ATNICG/6 – WP/13
Agenda Item 9
16/05/11

International Civil Aviation Organization

THE SIXTH MEETING OF AERONAUTCAL TELECOMMUNICATION NETWORK (ATN) IMPLEMENTATION CO-ORDINATION GROUP OF APANPIRG (ATNICG/6)

Seoul, Republic of Korea, 16 - 20 May 2011

Agenda Item 9: **Review and update Performance Framework Objective 8 and Action Items**

RECOMMENDATIONS FOR UPDATE OF ASIA/PACIFIC ATN PLANNING DOCUMENTS

(Presented by USA)

SUMMARY

The attached matrix reviews presents a summary of each of the documents on the ICAO Asia and Pacific Office under ATN Planning Documents and makes recommended actions for each document.

Document	Purpose	Contents	Version	Recommendation
ICAO Annex 10 Vol. III	This ICAO document defines the Standards and Recommended Practices (SARPs) for the Aeronautical Telecommunication Network (ATN)	Chapter 1 – Definitions; Chapter 3 – Aeronautical Telecommunication Network; Chapter 4 – Aeronautical Mobile-Satellite Service; Chapter 6 – VHF Air-Ground Digital Link (VDL); Chapter 8 – AFTN. Part II – Voice Communication Systems; Chapter 2 – Aeronautical Mobile Service; Chapter 4 – Aeronautical Speech Circuits; Chapter 5 – Emergency Locator Transmitter (ELT) for search and rescue.	1st Edition – 1005 and its last update in January 2004 including Amendment 79	Reference Document
Manual of Technical Provisions for the Aeronautical Telecommunication Network ICAO DOC 9705	The material contained in this document was originally developed as the detailed part of the first set of Standards and Recommended Practices (SARPs) for the aeronautical telecommunication	Sub-Volume I – Introduction and System Level Requirements; Sub-Volume II – Air-Ground Applications; Sub-Volume III – Ground-Ground Applications; Sub-Volume IV – Upper Layer Communications	2nd Edition - 1999	May still be referenced in AMHS ICD

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	network (ATN) which has commonly been referred to as the CNS/ATM-1 Package. It was intended to make the material an appendix to the new Chapter 3 of Annex 10, Volume III, Part I, containing broad, general, stable and mostly regulatory-type provisions (the core part of new ATN SARPs). "DOC 9705 is out of date and is not being maintained any more."	Services (ULCS); Sub-Volume V – Internet Communications Services (ICS);		
Manual of Technical Provisions for the Aeronautical Telecommunication Network ICAO DOC 9705	This ICAO manual contains detailed technical information and serves to further elaborate on the ATN standards as defined in Chapter 3 of Annex 10, Volume III, Part I	Sub-Volume I – Introduction and System Level Requirements; Sub-Volume II – Air-Ground Applications; Sub-Volume III – Ground-Ground Applications; Sub-Volume IV – Upper Layer Communications Services (ULCS); Sub-Volume V –	3rd Edition - 2002	Reference Document

Document	Purpose	Contents	Version	Recommendation
		Internet Communications Services (ICS); Sub-Volume VI – ATN Systems Management Provisions; Sub-Volume VII – ATN Directory Service; Sub-Volume VIII – ATN Security Service; Sub-Volume IX – ATN Identifier Registration		
MANUAL ON DETAILED SPECIFICATIONS FOR THE AERONAUTICAL TELECOMMUNICATION NETWORK (ATN) using ISO/OSI Standards and Protocols ICAO DOC 9880	This manual replaces the "*Manual of technical provisions for the Aeronautical Telecommunication Network (ATN)*", Doc 9705 – third edition "With the publication of each part of this manual, the relevant sub-volumes of Doc 9705 will become obsolete."	Part I Air-ground applications (Doc 9705/sub-volume II) Part II Ground-ground applications (Doc 9705/sub-volume III) Part III Internet communication service, including upper layer communications service (Doc 9705/sub-volumes IV and V). Part IV Directory service, security services, systems management, Identifier registration and definitions (Doc 9705/sub-volumes I, VI, VII, VIII and IX).	1st Edition (unedited)	Reference Document

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Manual for the ATN using IPS Standrds and Protocols ICAO DOC 9896	This document defines the data communications protocols and services to be used for implementing the ICAO ATN using the Internet Protocol Suite (IPS)	Part I – Detailed Technical Specifications. This part contains a general description of the ATN/IPS. It covers the network, transport and security requirements for the ATN/IPS Part II – Application Support. This part contains a description of applications supported by the ATN/IPS. It includes convergence mechanisms and application services that allow the operation of legacy ATN/OSI applications over the ATN/IPS transport layer. Part III – Guidance. This part contains guidance material on ATN/IPS communications including information on architectures, and general information to support ATN/IPS implementation.		Reference Document

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ATN Documentation Tree	This document provides index hierarchy on relevant ATN documents that are available to assist States in their ATN planning and implementation programmers.	Names of the relevant documents; Brief introduction to the purpose and contents of each document. It also provides last edition and history of the documents	3rd Edition - 2005	Update to reflect this Working Paper
Basic Air Navigation Plan (BANP) and Facilities and Services Implementation Document (FASID)	This document contains operational requirements for facilities and services as specified in Part IV, CNS of both the ASIA/PAC BANP and FASID. The regional policy and procedures regarding implementation of ATN adopted by APANPIRG is provided in the BANP. The detailed planning and implementation information is provided in the relevant CNS tables of FASID.	Table 1A, AFTN/Circuit Plan; Table 1B, ATN Router Plan; Table 1C, ATSMHS Routing Plan; Table 1D, AIDC Circuit Plan	These documents are published and maintained up-to-date by the ICAO Regional Office	Current

Document	Purpose	Contents	Version	Recommendation
ATN Ground-Ground Transition Plan	This document describes the transition activities that are to be performed by States in the region for a coordinated migration from AFTN to the new ATN environment.	Existing ground infrastructure; ATN End system applications; ATN Traffic, both ground-ground and air-ground communication paths; ATN routing architecture; ATN backbone trunks; Interconnection of ATN routers; and Transition activities.	2nd Edition – March 2004	Update to show current Backbones
Checklist for Implementation of Ground/Ground ATN Infrastructure	The checklist indicates those initial activities that are to be performed by States for a coordinated migration from AFTN to the new ATN environment.	This document describes the steps of implementation which should be considered by the States.	2nd Edition – March 2004	Update References and use of ATN Router Tests, and AMHS Interop and Pre-op Test Procedures
Communication Performance for ATN	This document provides guidance on the ATN performance. Information on the definition of Required Communication Performance (RCP) defined by OPLINKP and the monitoring of ATN performance are	Background; Basics of Performance; Definition of Operational Aeronautical Telecommunication Process; Characterization of Aeronautical Telecommunication	Revision 4.0 - April 2005	Current ?

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	provided. A set of performance parameters is described for planning phase. The operational environments are considerably different within the ASIA/PAC Region because of the air space complexities and traffic volume (air traffic as well as data traffic). Therefore, guidance provided in the document has to be adaptable to the environment of interest.	Performance; Required Operational Communication Performance: RCP; RCP Types; Understanding, Determining , Prescribing and Complying with RCP Types Performance; ATN; ATN Applications and ATN Communication Services Monitoring, ATN Performance.		

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ATN Routing Architecture	This document provides technical guidance on the transition to the Aeronautical Telecommunication network (ATN) for the ground-ground communication in the ASIA/PAC Region. The routing architecture is designed primarily for the ground-ground infrastructure to eventually replace the existing AFTN. It is intended that this architecture will also be suitable for the accommodation of the air-ground communications traffic in the future	Routing Domain Fundamentals; Router Fundamentals; ASIA/PAC Regional Routing Architecture; Routing domains; ATN Transition	2nd Edition - March 2004	Current – may not be necessary
ATN IDRP Routing Policy	This document provides policy for ATN routers operating in the ASIA and Pacific Region in support of ATSMHS and other ATN applications. The ASIA/PAC ATN IDRP document would allow States/Organizations to have additional local routing policies. Such policies may include various local preferences or Quality	Routing policy goals Policy requirements for ATN routers	Version 3.1 – September 2009	Current

Document	Purpose	Contents	Version	Recommendation
	of Service based routing, for example: routing based on line error rates, delay, capacity and priority			
ATN NSAP Addressing Plan	This document provides technical guidance and recommendations for the assignment of ATN NSAP addresses within the region. It also defines the methods by which values are assigned to each field of the NSAP Address and specifies the assumptions upon which the addressing format has been defined.	NSAP Address structure to be adopted by states of the ASIA/PAC Region; Recommendations for the values of each field of the NSAP address; Authority responsible for NSAP field assignments.	3rd Edition – September 2010	Incorrect Title on ICAO Web Site (replace "Address Registration Form" with "Addressing Plan"
ASIA/PAC Interface Control Document (ICD) for ATN Ground-Ground Router	This Interface Control Document (ICD) specifies the interface requirements for the ATN Internet Communication Service (ICS) routed and routeing protocols of the ATN G/G Boundary Intermediate Systems that form nodes of the Asia/Pacific ATN regional backbone network and/or have inter-State connectivity, to ensure	ATN G/G Router Overview; Network Layer 3 – Connectionless Network Protocol (CLNP) Network Layer 3 – Inter-Domain Routing Protocol (IDRP) CLNP and IDRP ATN Protocol Requirements Lists (APRLs) relevant to support layer 3 interface requirements.	2nd Edition – April 2005	Current

Document	Purpose	Contents	Version	Recommendation
	interoperability between States. This ICD addresses the upper sub-layer of the network layer of the ATN G/G router using the ISO/OSI Basic Reference Model. These ICD guideline provisions comprise G/G router functional requirements associated with ATN Protocol Requirements Lists (APRLs) relevant to the ATN Internet Communication Service (ICS) routed protocol (ISO/IEC 8473-1 CLNP) and routing protocol (ISO/IEC 10747 IDRP).			
G/G Router ICD for ISO/IEC 8208 Sub-Network	This Interface Control Document (ICD) provides guidelines for interconnecting ATN G/G routers between States/organizations based on ISO/IEC 8208 sub network. The guidelines are mainly for ISO/IEC 8208 sub-network connections used to communicate between the boundaries intermediate systems that form nodes of the	ISO Layer 1 - Physical layer; ISO layer 2 - Data Link Layer ISO layer 3 - Network Layer interface requirements between G/G routers; Recommended interface parameters; and SNDCF (ISO/IEC	1st Edition – April 2005	Current

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	Asia/Pacific regional network to assure interoperability. It addresses the physical, data link and sub-network layers of the ATN G/G router ISO/IEC 8208 sub-network using the International Organization for Standardization (ISO) Information Processing Systems Open Systems Interconnection (OSI) Basic Reference Model.	8473-3) ATN Protocol Requirements Lists (APRLs) relevant to support layer 1 to layer 3 interface requirements.		
ATN NSAP Registration Form	This document provides the provisions and information required for registration of devices that are to connect to the ATN environment within the Region	Registration of NSAP Addresses for ATN Routers and ATN End-System; Registration of Communication Circuits for ATN Routers and ATN End-Systems	2nd Edition – March 2004	Not necessary with AMC
AMHS MTA Routing Policy	To refine the implementation planning for AMHS, this document is required for determination of the routing of AMHS messages between systems within the	This document covers policy for AMHS systems to route AMHS messages between MTAs within ASIA/PAC Region both in the transitional phase and final phase of AMHS implementation.	1st Edition – April 2005	Current

Document	Purpose	Contents	Version	Recommendation
	Region and to systems outside the Region. This document presents AMHS routing policies to be used within the ASIA/PAC Region. The development of this AMHS routing policies is based on the need of States and AMHS administrators to be able to control the flow of messages into individual AMHS systems.	It also outlines the policy for inter-region AMHS connections between the Region and other regions. It also describes the MTA backbone sites in the Asia and Pacific Region.		
AMHS Naming Plan	This document provides technical guidance and recommendations for the AMHS naming conventions to be adopted by AMHS users within the Region. It also provides guidance to States in the assignment and registration of the addresses and names to be used for ATS Message Handling Service (ATSMHS)	CAAS-Addressing scheme; XF-Addressing scheme; Conventions for use of CAAS-Addressing Format; Conventions for use of XF-Addressing Format; General use of X.400 O/R Addresses	3rd Edition – April 2005	Current

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AMHS Interface Control Document (ICD)	This document has been developed in order to facilitate interoperability between States in the deployment of AMHS within the ASIA/PAC Region	AMHS functions; Network configuration; Protocol specification overview; AMHS specifications; Upper layer specifications; Lower layer specifications; AHMS PICS.	1st Edition – September 2002	Recommend replacing create new document using EUROCONTRO Spec for AMHS
AMHS Naming Registration Form	This document specifies the provisions and information that are required for registration of MTAs and UAs devices. It also lists the required information of a focal contact point responsible for ATSMHS administration for use in the ASIA/PAC Region.	Table 1a - AMHS MTA and UA Register; Table 1b -AMHS MTA Administrator Contact List	2nd Edition – April 2005	Not necessary with AMC
ASIA/PAC ATN Directory Services	This document gives a comprehensive introduction to the ATN Directory Services and specifies lists of object classes (database record types) and attributes (contents of each record type) to be supported in	Over of ATN Directory Services; Rationale for ATN-DS; X.500 Data Model, X.500 Directory Protocol and detailed X.500 data concepts;	1st Edition – April 2005	Delete – region should use AMC only

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	the Region.	Usage of ATN Directory Services; Use of ATN-Directory Service by AMHS and by Context Management; Application of ATN-DS to the Asia and Pacific Regions; ASIA/PAC regional ATN-DS Profile and deployment schedule		
System Management Policy	The System Management Policy defines the rules governing management of ATN data, services, and resources associated with ATN applications and processes. The document defines system management services and associated policy statements, and requires that all ATN systems have a responsible system manager	Purpose; Applicability; Authority; Implementation and Enforcement; System Management Services; System Management Policy Statements; Responsible System Manager	1st Edition – April 2005	Current

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ASIA/PAC Regional ATN Implementation System Management Operational Procedures	This document provides initial directions and guidance in the identification, development, and selection of ATN administrative management tools, agreements and materials necessary to facilitate and continue operations required for transition from current systems to the ATN.	Introduction of Applicable Management Concepts Establishment of Documents Governing ATN Service Management Activities Performed Definition of Management Information Sample Agreements Recommendation Regional System Management Coordination	1st Edition – August 2004	Current
Asia/Pacific ATN System Security Policy	The System Security Policy defines the rules governing the protection of ATN data, services, and resources associated with ATN applications and processes from both unintentional defect and deliberate attack. The document contains high-level system integrity requirements, defines system integrity services and associated policy statements, and requires	Purpose Applicability Authority Implementation and Enforcement System Integrity Requirements System Integrity Services	2nd Edition – September 2008	Current

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	that ATN systems undergo a verification and authorization process whereby systems are formally approved for operation by a Designated Approving Authority	System Integrity Policy Statements Verification and Authorization		
Asia/Pacific Recommended Security Checklist	The Security Checklist contains a sample list of management, operational and technical controls which are examined during the verification process.	Sample Management Controls; Sample Operational Controls; Sample Technical Controls.	2nd Edition – September 2009	Current
Asia/Pacific ATN Security Guidance Document	This Security Guidance Document for the Asia/Pacific Region provides guidance on the implementation of security for states and organizations operating in the region	Introduction Security Control Families Management Control Guidance Operational Control Guidance Technical Control Guidance	2nd Edition – September 2010	Current
Guidance Material for Ground Elements in ATN Transition	This document contains guidance material for ATN transition planning within the ASIA/PAC Region. The material is technical in nature, and the description is brief so that the intention of	ATN overview Ground-ground service components; Air-ground service components;	2nd Edition – 2000	Delete

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	the document is to provide the whole picture of the subject. The material is intended for the Regional Planning. Although the plan itself is mainly left to States for planning and implementation, it is hard to differentiate the regional planning from State planning.	ATN security service; ATN system management; ATN directory; Planning Issues to be considered ATM operational concept; Transition planning; Implementation planning. Proposed regional planning activities for transition; Proposed State planning activities for transition; Guidance material for ground based elements; Integration of new and existing infrastructure; Message service definition, benefit and procedure in inter-domain operation; Guidance for administrative domain		

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		definition; Guidance for architectural design of ATN ground elements; Connection for inter-domain operation and guidance material; Identification of traffic type, quality of service with respect to inter-domain operation; Performance issues of reliability, maintainability, and reliability with respect to inter-domain operation; Transition paths and transitional procedure in inter-domain operation; Cost analysis of ATN ground elements in transitional development for inter-domain operation; ATN security solution		
Reference Document for the ATN Router Description	This document describes the protocol, performance, and management requirements for the G/G BIS (Class 4)	ATN G/G Router Protocol Characteristics introduction ; Network Layer Requirements;	Edition 1.2 – May 2004	Update with reference to IP SNDCF

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	routers that form nodes of the ASIA/PAC regional network Backbone and/or have inter-State/inter-region connectivity within the ASIA/PAC Region. It provides essential procurement guidance for G/G routers to ensure the interoperability of the ATN network within in the ASIA/PAC Region. This document should be used in conjunction with ICAO Doc 9705 "Manual of Technical Provisions for the Aeronautical Telecommunication Network", the ASIA/PAC Regional Router Interface Control Document (ICD) for ATN G/G Router, and other applicable documents as highlighted in this document.	Routing and Routed Protocols; Subnetwork Dependent Convergence function (SNDCF); Link Layer Requirements - X.25 and LAN; Physical Layer Requirements - X.25 and LAN; Performance Requirements; Network Management Requirements.		
Reference Document for the AMHS Description	This document describes the functionality, system, performance, information security, and system management	Introduction on AMHS functionality including basic ATSMHS and extended ATSMHS; AMHS requirements	Edition 1 – April 2005	Update with references to AMC not Directory

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	requirements of the AMHS system implemented in the ASIA/PAC Region. The AMHS system includes ATS Message Server, ATS Message User Agent, and AFTN/AMHS Gateway. The AFTN/AMHS Gateway is only needed during the early stage of ATN/AMHS implementation to operate AMHS and AFTN concurrently	including message server, user agent, AFTN/AMHS gateway; Upper layer requirements; Performance and network management; Information Security.		
Strategy for Implementation of ATN in the Asia/Pacific Region	In order to assist States in the implementation of the ground-to-ground ATN it was agreed to develop a strategy.			The strategy has been developed for approval
Guidance Document for AMHS Conformance Testing	This document has been developed by ATN ICG in order to present a comprehensive collection of test and checklist required to ensure conformance and compatibility pertaining to the implementation of AMHS facilities in the Asia and the Pacific Region.	Structure of the Manual Introduction AMHS Requirements AMHS Protocol Scenarios System Implementation – Guidelines for System Requirements Requirements for Statistics	Version 3.0 – September 2009	Recommend that this document be titled "Asia/Pacific Guidance Document for AMHS Testing" Only the "Test and Validation of AMHS Systems" should be retained.

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		Test and Validation of AMHS Systems References		Conformance Testing should be optional. Incorporate "Phase testing procedure to transit from AFTN routing to MTA-to-any-MTA routing" document
Test Procedure for ATN Router Connection Test	This document describes the test procedure for the Ground-Ground (G/G) Aeronautical Telecommunication Network (ATN) router connection.	Introduction References Test Overview and Scope Communication Parameters Schedule and Test Item Overview Test Cases	Version 3.1 – September 2010	Current
AMHS Inter-operability tests	The purpose of the document is to define the functional tests for AMHS Interoperability in order toensure the end-to-end interoperability between	Introduction AMHS Interoperability Test Environment Addressing Plan for AMHS Interoperability Testing	Version 3.0 – September 2009	Current

Document	Purpose	Contents	Version	Recommendation
	AMHS systems under test.	Bilateral Test procedures Trilateral Test procedures Bilateral Test Procedures – Test Scenarios Trilateral Test procedures – optional Test message templates		
AMHS Pre-operational tests	The purpose of the document is to define AMHS Pre-operational Tests in order to ensure the interoperability between AMHS systems prepared for going into operation.	Introduction AMHS Pre-operational Test Environment Operational system setup - Configuration Addressing Plan for AMHS Pre-operational Testing Test Description	Version 3.0 – September 2009	Current