 of the draft SARPs.

**ACTION: SG2 was given the specific action to address the concerns expressed in WP6-24 and the ensuring WG3 discussions on the ground forwarding function and downstream clearance service as described above.**

Ms. J. Hamelink presented WP6-12, the draft CPDLC SARPs (proposed version 3.0). The changes that had been made since version 2.0, as approved in Brisbane, were listed in the configuration sheet at the front of the document and change bars were indicated the changes in the body of the document. A number of editorial changes had been made. A few relatively minor technical changes were made to address identified defects. "Unlawful Interference" messages were added to the message set based on a new operational requirement received by the ADSP. The WG was informed that a working group of the

ICAO SICAS Panel has reviewed the classes of “SSR equipment available”, as defined by the ASN.1 in chapter 4 of the draft CPDLC SARPs, and may request some revisions to more appropriately reflect SSR transponder classes.

**ACTION: Mr. R. Esser agreed to track the actions of the SICASP WG looking at the issue on the classes of SSR equipment and report any finding, or any defect report, to SG2.**

An issue was raised on the forwarding function and why the valid CPDLC message subset for it is not identified. It was concluded that some GM should be developed but generally the specific message subset to be used will be decided by the ATS authorities and regional planning groups. It was noted that the CPDLC can operate in several modes, with corresponds states for each mode. SG2 was tasked to review the state table to ensure there is sufficient separation between the various modes to facilitate implementation of CPDLC subsets (i.e., DSC optional, ground forwarding optional). SG2 was also tasked to review the state table for CMA to insure there is sufficient separation between the modes to facilitate implementation if the CM subsets (i.e., ground forwarding optional).

**ACTION: FOR SG 2 FOR THE NEXT MEETING**

- 1. Arising from discussion at the WG 3 meeting, SG 2 was tasked at its Toulouse meeting (29/4 - 3/5) to review the SARPs and:**
  - a. Develop validation objectives and provide traceability for air/ground, ground/ground and DSC functionality separately
  - b. Provide guidance material indicating which paragraphs apply to -
    - i. the air/ground,
    - ii. ground/ground forwarding and
    - iii. DSC,thus indicating which do not need to be implemented depending on which functionality is being validated,
  - c. Review the SARPs Material, taking account of the following technical considerations
    - in a single ASE implementation only part of the ASE may be validated,
    - what the impact will be on the other aspects of the ASE.
    - how much effort will have to be put in by the SG on developing the

additional material, vs. putting in another ASE.

- d. Review technical flexibility and possible future evolution
- e. Investigate and implement if necessary DSC as an independently validatable functionality
- f. Review the possibility of having state tables etc. for each mode, or other means of subsetting modes (by ATNP/2)
- g. Consider whether the subset for air/ground is in fact truly separable in terms of functionality, such that the addition of DSC and ground/ground forwarding would not change its functionality.

**Finally the SG will have to deal with a number of potential defects and will have to consider which would require the least time - simply correcting the defects, separating out the material for the optional capabilities and/or clearly defining the valid subsets.**

Mr. Asbury presented WP6-36 on message number confliction. The WP summarizes a new message element defined by the ADSP to clarify 'Cruise' and 'Cleared out of Controller Airspace.' This came out of FANS-1 implementations. In order to maintain consistency between FANS-1 and the CPDLC message numbers (FANS-1 is a subset of ATN CPDLC). Proposed version 3.0 CPDLC SARPs incorporates this change. This will facilitate dual stack implementations to support FANS-1 and Package-1 CPDLC.

Mr. M. Bigelow presented WP6-31 on the use of non-standard data units. The WP notes that the new dimensional units are used in the CPDLC draft SARPs for altitude and speed dimensions while standards measures are available. The recommendation of WG3 was for ARINC or IATA to submit working paper to ADSP/4 proposing the changes to the data units and then report any actions of ADSP/4 to ATNP/2.

Mr. Burgemeister presented flimsy 6-13 on expression of VHF frequency names. WG3 assigned this issue and proposal from the flimsy was passed to SG2 for further action.

Mr. F. Picard presented WP6-13, the proposed version 3.0 draft FIS application SARPs. The changes that had been made since version 2.0, as approved in Brisbane, were based on defect reports that had been subsequently submitted. Mr. Picard pointed out the specific changes to the draft SARPs during the review of the document.

Mr. Asbury presented WP6-11, the proposed version 3.0 draft ADS application SARPs. The changes that had been made since version 2.0, as approved in Brisbane, were based on defect reports that had been subsequently submitted to SG2. Mr. Asbury noted a significant change had occurred in specifying the ADS ground forwarding function as a separable ASE, where the draft SARPs in Brisbane had added the ground forwarding function into the air-

ground ASE (i.e., retaining a single ASE). This revised approach with two ASEs has resulted in many changes, especially in chapter 5, of the proposed version 3.0 ADS SARPs reviewed at the meeting. While the air-ground ASE is viewed as quite stable, the ground forward ASE is not yet mature. The same is true of the ground forwarding functions in CM and CPDLC SARPs. WG3 empowered SG2 to progress this and issue new baseline versions of the air-ground application SARPs for input to the next WG3 meeting in Munich.

Mr. Asbury presented WP6-32 on the convention of the wind velocity parameter in the ADS message. This issue has been identified as a result of the ADS trials activity. This has come up recently and SG2 will investigate this and prepare a defect report as necessary.

Mr. Van Roosbroek presented WP6-21 on A comparison of the functionality described in ARINC Characteristic 745 and the ADS Draft SARPs. Ms. Hamelink indicated that RTCA is updating the MOPS for ADS to align with the draft ADS SARPs. It was noted that the AEEC 745 is not consistent with the existing RTCA MOPS for ADS. Mr. Burgemeister reported that AEEC is moving in the direction of referencing the SARPs for the technical requirements.

### **9.3 Review of draft Air-Ground Application Guidance Material**

No air-ground guidance material was presented for review. However the ADSP draft manual on ATS data link provides much of the needed guidance.

### **9.4 Review plans for Air-Ground Application documentation for CNS/ATM-2 Package**

No material was presented to the meeting for review.

## **10. Action Plan and Planning for ATNP/2**

Mr. S. Van Trees presented flimsy 6-5 on Matters of Style. The flimsy proposes specific guidelines for preparing the Package-1 SARPs material. Topics covered included paragraph numbering, Sub-Volume numbering, terminology, references, font type and size, etc. Some additions were identified during the review. Additional information was added to the flimsy on the type for notes and recommendations and numbering of tables and figures. The proposed font for the package-1 SARPs was changed to Times Roman 10 point font.

This was subsequently coordinated with WG2 at a joint session of the WG3 and WG2.

### **10.1 Report on action plan or resolution of issues/action items from earlier agenda items**

As listed under the previous action items.

## **10.2 Identify specific working papers needed from WG3 for submission to ATNP/2**

**ACTION:** ATNP WG3 subgroup chairman and SARPs editors are tasked to prepare draft SARPs for the Munich WG3 meeting consistent with the material in Flimsy 6-5, rev. B.

**ACTION:** ATNP WG3 subgroup chairman are tasked to prepare a proposed ATNP/2 working paper for each SARPs Sub-Volume and each Part. These working papers will be used to present the SARPs documents to ATNP/2 and will be reviewed by WG3 in Munich. The format of these working paper are to be consistent with the outline provided in Flimsy 6-10A.

## **11. Subgroup tasking**

### **11.1 Products needed for future WG3 meetings and for ATNP/2**

**ACTION:** Each WG3 SARPs editor is requested to review the draft Sub-Volume 1 (WP6-40) specifically for:

- List of Acronyms
- Glossary contents
- List of references

Editors are requested to take a copy of this Sub-Volume 1 material, check off all acronyms, glossary terms and references that are in fact present in their Sub-Volume, indicate any corrections or needed additions to the acronym list, glossary or reference list and return this material to Tom Kraft by 17 May 1996 (see address/e-mail/fax information for Tom Kraft in attachment 2). Furthermore, as proposed by WP6-38, the WG3 SARPs editors should remove the glossaries, acronym lists and reference lists from Sub-Volumes 2, 3 and 4 for the updated version of the draft SARPs submitted to the Munich WG3 meeting (June 1996).

For additional tasking to the WG3 subgroups, see agenda item 10.2 above and action items under previous agenda items.

### **11.2 Schedule for working group and subgroup meetings**

SG1 : 12-14 June in Munich

SG2: 29 April - 3 May in Toulouse, France  
10-14 June in Washington DC, USA or Vancouver Canada

SG3: 10-14 June Tentative - same location as SG2 meeting

WG3: 24-28 June in Munich

WG3: 7-15 October in the U.S.

WG1 (SV1 DG) 3-7 June in Reston, Virginia, USA  
WWP DG 13-16 May Ottawa, Canada

**12. Any other business**

The working group expressed the appreciation to Eurocontrol for hosting the sixth meeting of WG3.

## **List of Attachments**

Attachment 1 - WG3 Draft Agenda

Attachment 2 - WG3 Attendance List

Attachment 3 - WG3 List of Working Paper

Attachment 4 - WG3 List of Flimsies

Attachment 5 - List of WG3 Document Editors

**ATNP WG3 - Sixth Meeting**  
**AGENDA**  
**15-26 April 1996**

1. Administrative Items and Approval of the Agenda
  - 1.1 Administrative announcements
  - 1.2 Discuss arrangements for Seventh WG3 meeting (June 1996 in Munich)
  - 1.3 Review schedule for ATNP/2 and eighth WG3 meeting
  - 1.4 Review Agenda
2. Review and Approve Report of the fifth meeting (Brisbane) of WG3
  - 2.1 Review issues and action items from previous WG3 meeting
3. Review inputs received from other ATNP working groups and other ICAO bodies
  - 3.1 Review inputs received from the panel Secretary
  - 3.2 Review inputs from the ADS Panel
  - 3.3 Review inputs from other ICAO bodies
4. Ground Application SARPs
  - 4.1 Report from SG1
  - 4.2 Review of draft Ground Application SARPs material
    - 4.2.1 Review of draft AMHS SARPs
    - 4.2.2 Review of draft ICC SARPs
  - 4.3 Review draft Ground Application Guidance Material
  - 4.4 Review plans for Ground Application documentation for CNS/ATM-2 Package
5. ATN Upper Layer SARPs
  - 5.1 Report from SG3
  - 5.2 Review of draft ULA SARPs material
  - 5.3 Review of draft ULA Guidance Material
  - 5.4 Review plans for ULA documentation for CNS/ATM-2 Package
6. Identify system-level requirements derived from WG3 draft SARPs materials
7. Baseline Draft Ground Application SARPs (follow-on to Agenda Item 4)
  - 7.1 Review/approve proposed baseline draft AMHS SARPs
  - 7.2 Review/approve proposed baseline draft ICC SARPs
8. Package-1 Validation
  - 8.1 Validation approach
  - 8.2 Status of validation planning for Sub-Volume 2, 3 and 4
  - 8.3 Plans of member States and organizations to support validation activities
  - 8.4 Validation documentation for ATNP/2

**ATNP WG3 - Sixth Meeting**  
**Agenda (Cont.)**  
**15-26 April 1996**

- 9. Air-Ground Application SARPs
  - 9.1 Report from SG2
  - 9.2 Review of draft Air-Ground Application SARPs material
  - 9.3 Review of draft Air-Ground Application Guidance Material
  - 9.4 Review plans for Air-Ground Application documentation for CNS/ATM-2 Package
  
- 10. Action Plan and Planning for ATNP/2
  - 10.1 Report on action plan or resolution of issues/action items from earlier agenda items
  - 10.2 Identify specific working papers needed from WG3 for submission to ATNP/2
  
- 11. Subgroup tasking
  - 11.1 Products needed for future WG3 meetings and for ATNP/2
  - 11.2 Schedule for subgroup meetings
  
- 12. Any other business

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## LIST OF WORKING PAPERS

ATNP WG3 - Sixth Meeting -Brussels, Belgium 15-26 April 1996

No	Agenda Item	Presenter	Title
6-1	1.4	R. Jones	Agenda
6-2	2	R. Jones	ATNP WG3 Report Fifth Meeting (Brisbane, Feb. 1996)
6-3	5.1	S. Van Trees	Report of SG3
6-4	5.2	A. J. Kerr	Draft CNS/ATM-1 Package ULA SARPs (proposed Ver. 3.0)
6-5	5.3	S. Van Trees	Draft CNS/ATM-1 Package ULA Guidance Material
6-6	4.2.1	J. Moulton	Recommendation on the redirection of the AMHS SARPs
6-7	4.2	J. Piram	Draft CNS/ATM-1 Package ICC SARPs
6-8	4.2	J. Piram	Draft CNS/ATM-1 Package MHS Over the ATN SARPs
6-9	9.1	M. Asbury	Report of SG2
6-10	9.2	M. Asbury	Draft Air/Ground Applications SARPs - Part 1
6-11	9.2	M. Asbury	Draft Air/Ground Applications SARPs - Part 2
6-12	9.2	M. Asbury	Draft Air/Ground Applications SARPs - Part 3
6-13	9.2	M. Asbury	Draft Air/Ground Applications SARPs - Part 4
6-14	3.2	R. Jones	Use of ATSC Traffic Types
6-15	8.4	R. Jones	Proposed WG3 Inputs on Validation for JWG WP to ATNP/2
6-16	8.3	D. Van Roosbroek	Validation Tool Descriptions for ATN Applications
6-17	8.3	D. Van Roosbroek	Current Results of Eurocontrol Application SARPs Validation Activities
6-18 IP	8.3	D. Van Roosbroek	Model of the ADS SARPs
6-19 IP	8.3	D. Van Roosbroek	ADS SARPs simulation scenarios
6-20 IP	8.3	D. Van Roosbroek	Model of the Upper Layer SARPs
6-21	9.2	D. Van Roosbroek	A comparison of the functionality described in ARINC Characteristic 745 and the ADS Draft SARPs
6-22 IP	8.3	D. Van Roosbroek	Eurocontrol requirements database for application SARPs

<b>No</b>	<b>Agenda Item</b>	<b>Presenter</b>	<b>Title</b>
6-23	8.3	D. Van Roosbroek	APIs for application SARPs Validation
6-24	9.2	D. Van Roosbroek	Effect of integrating ground forwarding in air-ground ASEs
6-25	5.4	S. Van Trees	CNS/ATM-2 Package ULA planning
6-26	5.2	A. J. Kerr	Draft CNS/ATM-1 Package ULA SARPs (Ver. 2.0)
6-27	4.2	J. Piram	Draft AMHS Guidance Material
6-28	5.2	A. J. Kerr	ULA Defect Report Register
6-29	4.2	G.White	Proposed Chapter 3.1.3 of ATS Message Handling Services over the ATN -- Pass-Through Service
6-30	8.2	G. Louden	Status and Progress on the US Upper Layers and Application Validation Effort
6-31	9.2	M. Bigelow	Use of Non-Standard Data Units
6-32	9.2	M. Asbury	Presentation of Wind Velocity
6-33	9.2	M. Asbury	Unlawful Interference
6-34 IP	9.2	M. Asbury	Report of ADSP Working Group - Dakar
6-35	8.2	A.J. Kerr	Validation of the Draft Upper Layer SARPs for CNS/ATM-1 Package
6-36	9.2	M. Asbury	CPDLC Message Numbers
6-37	9.2	M. Asbury	Summary of Defect Reports for Draft ADS SARPs for the CNS/ATM-1 Package
6-38	6	T. Kraft	The Impact of Sub-Volume 1 on Sub-Volumes 2 through 5 SARPs and Guidance Material
6-39 IP	1.2	R. Jones	Information on the Forthcoming ATNP Working Group Meetings in Munich
6-40	6	T. Kraft	CNS/ATM-1 Package Sub-Volume 1, v0.4

## Attachment 4

<b>Flimsy No</b>	<b>Agenda Item</b>	<b>Presenter</b>	<b>Title</b>
6-1	4.2	T. Calow	Comments on Draft Ground Application SARPs
6-2	4.2	M. Okle	Initial Comments on WP6-6 "Redirection of ground application SARPs
6-3	4.2	I. Valentine	Logging requirements for AMHS SARPs
6-4	AOB	P. Camus	Relationship between System Requirements, ATS, and Operational Benefits
6-5	10	S. VanTrees	Matters of Style
6-6	various	S. Van Trees	WG3 Matters of Interest to WG2
6-7	3	B. Gosselin	WG3 Inputs and recommendations to the WG1 drafting group
6-8	3.2	S. Van Trees	WG2 Update
6-9	7.2	C. LeClerc	AIDC ULA
6-10	2.1	R. Jones	MUC Summary Style
6-11	4.2	J-M Vacher	Changes from WP6-8 to WP6-8A (MHS Baseline)
6-12		D. Van Roosbroek	6-bit Encoding
6-13	9.2	A. Burgemeister	CPDLC Expression of VHF Frequency Names

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