

ICAO AERONAUTICAL TELECOMMUNICATION NETWORK PANEL
Working Group 3
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**Approach for Developing Validation Reports for CNS/ATM-1 Package Draft
SARPs**

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A high-level approach for the validation of the CNS/ATM-1 Package SARPs was coordinated between ATNP WG2 and WG3 at their meetings in Banff, Canada in October 1995. Members from WG2 and WG3 produced a Flimsy describing the proposed approach for SARPs validation that was coordinated with, and endorsed by WG2 and WG3. That flimsy requested that WG1 adopt the same high-level validation framework, as already adopted by WG2 and WG3, as the approach for validating the system-level requirements that will be included in Subvolume 1. This working paper proposes a working approach for developing the validation report for submission to ATNP/2.

References:

1. Report of the fifth meeting of ATNP WG2, October 1995 (flimsy 12)
2. Report of the fourth meeting of ATNP WG3, October 1995

1. Background

The CNS/ATM-1 Package SARPs subvolumes being drafted by WG2 and WG3 have always be recognized as including technical requirements that would need to be subjected to a rigorous validation program. A high-level approach for the validation of the CNS/ATM-1 Package SARPs was coordinated between ATNP WG2 and WG3 at their meetings in Banff, Canada in October 1995. With inputs for WG3 members, WG 2 produced a Flimsy 12 describing the proposed approach for SARPs validation that was coordinated with, and endorsed by WG3. The flimsy included a proposal that system-level requirements be included in Sub-Volume 1 of the CNS/ATM-1 Package SARPs and these system-level requirements also be subject to validation (WG1 responsibility). The flimsy further proposed that WG2 and WG3 would identify the relationships of

lower level SARPs to these high-level system requirements and validate those relationships.

2. Discussion

Subsequent to the conclusion of the WG meetings in Banff (October 1995), the U.S. FAA has undertaken to finalize plans for its CNS/ATM-1 Package draft SARPs validation efforts. One result of this planning exercise has been a recognition of the magnitude of the efforts that will be required to progress the validation to the point where we can have sufficient confidence in the correctness of the draft SARPs such that this material could be recommended to ATNP/2 for approval. There are interdependencies between the requirements contained in the various subvolumes. At the highest level, the system-level requirements (Subvolume 1) cannot be fully validated until the technical requirements for internetwork (Subvolume 5), the upper layers (Subvolume 4) and the applications (subvolumes 2 and 3) have each been validated. It is now evident that the necessary validation activities cannot be completed and a validation report produced by the Munich meeting of the ATNP working groups in June 1996.

3. Proposal

It is proposed that WG3:

1. proceed with the validation of CNS/ATM-1 Package, Subvolumes 2, 3 and 4 draft SARPs based on the approached previously adopted by WG3 (WG2 flimsy 12 from the Banff meeting). Specifically the validation approach would include the following steps:
 - a) Create a validation database tracing requirements at the level necessary to achieve the validation objective
 - b) define validation objective and means
 - c) define requirements for validation tools
 - d) validate exercise specification to meet objectives
 - e) conduct validation exercise
 - f) perform analysis and report results
2. support the following approach for the development of documentation to be submitted to ATNP/2:
 - a) coordinate with WG1 and WG2, for developing a working paper to ATNP/2 describing the approach taken for validating the draft CNS/ATM-1 Package

SARPs and recommending that ATNP/2 approve the draft SARPs based the successful validation results as detailed in attachments to the working paper. This short (i.e., 6 pages maximum) working paper would be approved at a Joint Working Group meeting in June 1996 in Munich and submitted to the ICAO Secretary for translation. Note that the attachments to the working paper will not need to be translated and therefore can be submitted at a later time. This has been confirmed with the ATNP Secretary;

b) support WG1/WG2/WG3 meetings in October 1996 (see proposal 3 below) focused on finalizing the detailed validation reports that would become the attachments to the above working paper. These attachments to the validation working paper would include:

- a report more fully describing the validation approach applied to each draft SARPs subvolume and a high level summary of the validation results; and
- reports for each draft SARPs Subvolume containing the detailed validation results.

3. WG3 at its fourth meeting in Banff, recognized a potential need for a working group meeting in the Sept. 1996 timeframe (now proposed by this working paper to be in October 1996) to finalize the validation report for submission to ATNP/2. WG3 agreed to defer the final decision of the necessity for this additional working group meeting until the fifth meeting of WG3 in Feb. 1996. WG3 tentatively accepted an offer from the United States to host this additional meeting if it was decided that such a meeting would be needed. The United States now extends their previous invitation to host WG1, WG2 and WG3 meetings in October 1996. WG3 is invited to accept the U.S. offer to host the final meeting of WG2 prior to ATNP/2.

4. Prepare a flimsy for WG1 and WG2 describing the position and/or decisions of WG3 relative to the above proposals.