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Implementation of Annex 3 provisions relating to space weather requirements within the AFI Region

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Virtual Meeting/date



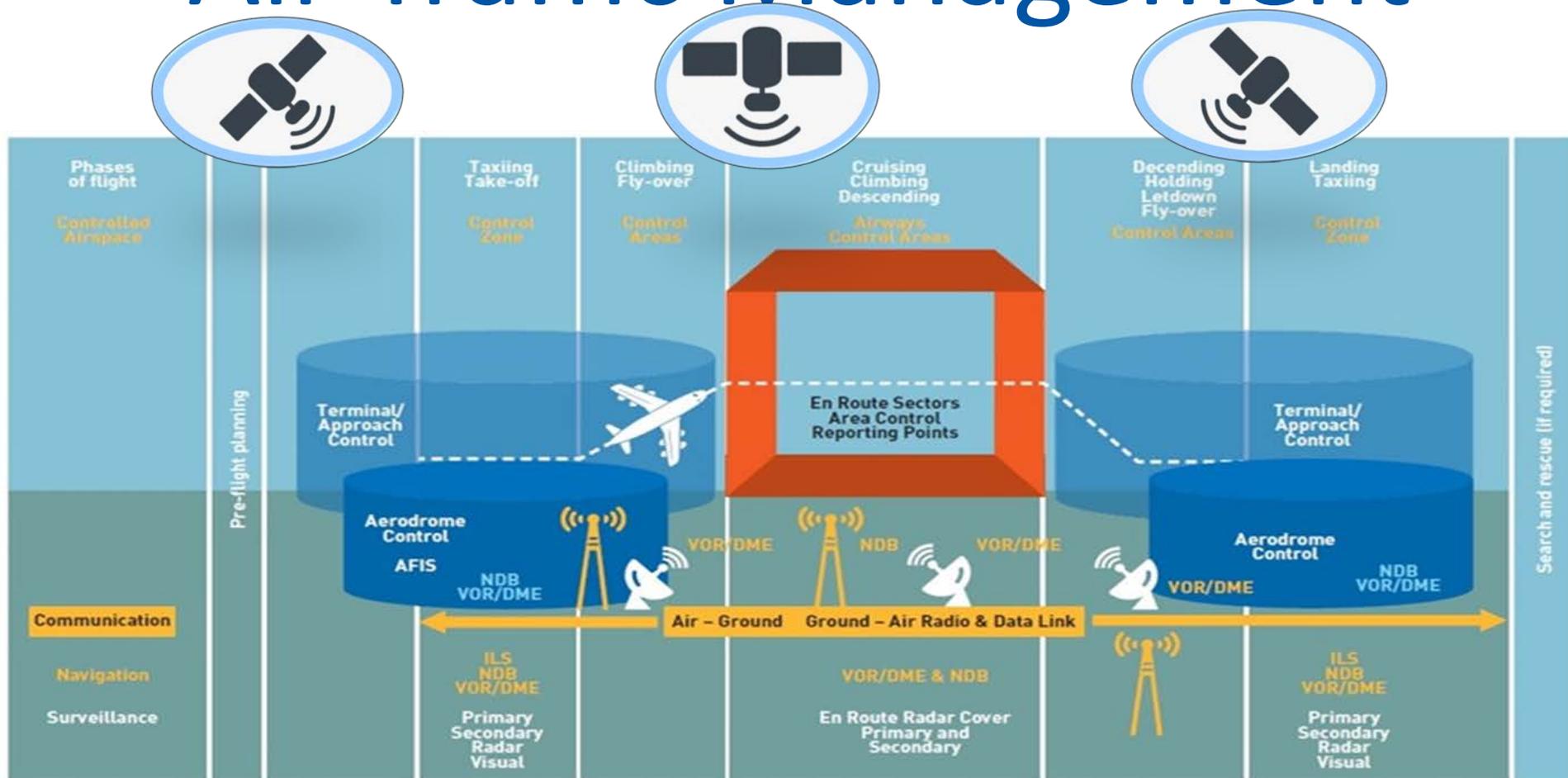


Content

- ATM System and Space Weather Requirements
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Air Traffic Management





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ICAO Amendments

 <p>International Standards and Recommended Practices</p>	 <p>International Standards and Recommended Practices</p>	 <p>International Standards and Recommended Practices</p>	 <p>International Standards and Recommended Practices</p>
<p>Annex 3 to the Convention on International Civil Aviation</p>	<p>Annex 15 to the Convention on International Civil Aviation</p>	<p>Doc 4444</p>	<p>Doc 8400</p>
<p>Meteorological Service for International Air Navigation</p>	<p>Aeronautical Information Services</p>	<p>PROCEDURES FOR AIR NAVIGATION SERVICES Air Traffic Management</p>	<p>PROCEDURES FOR AIR NAVIGATION SERVICES ICAO Abbreviations and Codes</p>
<p>Part I — Core SARPs Part II — Appendices and Attachments Twentieth Edition, July 2018</p>	<p>Sixteenth Edition, July 2018</p>	<p>Sixteenth Edition, 2016</p>	<p>Ninth Edition, 2016</p>
			
<p>This edition supersedes... For information regarding... Practices, see Foreword...</p> <p>INTERNATIONAL CIVIL AVIATION ORGANIZATION</p>	<p>This edition supersedes... For information regarding... Practices, see Foreword...</p> <p>INTERNATIONAL CIVIL AVIATION ORGANIZATION</p>	<p>This edition supersedes... For information regarding... Practices, see Foreword...</p> <p>INTERNATIONAL CIVIL AVIATION ORGANIZATION</p>	<p>This edition supersedes, on 10 November 2016, all previous editions of Doc 8400.</p> <p>INTERNATIONAL CIVIL AVIATION ORGANIZATION</p>

CORE

Consequential



ANNEX 3

3.8.1 A Contracting State, having accepted the responsibility for providing a space weather centre (SWXC), shall arrange for that centre to monitor and provide advisory information on space weather phenomena in its area of responsibility by arranging for that centre to:

a) monitor relevant ground-based, airborne and space-based observations to detect, and predict when possible, the existence of space weather phenomena that have an impact in the following areas:

- 1) high frequency (HF) radio communications;
- 2) communications via satellite;
- 3) GNSS-based navigation and surveillance; and
- 4) radiation exposure at flight levels;



ANNEX 3

- b) issue advisory information regarding the extent, severity and duration of the space weather phenomena that have an impact referred to in a);
- c) **supply the advisory information referred** to in b) to:
 - 1) area control centres, flight information centres and aerodrome meteorological offices in its area of responsibility which may be affected;
 - 2) other SWXCs; and
 - 3) international OPMET databanks, international NOTAM offices and aeronautical fixed service Internet-based services.



ANNEX 3

3.8.2 SWXC shall maintain a 24-hour watch.

3.8.3 In case of interruption of the operation of a SWXC, its functions shall be carried out by another SWXC or another centre, as designated by the SWXC Provider State concerned.

Note.— Guidance on the provision of space weather advisory information, including the ICAO-designated provider(s) of space weather advisory information, is provided in the Manual on Space Weather Information in Support of International Air Navigation (Doc 10100).



PANS-ATM Doc 4444

9.1.3.8 TRANSMISSION OF INFORMATION CONCERNING SPACE WEATHER ACTIVITY

- Information on space weather phenomena that have an impact on high frequency radio communications, communications via satellite, GNSS-based navigation and surveillance systems, and/or pose a radiation risk to aircraft occupants at flight levels within the area of responsibility of the ATS unit, shall be transmitted to the affected aircraft by one or more of the means specified in 9.1.3.1.1.



PANS-ATM Doc 4444

9.1.3.8 TRANSMISSION OF INFORMATION CONCERNING SPACE WEATHER ACTIVITY

- Information on space weather phenomena that have an impact on high frequency radio communications, communications via satellite, GNSS-based navigation and surveillance systems, and/or pose a radiation risk to aircraft occupants at flight levels within the area of responsibility of the ATS unit, shall be transmitted to the affected aircraft by one or more of the means specified in 9.1.3.1.1.



PANS-ATM Doc 4444

9.1.3.1 MEANS OF TRANSMISSION

9.1.3.1.1 Except as provided in 9.1.3.2.1, information shall be disseminated to aircraft by **one or more** of the following means **as determined by the appropriate ATS authority**:

- a) the preferred method of directed transmission on the initiative of the appropriate **ATS unit to an aircraft**, ensuring that receipt is acknowledged; or
 - b) a general call, **unacknowledged transmission** to all aircraft concerned; or
 - c) **broadcast**; or
 - d) **data link**.
- Note.— It should be recognized that in certain circumstances, e.g. during the last stages of a final approach, it may be impracticable for aircraft to acknowledge directed transmissions.



APIRG

- APIRG/23 Conclusion 23/29: Establishment of a Regional Space Weather Project That, in order to ensure the provision of the space weather service information in the AFI Region:
 - a) an APIRG IIM MET Project 3-Space Weather Project is established within the IIM SG to guide the implementation of the Annex 3 provision relating to Space Weather requirements within the AFI Region;
 - b) South Africa, hosting the AFI Regional Space Weather Center through the South African National Space Agency (SANSA), coordinate the APIRG IIM MET Project 3; and
 - c) ICAO regional Offices, after reception of the Project initial document by 31 January 2021, call for nominations of the project team members from interested AFI States/Organizations.



AFI Region Main Focus Area's

- State Plans for Dissemination of Space Weather Information
 - Regulations
 - Training
 - Processes/Procedures
 - PILOTS/SUPPORT STAFF
 - AIRLINE
 - METEOROLOGICAL SERVICE PROVIDERS
 - AIR TRAFFIC SERVICE PROVIDERS
 - AIRPORT AUTHORITIES
 - REGULATORS



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Asia and Pacific
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Beijing

Asia and Pacific
(APAC) Office
Bangkok



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