Aerodromes to be listed in Asia Pacific Air Navigation Plan [Updated on 25 June 2024]

S. No. in ICAO APAC Database	S. No	Sub-region	State / Admin	ICAO Code	Name of City	Name of Aerodrome	Type	APAC ANP
1	1	SA	Afghanistan	OAHR	Herat	Herat Intl	UNK	0
4	2	SA	Afghanistan	OAMS	Mazar-e-Sharif	Mazar-e-Sharif	UNK	0
46	3	NA	China	ZBOW	Baotou		UNK	0
47	4	NA	China	ZGBH	Beihai		UNK	0
49	5	NA	China	ZBAD	Beijing	Daxing	UNK	0
50	6	NA	China	ZYCC	Changchun	Longjia	UNK	0
52	7	NA	China	ZSCG	Changzhou	Benniu	UNK	0
53	**8**	**NA**	**China**	**ZUTF**	**Chengdu**	**Tianfu**	**UNK**	**0**
57	9	NA	China	ZLDH	Dunhuang	**Mogao**	UNK	0
58	10	NA	China	ZHES	Enshi	Xujiaping	UNK	0
60	11	NA	China	ZSGZ	Ganzhou	Huangjin	UNK	0
64	12	NA	China	ZUGY	Guiyang	Longdongbao	UNK	0
65	13	NA	China	ZBLA	Hulunbeier	Hailar	UNK	0
66	14	NA	China	ZJHK	Haikou	Meilan	UNK	0
71	15	NA	China	ZWTN	Hotan **HETIAN**	**Kungang**	UNK	0
72	16	NA	China	ZSSH	Huai'an	Lianshui	UNK	0
73	17	NA	China	RCYU	Hualien	Hualien	UNK	0
74	18	NA	China	ZSTX	Huangshan	Tunxi	UNK	0
75	19	NA	China	ZYJM	Jiamusi	**Jiamusi**	UNK	0
76	20	NA	China	ZGOW	Jieyang	Chaoshan	UNK	0
81	21	NA	China	ZULS	Lhasa	Gonggar	UNK	0
82	22	NA	China	ZSLG	Lianyungang	Baitabu **Huaguosha**	UNK	0
83	23	NA	China	ZPLJ	Lijiang	Sanyi	UNK	0
84	24	NA	China	ZSLY	Linyi	Shubuling **Qiyang**	UNK	0
85	25	NA	China	ZHLY	Luoyang	Beijiao	UNK	0
86	26	NA	China	ZPMS	Dehong	Mangshi	UNK	0
87	27	NA	China	ZBMZ	Manzhouli	Xijiao	UNK	0
88	28	NA	China	ZYMD	Mudanjiang	Hailang	UNK	0
89	29	NA	China	ZSCN	Nanchang	Changbei	UNK	0
92	30	NA	China	ZSNT	Nantong	Xingdong	UNK	0
93	31	NA	China	ZSNB	Ningbo	Lishe	UNK	0
94	32	NA	China	ZBDS	Ordos	Ejin Horo	UNK	0
96	**33**	**NA**	**China**	**ZJQH**	**QIONGHA**	**Boao**	**UNK**	**0**

S. No. in ICAO APAC Database	S. No	Sub-region	State / Admin	ICAO Code	Name of City	Name of Aerodrome	Type	APAC ANP
97	34	NA	China	ZYQQ	Qiqihar	Sanjiazi	UNK	0
98	35	NA	China	ZSQZ	Quanzhou	Jinjiang	UNK	0
104	36	NA	China	ZBSJ	Shijiazhuang	Zhengding	UNK	0
107	37	NA	China	RCMQ	Taichung	Cingcyuangang	UNK	0
108	38	NA	China	RCNN	Tainan	Tainan	UNK	0
112	39	NA	China	ZSWH	Weihai	Dashuipo	UNK	0
113	40	NA	China	ZSWZ	Wenzhou	Longwan	UNK	0
115	41	NA	China	ZSWX	Wuxi	Shuofang	UNK	0
116	42	NA	China	ZSWY	Wuyishan		UNK	0
120	43	NA	China	ZLXN	Xining	Caojiabao	UNK	0
121	44	NA	China	ZPJH	Xishuangbanna	Gasa	UNK	0
122	45	NA	China	ZSXZ	Xuzhou	Guanyin	UNK	0
123	46	NA	China	ZSYN	Yancheng	Nanyang	UNK	0
124	47	NA	China	ZYYJ	Yanji	Chaoyangchuan	UNK	0
125	48	NA	China	ZSYT	Yantai	Penglai	UNK	0
126	49	NA	China	ZSYA	Yangzhou	Taizhou	UNK	0
127	50	NA	China	ZHYC	Yichang	Sanxia	UNK	0
128	51	NA	China	ZLIC	Yinchuan	Hedong	UNK	0
129	52	NA	China	ZSYW	Yiwu	**Yiwu**	UNK	0
130	53	NA	China	ZGZJ	Zhanjiang		UNK	0
131	54	NA	China	ZGDY	Zhangjiajie	Hehua	UNK	0
132	55	NA	China	ZHCC	Zhengzhou	Xinzheng	UNK	0
133	56	NA	China	ZSZS	Zhoushan	Putuoshan	UNK	0
134	57	NA	China	ZUZY	Zunyi	Xinzhou	UNK	0
147	58	SA	India	VEBS	Bhubaneswar	**Biju Patnaik Airport**	UNK	0
149	59	SA	India	VICG	Chandigarh		UNK	0
154	60	SA	India	VOGO	Goa		UNK	0
155	**61**	**SA**	**India**	**VEGK**	**GORAKHPUR**		**UNK**	**0**
157	**62**	**SA**	**India**	**VIDX**	**HINDAN**		**UNK**	**0**
159	**63**	**SA**	**India**	**VOHY**	**HYDERABAD**	**Hyderabad International Airport**	**UNK**	**0**
161	**64**	**SA**	**India**	**VIJO**	**JODHPUR**		**UNK**	**0**

S. No. in ICAO APAC Database	S. No	Sub-region	State / Admin	ICAO Code	Name of City	Name of Aerodrome	Type	APAC ANP
162	**65**	**SA**	**India**	**VEIM**		**Imphal Airport**	**UNK**	**0**
163	**66**	**SA**	**India**	**VOKN**		**Kannur International Airport**	**UNK**	**0**
167	**67**	**SA**	**India**	**VOGA**		**Manohar International Airport, MOPA, GOA**	**UNK**	**0**
172	68	SA	India	VOPB	Port Blair		UNK	0
173	69	SA	India	VAPO	Pune		UNK	0
174	**70**	**SA**	**India**	**VAHS**		**Rajkot International Airport**	**UNK**	**0**
175	71	SA	India	VISR	Srinagar		UNK	0
177	**72**	**SA**	**India**	**VOTP**		**Tirupati Airport**	**UNK**	**0**
180	**73**	**SA**	**India**	**VOVZ**	**VISAKHAPATAN**		**UNK**	**0**
222	74	NA	Japan	RJAH	Hyakuri		UNK	0
227	75	NA	Japan	RJNK	Komatsu		UNK	0
244	76	NA	Japan	RJOS	Tokushima		UNK	0
248	77	NA	Japan	RJOH	Yonago	Miho	UNK	0
285	78	PAC	Micronesia	PTSA	Kosrae I.	Kosrae	UNK	0
286	79	NA	Mongolia	ZMCD	Dornod	Choibalsan	UNK	0
306	80	PAC	N. Mariana Is.	PGWT	Tinian I.	West Tinian Tinian Intl	UNK	0
341	81	PAC	Solomon Islands	AGGM	Munda		UNK	0
345	82	SA	Sri Lanka	VCCJ	Jaffna		UNK	0
363	83	PAC	Vanuatu	NVVW	Tanna	Tanna	**UNK**	0
365	84	SEA	Viet Nam	VVDL	Da Lat	Lien Khuong	**UNK**	**0**

Notes:

1) **Australia:** Need to finalize the Table AOP II -1, APAC ANP V-II.

2) **US**

(1) Tinian I./West Tinian [PGWT] for N. Mariana Is. should be added in Table AOP I – 1 of APAC ANP V - I and Table AOP II – 1 of APAC ANP V - II.

(2) JOHNSTON ATOLL/Johnston I (PJON) should be withdrawn from Table AOP I – 1 of APAC ANP V - I and Table AOP II – 1 of APAC ANP V - II as it had been permanently closed.

INTERNATIONAL CIVIL AVIATION ORGANIZATION

GUIDANCE ON TRANSPOSITION OF ICAO ANNEX 14 SARPS INTO NATIONAL STANDARDS

VERSION 1.0 – FEBRUARY 2025

Introductory Notes

This document was developed by the ICAO Asia/Pacific Aerodrome Design and Operations Task Force for reference by States in the APAC Regions to provide guidance on the transposition Annex 14 SARPs, including new SARPs and amendments thereto into national standards. When referring to this generic document, States are expected to customize the content in accordance with the States' legislations, regulations, and circumstances.

Table of Contents

Foreword:

The purpose of this document is to provide APAC States guidance on the transposition of Annex 14 SARPs into national regulatory requirements in order to maximise the safety performance of aerodrome operations given the limited human, financial and other resources available, on the basis of safety risks, and as per the State Safety Programme of the State concerned.

1 General

1.1 Introduction

1.1.1 Standards and Recommended Practices (SARPs) are technical specifications adopted by the Council of ICAO in accordance with Article 37 of the Convention on International Civil Aviation, also known as the Chicago Convention, in order to achieve "the highest practicable degree of uniformity in regulations, standards, procedures and organization in relation to aircraft, personnel, airways and auxiliary services in all matters in which such uniformity will facilitate and improve air navigation".

1.1.2 SARPs are published by ICAO in the form of Annexes to The Chicago Convention. SARPs do not have the same legal binding force as the Convention itself because Annexes are not international treaties. Moreover, Article 37 of the Convention stipulates that each Contracting State "undertake to collaborate in securing the highest possible degree of uniformity", not to "comply with". Each Contracting State may notify the ICAO Council of differences between SARPs and its own regulations and practices. Those differences are published in the form of Supplements to Annexes.

1.1.3 A Standard is defined by ICAO as "any specification for physical characteristics, configuration, matériel, performance, personnel or procedure, the uniform application of which is recognized as necessary for the safety or regularity of international air navigation and to which Contracting States will conform in accordance with the Convention".

1.1.4 A Recommended Practice is defined by ICAO as "any specification for physical characteristics, configuration, matériel, performance, personnel or procedure, the uniform application of which is recognized as desirable in the interest of safety, regularity or efficiency of international air navigation and to which Contracting States will endeavour to conform in accordance with the Convention.

1.2 Abbreviations

AGA	=	Aerodrome and Ground Aids
AIS	=	Aeronautical Information Services
APAC	=	The Asia and Pacific Regions of ICAO
CAA/DCA	=	Civil Aviation Authority/Department of Civil Aviation
CC	=	Compliance Checklist
CMA	=	Continuous Monitoring Approach
DGCA	=	Director General Department of Civil Aviation
EFOD	=	Electronic Filling of Differences
NPRM	=	Notice of Proposed Rule Making
OLF	=	Online Framework
QS	=	Quality and Standards Division
SARPs	=	Standards and Recommended Practices
USOAP	=	Universal Safety Oversight Audit Programme

2 Proposal for New or Amendment of ICAO SARPs

2.1 Introduction

2.1.1 ICAO establishes Standards and Recommended Practices (SARPs) to ensure the safety, security, efficiency, and environmental sustainability of international civil aviation.

2.1.2 The adoption of new SARPs or amendments to existing SARPs is crucial for maintaining global aviation safety and regulatory harmonization.

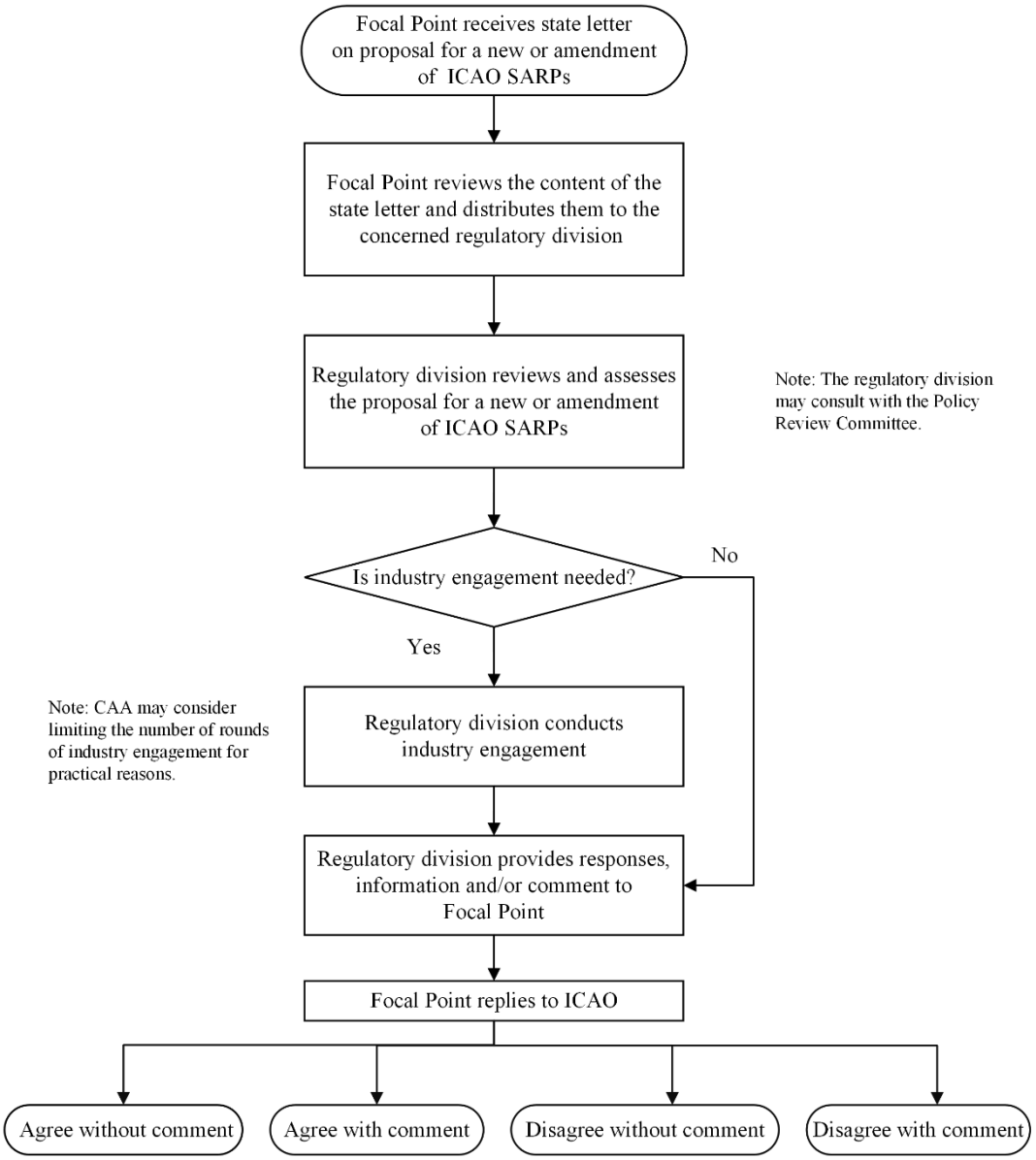
2.1.3 This document aims to provide guidance to States and relevant stakeholders on the process of adopting new SARPs or amending existing ones, ensuring effective implementation and compliance.

2.1.4 This procedure enables CAA/DCA to review the proposals for any new SARPs or an amendment to existing ICAO SARPs.

2.1.5 If the proposal for a new or amendment of ICAO SARPs is in the opinion of the regulatory division to be routine in nature, then the regulatory division with the concurrence of Policy Review Committee can decide to adopt those ICAO SARPs without the need for further industry engagement to eliminate unnecessary delay in the process.

2.1.6 States should establish a procedure to consider a new or amendment of ICAO SARPs, stipulating the parties involved and the roles and responsibilities of each of these parties in the procedure. The following flow chart provided in section 2.2 is an example of such a procedure for reference.

2.2 Example Flow Chart for the Proposal for a New or Amendment of ICAO SARPs



3 Industry Engagement

3.1 Purpose

3.1.1 Industry engagement, i.e. engagement with service providers such as aerodrome operators, air navigation service providers, and air operators, is one of the key regulatory tools employed to improve transparency, efficiency, and effectiveness of regulation and improved accountability arrangements.

3.1.2 Industry engagement should be initiated as early as possible so that both States and its stakeholders could assess the feasibility, safety, and air navigation efficiency benefits, of adopting new SARPs or amending existing ones based on emerging safety, security, operational, or environmental considerations.

3.2 Guiding Principles for Industry Engagement

3.2.1 Genuine industry engagement involves actively seeking the opinions of the affected groups. Ideally, it is a two-way flow of information. However, in some cases it may need to be a one-stage process such as an urgent change to preserve the desired safety objective. One-way information flow may also be appropriate as part of a continuing dialogue. Prior to the industry engagement, the proposal for draft amendment of SARPs should be provided to them and subsequently an engagement session should be arranged.

3.2.2 Conducting an industry engagement to introduce any new or amendment of existing ICAO SARPs should take into consideration the following items:

a) Preliminary Assessment
- Identification: States and its stakeholders should identify the need for adopting new SARPs or amending existing ones.
- Impact Analysis: Conduct a comprehensive impact assessment to evaluate the potential effects of proposed SARPs on national regulations, infrastructure, operations, and resources.

b) Capacity Building
- Needs Assessment: Evaluate the capacity and capability of relevant stakeholders to comply with and implement new SARPs or amendments.
- Training Programs: Develop and provide training and capacity-building initiatives to enhance awareness, understanding, and proficiency in implementing the new requirements or changes to existing practice.
- Technical Assistance: Collaborate with ICAO, regional organizations, and industry partners to facilitate capacity building efforts and provide technical assistance where needed.

c) Implementation Plan
- Development: Develop a detailed implementation plan with clear timelines, responsibilities, and milestones for adopting and implementing new SARPs or amendments in consultation with stakeholders.
- Monitoring Mechanism: Establish mechanisms for monitoring compliance and assessing the effectiveness of implementation measures.

- Audits and Reviews: Conduct regular audits, inspections, and reviews to ensure ongoing compliance with adopted SARPs and identify areas for improvement.

4 Adoption of a New or Amendment of ICAO SARPs

4.1 Introduction

4.1.1 Following the review process, this procedure enables the State to systematically evaluate the adoption of any new or amendment of existing ICAO SARPs. The promulgation of regulations to address, at a minimum, national requirements emanating from the primary aviation legislation, for standardized operational procedures, products, services, equipment, and infrastructures in conformity with the Annexes to the Convention on International Civil Aviation.

Note: *After their review processes, Member States may elect to adopt Recommended Practices in their aviation legislation as if they were Standards.*

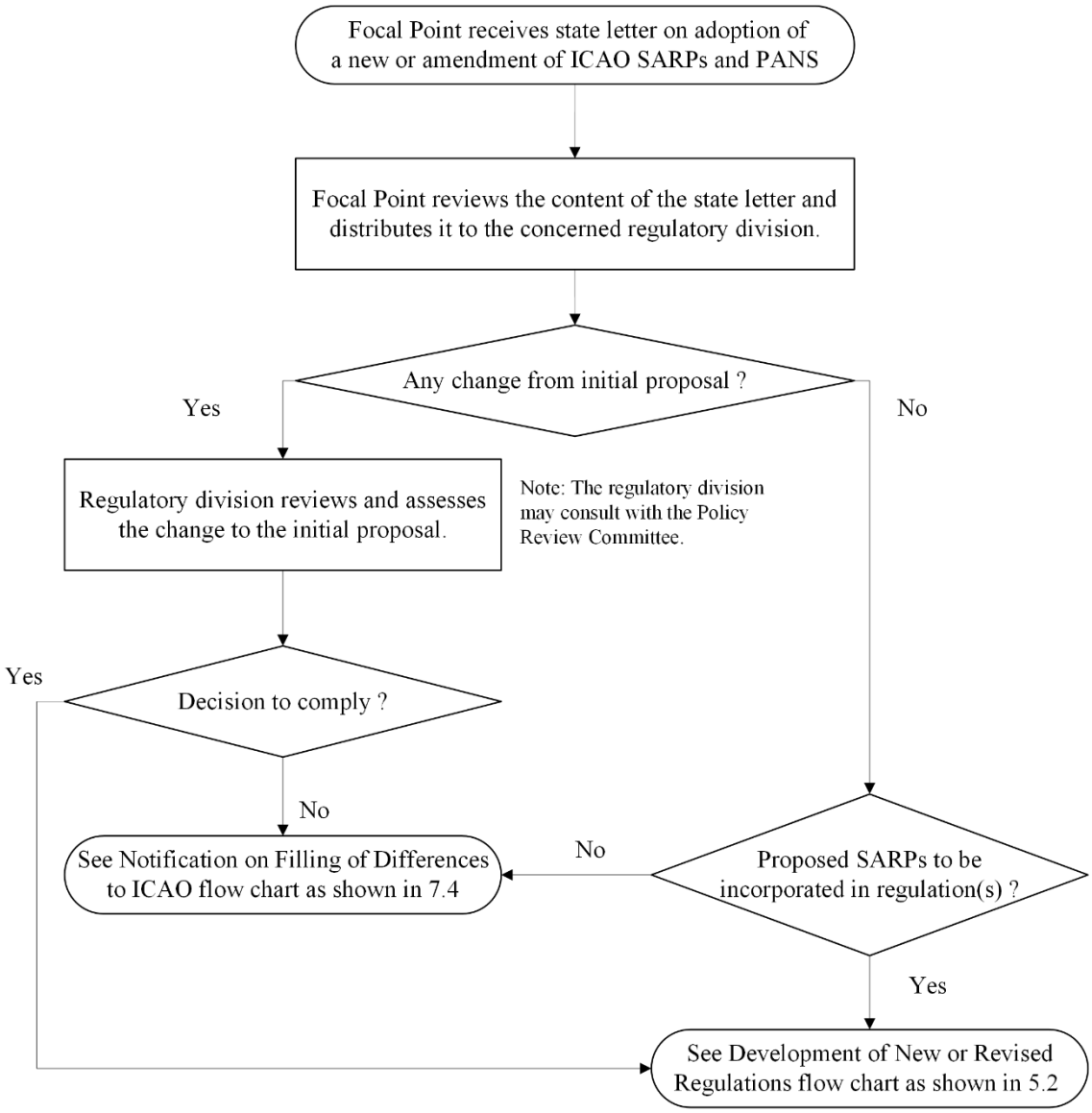
4.1.2 The State operating regulations should therefore conform with the Annexes to the Chicago Convention. Annexes contain SARPs which have been agreed upon by Member States. SARPs are designed to provide the minimum necessary and desirable requirements to be met by all Member States, regardless of the size and complexity of their civil aviation activity.

4.1.3 A procedure should be developed and implemented to ensure the timely amendment of the specific operating regulations, as necessary, in order to keep pace with the amendments to the Annexes to the Convention and ensure that the regulations are issued at the appropriate level. It also ensures that the overall legislation is consistent and, in particular, that regulations are repealed when replaced by new ones.

4.1.4 Appendix A is a collection of sample procedures on adoption of Annex 14 recommendation as National Standards, alternative acceptable means of compliance to SARPs, and regulatory guidance to aerodrome operators on Aeronautical Studies.

4.1.5 A sample process for the adoption of a new or amendment of ICAO SARPs is depicted in the flow chart shown in 4.2.

4.2 Example Flow Chart for the Adoption of a New or Amendment of ICAO SARPs



5 Development and Amendment of Regulations

5.1 Procedure for Development of a New Regulation or Amendment of the Existing One

5.1.1 The Document Owner from the respective regulatory divisions should draft the document and obtain approval from their respective Head of Division and then Head of QS Division before submitting the approved draft for legal vetting as applicable.

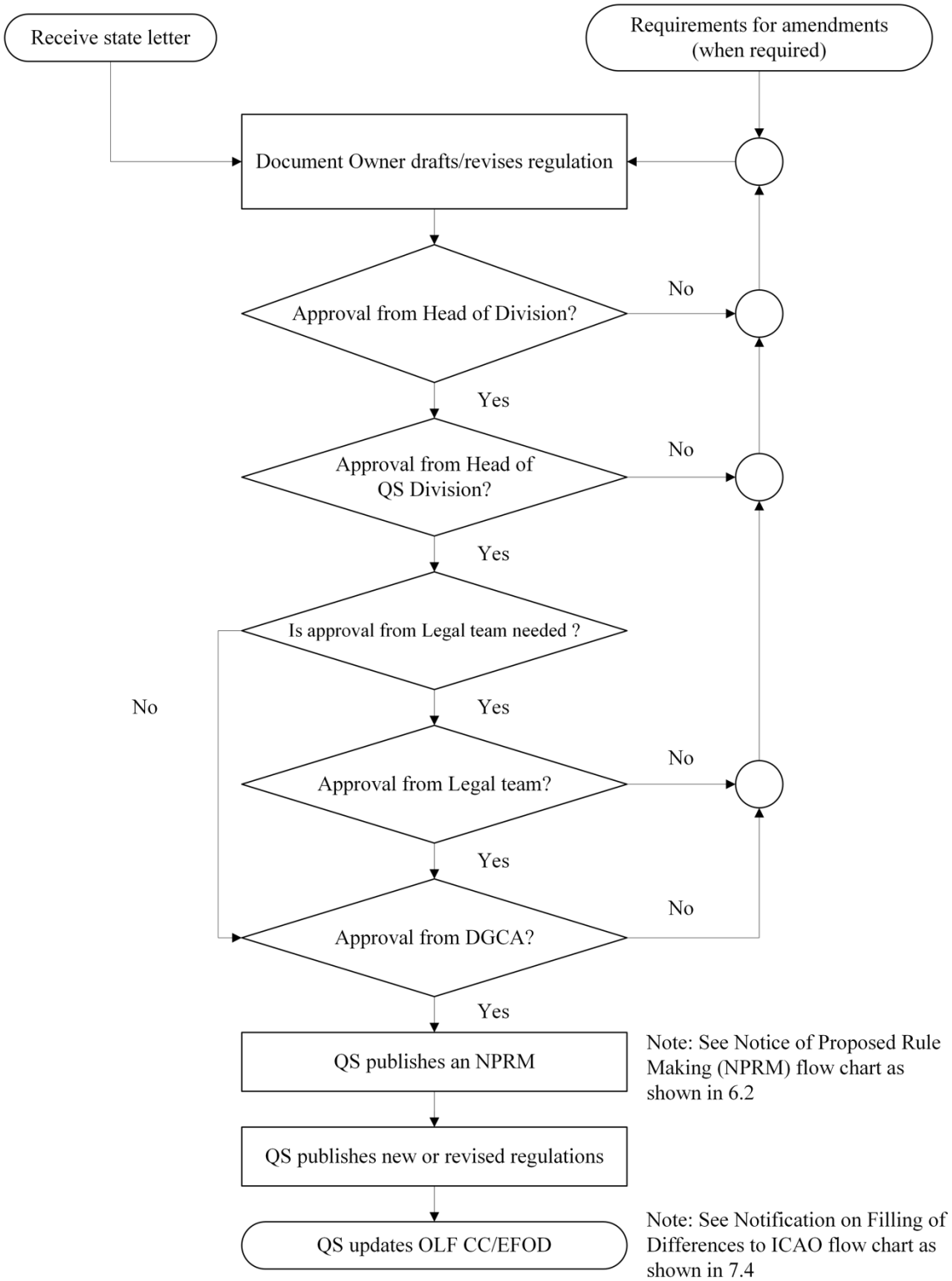
5.1.2 The QS Division will be supplied with the intended new or revision drafts in advance (at least two months) of the planned effective date.

5.1.3 After vetting by the legal team and upon the approval of the DGCA, QS Division should publish an NPRM.

5.1.4 A sample process for the development of new or revised regulations is depicted in the flow chart shown in 5.2.

5.1.5 Publishing of an NPRM for new or amended regulations as applicable should be in accordance with Chapter 6.

5.2 Example Flow Chart for Development of New or Revised Regulations



6 Notice of Proposed Rule Making (NPRM)

6.1 NPRM Process

6.1.1 An NPRM should be issued whenever a new issue or revision of a regulation is to be published. The draft regulation should be published, preferably online, for consultation as a "Notice of Proposed Rule Making" at least 3 months before the planned effective date of the new regulation.

6.1.2 The purpose of the NPRM is to consult with commercial, industrial, consumer, and other relevant bodies and organisations when developing or implementing new standards. It must contain the proposed changes to the standards in the new or revised regulations and the reason for such change.

6.1.3 The NPRM should contain an NPRM Response Form for the commercial, industrial, consumer, and other relevant bodies and organisations to provide feedback to CAA/DCA regarding the new standards. The NPRM Response Form can be submitted to CAA/DCA via the following methods:

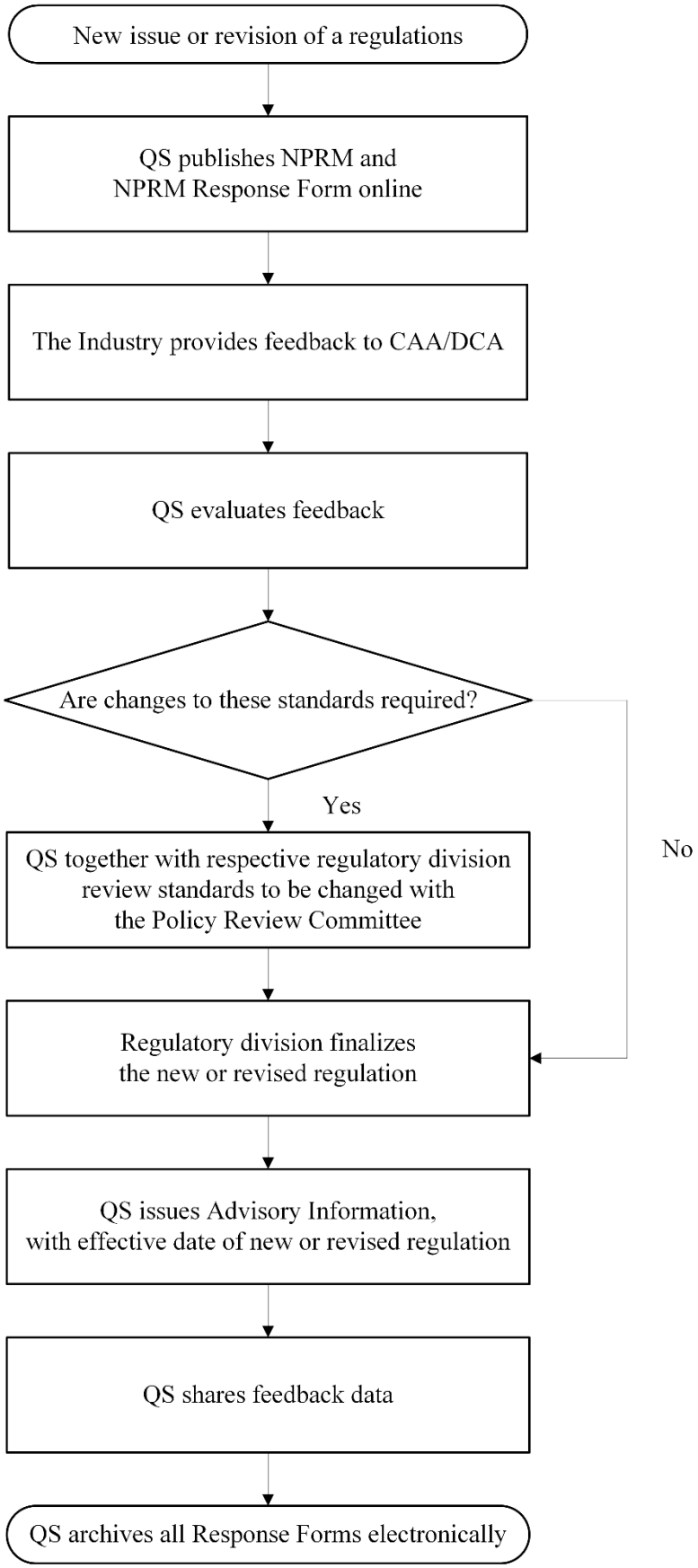
- Online Forms (preferred method);
- Email; or
- Mail to CAA/DCA office.

6.1.4 The NPRM Response Form should have a cut-off date giving the operators reasonable time to assess the feasibility of the proposed ruling, e.g. 30 to 90 days prior to the effective date of the new standards, depending on the complexity of the proposal. After the cut-off date, the CAA/DCA will evaluate all the feedback received. A Policy Review Committee should be convened to review and determine if changes to these standards are required. The Policy Review Committee should for example consist of the head of CAA/DCA and relevant section chiefs, e.g. chiefs of aerodrome standards, quality, and legal.

6.1.5 After the review by the Policy Review Committee the CAA/DCA should issue a notification to stakeholders to confirm the Standards that will be applied (or changes to the initial proposed standards if any) and share details of the feedback received with the industry. This notice should clearly once again state the effective date of the new standards.

6.1.6 All NPRM Response Forms received by CAA/DCA should be archived electronically.

6.2 Example Flow Chart for NPRM Process



6.3 Sample of an NPRM

Civil Aviation Authority / Department of Civil Aviation **Notice of Proposed Rule Making** (**NPRM**)	

Notice No: CAN *<No.>/<Year>*	**Issuing Office:** Civil Aviation Authority / Department of Civil Aviation Address
Issue Date: *<DD/MM/YYYY>*	
Effective Date: *<DD/MM/YYYY>* **Expiry Date:** *<DD/MM/YYYY>*	
Related Reg: *<Regulation No.>*	
Status: *<New Issue or etc.>*	

NOTICE OF PROPOSED RULE MAKING

1 Text

1.1 Text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text

1.2 Text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text

2 Text

2.1 Text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text text

(………………………………)

DGCA NAME

Director General Department of Civil Aviation

for Civil Aviation Authority / Department of Civil Aviation

<Date>

NPRM RESPONSE FORM

PLEASE COMPLETE AND SUBMIT YOUR RESPONSE BY <*DD/MM/YYYY*> AND RETURN IT BY THE FOLLOWING MEANS:

ONLINE *(preferred method)*:

Submit Online form: *<Form's hyperlink>*

or

Email attached form to *<Email address>*

MAIL to CAA/DCA Corporate Office Address:

ATTN: Quality and Standards Division,
Civil Aviation Authority / Department of Civil Aviation,
Address

DETAILS OF RESPONDER

Name:									
Organisation:									
Address:									
Phone Number:									
Involvement in the aviation industry (tick below):									
Commercial air transport carriers		General Aviation		Ground handling services		Approved Training Organisations		Air Traffic Control Services	
Maintenance Organisations		Flying Clubs		Aerodrome Operator					
Others (specify below) *									
*Details									

Would you like a response to your comments? Yes ☐ No ☐

NPRM RESPONSE FORM (cont.)

3 Comments

3.1 After reading the Directive/Notice/Circular, are there specific issues that you wish to see addressed?
Please indicate by specifying the relevant Directive/Notice/Circular reference number, any change to that Directive/Notice/Circular you believe will add value to drafts, and a short explanation of your reason for proposing the change.

Directive/Notice/Circular Number	Reference	Proposed Changes	Explanation

Additional Comments

Thank you.

Your responses are very much appreciated by the CAA/DCA as it demonstrates a combined effort in ensuring the interests of the aviation community and consumers are met without compromising safety and the relevant standards of the aviation industry.

7 Notification on Filing of Differences to ICAO

7.1 Introduction

7.1.1 This chapter recommends a process for the identification and filing of differences to ICAO Annex.

7.2 Standards and Recommended Practices (SARPS)

7.2.1 The uniform application by the Contracting States of the specifications contained in the international standards is recognised as necessary for the safety and efficiency of international air navigation.

7.2.2 Knowledge of any differences between the national regulations and those established by an international standard is essential to the safety and security of civil aviation, and the regularity or efficiency of international air navigation. In the event of non-compliance with an international standard, the State has an obligation to notify the ICAO of any differences.

7.2.3 Knowledge of differences from ICAO Recommended Practices may also be important for the safety of air navigation and, although the Chicago Convention does not impose any obligation with regard thereto, the States may notify such differences in addition to those relating to international standards.

7.3 Importance of Notifying Differences

7.3.1 The primary purpose of reporting differences is to promote safety, regularity, and efficiency of air navigation by ensuring that governmental and other agencies, including operators, concerned with international civil aviation are aware of all national rules and practices in so far as they differ from those prescribed in SARPs. Therefore, the lack of information on differences or non-compliance with SARPs creates uncertainty and jeopardises the safety and efficiency of air navigation.

7.3.2 State’s decision to depart from an ICAO Standards, in the cases foreseen by Article 38 of the Chicago Convention, is an important decision with potential safety and efficiency consequences.

7.3.3 Promptly and accurately notifying differences helps management and subject matter experts closely monitor national regulations, in particular in how they compare to SARPs.

7.3.4 Dissemination of differences enhances transparency of safety information, consequently, facilitates State’s decisions to accept or not accept other State’s aircraft and operators, and complements USOAP continuous monitoring activities, safety ramp checks data, and other safety information at the disposal.

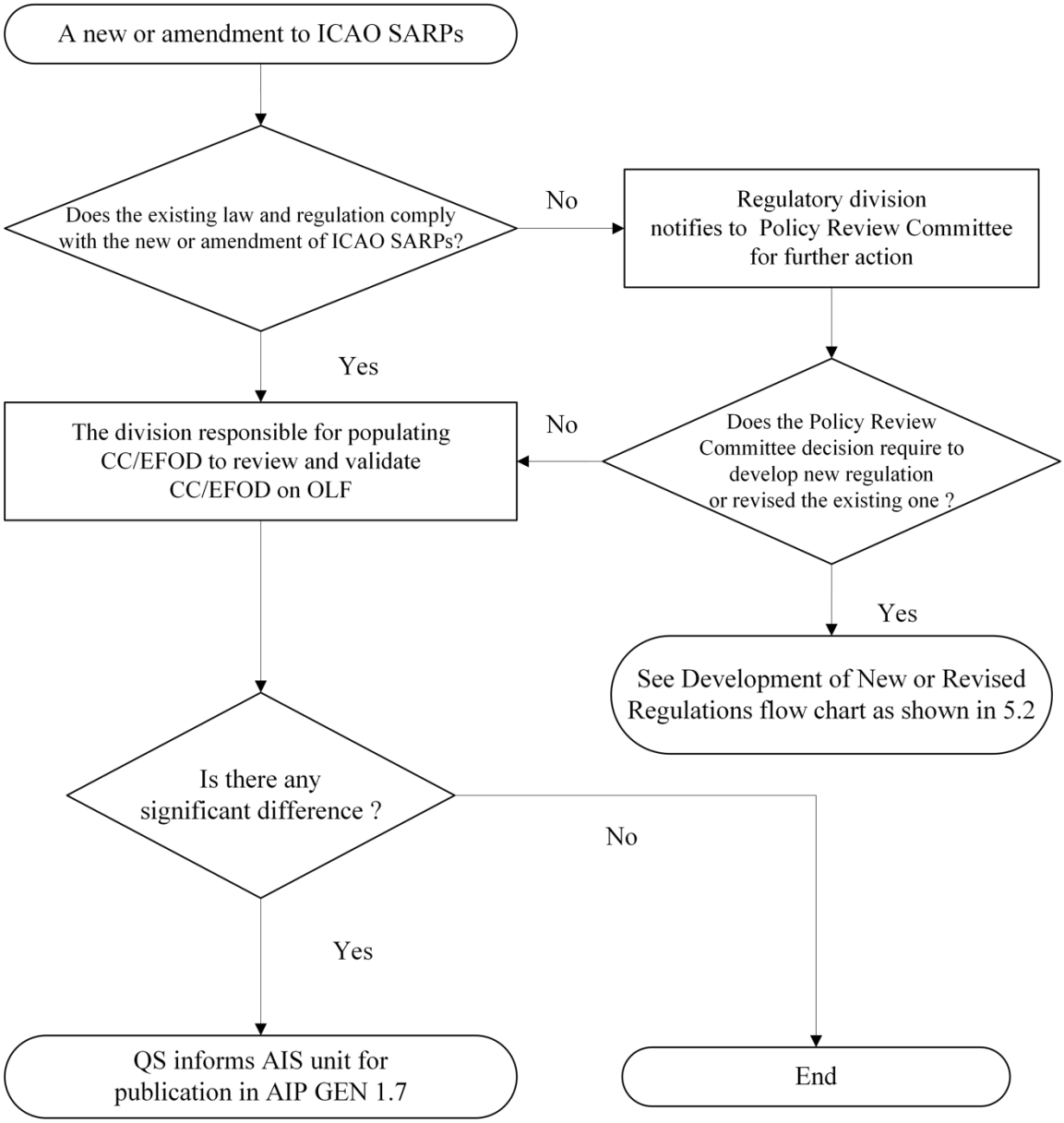
7.3.5 Incorrect notification of differences potentially misleads the international community, may cause safety issues, and result in undesirable operational situations, such as the grounding of aircraft.

7.3.6 The absence of notification of differences casts doubts as to the situation in the State, with potentially negative consequences in terms of recognition of certificates, and licenses, ramp inspections, and ultimately traffic rights.

7.3.7 The notification of differences is an important tenet of the Chicago Convention and contributes to ensuring the safe and orderly growth of international civil aviation around the world. It should therefore not be viewed as a penalty, but rather as a useful process in the best interest of all.

7.3.8 The Regulatory Division responsible for the individual Annexes should ensure all SARPs have been correctly and fully transposed into the appropriate national regulations. Any differences should be brought to the attention of Policy Review Committee for deliberation and further action. The division responsible for populating CC/EFOD concerning the respective Annexes should then review the transposition before validating it in the USOAP CMA OLF. Any significant differences should be notified to AIS for publication in AIP GEN 1.7.

7.4 Example Flow Chart for the Notification on Filing of Differences to ICAO



Appendix A: Guidance on the Adoption of ICAO Annex 14 Recommendations as National Standards

A. States should adopt ICAO Annex 14 Recommended Practices as national standards based on potential benefits in enhancing aerodrome safety.

B. The potential safety benefits should be determined based on safety risk assessments in consideration of:
   a) Traffic density of the aerodrome;
   b) Physical design of the aerodrome;
   c) Climate under which the aerodrome operates;
   d) Terrain around the aerodrome; and
   e) Other relevant factors, such as ecological/environmental aspects etc.

C. States should also consult with relevant stakeholders in the adoption of Annex 14 Recommendations. The consultation should cover:
   a) Feasibility of the implementation of the Recommendation;
   b) Cost of implementation, including initial investments and ongoing operating and maintenance costs;
   c) Potential safety benefits in implementing the Recommendation concerned; and
   d) A feasible and mutually accepted implementation timeframe.

D. If the State(s) decided that the adoption of the Annex 14 Recommendation has a potential safety benefit; however, its implementation may create a significant cost burden to the aerodrome operator, State(s) should consider:
   a) Developing a long-term policy and programme to support aerodrome operators in the implementation phase (e.g. US FAA Airport Improvement Programme https://www.faa.gov/airports/aip); or
   b) The use of alternative acceptable means of compliance if the Recommendation is considered impracticable after study and consultation.

A-1: Examples of Process of Adopting Annex 14 Recommendations as National Standards

Example 1 – Courtesy of Thailand

A. The Standards Development Division of the Aerodrome Standards Department (AGA) evaluates the content in the Annex 14 Standards and Recommended Practices (SARPs) in terms of its differences from/compliance with the existing laws and regulations and identifies all the regulatory changes required and understands their implications.

B. The Standards Development Division (AD) initiates the draft regulation and plans on "what to be in the draft".

C. AD requests assistance from the Legal Department (LEG) in "how to draft". LEG examines the request based on legal principles, existing regulatory measures, and prospective implications.
Note: *A draft team may be formed consisting of legal officers, Standards Development Division officers of the Concerned Department, and the subject matter experts from within or outside CAAT.*

D. AGA publishes the draft regulation on the CAAT's website and notifies the aerodrome operators and stakeholders for feedback and suggestion on the draft requirements.

E. AGA together with LEG conducts a Stakeholder Engagement Meeting for further discussion and comments on the draft requirements.
Note: *Stakeholder engagement can be organised by holding a face-to-face meeting, a focus group meeting or posting draft regulation in CAAT website etc.*

F. AD reviews the comments, feedback, and suggestions received. The appropriate comments, feedback, and suggestions will be incorporated in the final draft and submitted to the Director General through LEG for approval.
Note: *The regulation, when signed, will enter into force on the date specified in the Regulation. The amendment will repeal, replace, or modify the existing regulation to the extent indicated in the amendment regulation.*

G. LEG will disseminate a signed regulation by posting on CAAT's website except some regulations which have extensive impacts on people will be sent to the Government Gazette office in order to publish in the Government Gazette before posting on CAAT's website.

H. A signed regulation will also be disseminated to all concerned departments across CAAT through internal circulars and e-mail. In some cases, copies of regulation will be sent directly to the aerodrome operators as well as the relevant stakeholders by mail from the LEG or be distributed through a specific channel or method created by the concerned department in order to ensure their awareness and action required.

I. The Requirement of the Civil Aviation Authority of Thailand on Aerodrome Standards was published in the government gazette for promulgation.

J. The Standards Development Division published the Requirement of the Civil Aviation Authority of Thailand on Aerodrome Standards on the CAAT's website and notified the aerodrome operators on the new regulation and action required from the aerodrome operators.

Example 2 – Courtesy of Australia

A. Background on Legislative structure

a. Australia aligns its rules with International Civil Aviation organization (ICAO) standards and recommended practices.

b. Two types of laws govern aviation safety in Australia:
   i. Primary legislation, and
   ii. Delegated legislation.

c. In practice, Australia's aviation safety law operates within a 3-tier system consisting of:
   i. **Acts:** Civil Aviation Act 1988 and Airspace Act 2007
   ii. **Regulations:** Civil Aviation Regulations 1988, Civil Aviation Safety Regulations 1998 and Airspace Regulations 2007
   iii. **Legislated instruments:** Including Manuals of Standards, Civil Aviation Orders and other legislative instruments.

d. CASA also publishes guidance on delegated legislation.

e. **Primary legislation** refers to laws passed by Parliament and includes the Act which empowers the regulation. Amendments to these Acts require several approvals from Cabinet, Houses of Parliament and assent from the Governor-General.

f. **Regulations** refers to regulatory controls over civil aviation safety. They set out the required safety standards.

g. **Legislated instruments** include technical details and requirements to compliment the regulations. Manuals of Standards are commonly used for this purpose. Other legislated instruments may modify an instrument, such as the case for a specific approval or permission.

B. Process of Adopting Annex 14 Standards and Recommended Practices

a. CASA adheres to Australian Government recommended practices and guides, including the Regulator Performance Guide recently published by the Department of Prime Minister and Cabinet.

b. The following is the general overview of the process:
   i. Initiation and planning
   ii. Consultation
   iii. Legal drafting
   iv. Legislative approval.

c. **Initiation and planning:** The trigger for a regulatory change may derive from various sources. CASA considers and will assesses proposals before a project team is established under the leadership of a senior manager. The project team then conducts research, including in relation to lessons learned from previous rule change activities, and carries the proposal forward through the whole process.

d. **Consultation:** For any change that is not minor or machinery in nature, CASA works cooperatively with the aviation community to maintain and enhance aviation safety.

e. **Legal drafting:** The Office of Parliamentary Counsel (OPC) is a separate Australian Government agency that is responsible for drafting CASA regulations. CASA gives instructions to OPC on what to draft, once the policy is settled (and including after any consultation as discussed above). OPC ensures the legislation meets the government's standards for drafting Australian legislation and is legally effective.

f. **Legislative approval:** The formal process to make a regulation, after it is drafted, includes:
   i. CASA executive approval of the regulation and its associated explanatory materials (the 'regulation package')
   ii. approval of the regulation package by CASA's portfolio department (the Department of Infrastructure, Transport, Regional Development and Communications)
   iii. our Minister signs the regulation, indicating approval
   iv. the regulation package is considered by the Australian Government Executive Council, at which the Governor-General signs the regulation to make it law
   v. the department registers the regulation on the Federal Register of Legislation where it is published, at which point the law can enter into force
   vi. we notify our staff and industry the regulations have been made
   vii. the department tables the regulations in parliament where they are subject to a disallowance period
   viii. if a Regulatory Impact Statement exists, it is also included in the package for scrutiny in parliament.

g. **Implementation:** Effective regulatory change depends on both CASA and the affected sectors of industry being ready for the new rules. CASA considers implementation requirements early in the regulatory change process to ensure that enough time is available to achieve CASA and industry readiness, but also that stakeholders are appropriately consulted about what is needed to achieve readiness.

h. A critical part of implementing regulatory change is an appropriate transitional arrangement, to facilitate a smooth move from the current to the new rules. Whilst CASA always make safety considerations in rule changes paramount, it is required to take into account ways to minimise burden both on industry and CASA. In some cases, CASA may provide additional time to meet certain new requirements.

C. Project closeout and review

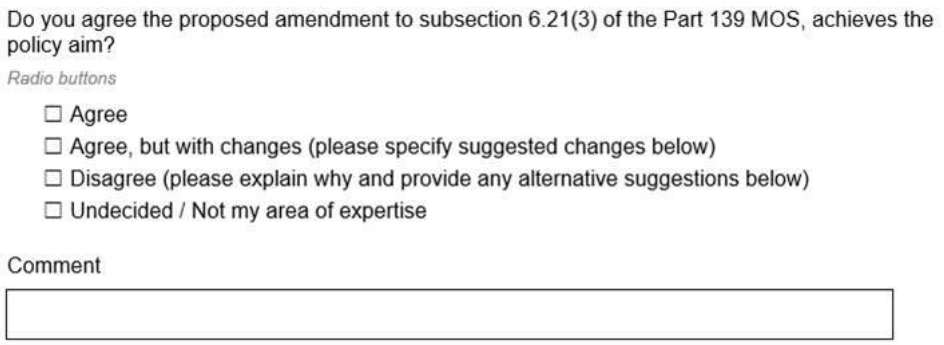
a. CASA then reviews the entire process from the initial planning to the implementation of regulations. This allows it to make any improvements in the future.

D. Example of consultation process

a. CASA publishes its consultations through its website. A list of current and closed consultations can be accessed here: Civil Aviation Safety Authority - Consultation Hub.

b. Through the hub, stakeholders can comment on current (active) consultations by completing an online form related to the change proposal. If the online form is not suitable for use by the recipient, a word document of consultation details is provided and can be completed and submitted to a joint email address as an alternative.

c. Below is a typical example of the type of questions that CASA asks during its consultations. In this case, a change was proposed to a clause within the Part 139 rules for aerodrome operators which concerned objects within the runway strip:


Do you agree the proposed amendment to subsection 6.21(3) of the Part 139 MOS, achieves the policy aim?

Radio buttons

- ☐ Agree
- ☐ Agree, but with changes (please specify suggested changes below)
- ☐ Disagree (please explain why and provide any alternative suggestions below)
- ☐ Undecided / Not my area of expertise

Comment

d. Via their response, CASA can confirm if the stakeholder:
   i. Is fully supportive of the change,
   ii. Is supportive of the change in principle but would like a modification to the proposal, or
   iii. Is completely against the proposed change, or
   iv. Is not affected by the change via a 'non-applicability' or is undecided.

e. There is also a free text field provided so CASA can capture additional information from the respondent.

f. Stakeholders are also required to provide details of their organisation type so that they can be profiled against their industry demographic. For example, an aerodrome operator, a supporting technical consultant, an air traffic control service provider, an airline etc.

g. After the consultation period has closed, CASA then analyses the responses before publishing a summary of consultation. Consultation summaries are provided as publicly available report(s) which highlights the key themes evident from the feedback provided, and to what degree the proposed change is supported or not. It may contain actual responses to the questions raised. Respondents however also have the option to keep their responses fully confidential if they choose.

h. CASA will then finalise the policy for the proposed change, provide instructions for legislated drafts and will then facilitate the required approval(s) of the finalised legislation.

E. Publication of revised regulations or legislation

a. Australian federal legislation is published on an official website, administered by the Attorney General's department. This example relates to the Civil Aviation Safety Regulations: Federal Register of Legislation - Civil Aviation Safety Regulations 1998

b. Other subsidiary legislation, such as Manuals of Standards, are also accessible via the same site.

c. Amendments to published legislation are typically accompanied by an explanatory statement and other supporting information.

d. Further changes to legislation may occur following a Post Implementation Review or when otherwise required to amend the legislation. Further changes will follow the consultation process outlined above.

A-2: Examples of Alternative Acceptable Means of Compliance

A. Aerodrome operators may propose an alternative acceptable means of compliance to National Aerodrome Standards that have been adopted/transposed from ICAO Annex 14 Recommendation(s) to achieve an equivalent level of safety based on outcomes of the safety risk assessment/aeronautical study.

- Example 1 on Standard 5.4.3.17 on location of runway exit sign. Courtesy of Incheon airport (download here)
- Example 2 on Recommendation 3.2.1 on provision of runway shoulders. Courtesy of Bangalore Airport (download here)
- Example 3 on Recommendation 3.2.1 on provision of runway shoulders. Courtesy of Malaysia (download here)

A-3: Examples of Regulatory Guidance to Aerodrome Operators on Aeronautical Studies

- Example 1 Courtesy of DGCA India (download here)

INTERNATIONAL CIVIL AVIATION ORGANIZATION

ASIA PACIFIC REGIONAL GUIDANCE ON STRENGTH ASSESSMENT AND CLASSIFICATION OF UNPAVED AND GRASSED RUNWAY SURFACES

[FIRST DRAFT]

VERSION 1.0 – DECEMBER 20..

This guidance material was developed by the Asia Pacific Aerodrome Design and Operation Task Force (AP-ADO/TF).

It was approved by AOP/SG/(XX – XX December 20xx) and published by ICAO Asia and Pacific Office, Bangkok.

Comments on this guidance material may be sent to ICAO Asia and Pacific Office at apac@icao.int.

RECORD OF AMENDMENTS

AMENDMENTS				AMENDMENTS			
No	Date applicable	Date entered	Entered by	No	Date applicable	Date entered	Entered by

Table of Contents

1. FOREWORD

1.1 Introduction

1.1.1 At the Seventh Meeting of Aerodrome Operations and Planning Sub-group (AOP/SG/7) held in Bangkok on 3 – 6 July 2025 New Zealand presented a paper regarding the strength assessment guidance for unpaved runways in New Zealand and the challenges of promulgating a strength classification for a grass runway. The paper highlighted a lack of ICAO guidance on strength assessment for unpaved runways and invited the meeting to consider the need for the establishment of recommended practices regarding unpaved runways. AOP/SG/7 agreed to assign this special task to the Asia Pacific Aerodrome Design and Operation Task Force.

1.1.2 The 5th Meeting of the Asia Pacific Aerodrome Design and Operation Task Force (AP-ADO/TF/5) recognised the importance of assessment and classifying the strength of unpaved and grassed runway surfaces. AP-ADO/TF/5 endorsed the decision to form a Small Working Group (SWG) comprised of Australia, Nepal and Papua New Guinea to develop a *Guidance on Strength Assessment and Classification of Unpaved and Grassed Runway Surfaces* for use as a reference document in Asia Pacific Region.

1.1.3 In evaluating pavements meant for light aircraft — 5 700 kg mass and less — it is unnecessary to consider the geometry of the undercarriage of aircraft or how the aircraft load is distributed among the wheels. Thus, subgrade class and pavement type need not be reported, and only the maximum allowable aircraft mass and maximum allowable tire pressure need to be determined and reported.

1.1.4 Classification of pavement bearing strength by the ACR-PCR method is intended for aircraft of mass greater than 5 700 kg and considers the bearing strength of the underlying pavement subgrade. On the contrary, the load from aircraft of mass equal to or less than 5 700 kg has minimal impact on the subgrade and only affects the pavement surface. However, there is a lack of ICAO guidance on strength assessment for unpaved runway surfaces.

1.1.5 The Asia/Pacific Regional Guidance on Strength Assessment and Classification of Unpaved and Grassed Runway Surfaces was developed by the AP-ADO/TF SWG using information derived from Annex 14 Volume I – Aerodrome Design and Operations, Aerodrome Design Manual (Doc 9157), Part 3 — Pavements, CASA Australia AC139.C-07V1.0 Strength Rating of Aerodrome Pavements.

1.1.6 This guidance should be read in conjunction with Chapter 3 of Annex 14, Volume I. It is expected that these requirements should be complied with for unpaved surfaces wherever practicable.

1.2 Background

1.2.1 In some cases, physical attributes of an aerodrome may not be paved but must still be capable of supporting the occasional passage of an aircraft. The natural ground in these instances may not have sufficient bearing strength to handle the aircraft, and therefore

special preparation may be necessary. Adequate strength is required in order to ensure that no structural damage is sustained by an aircraft veering off onto the unpaved surface. The unpaved surface must also be capable of supporting any ground vehicles that may occasionally operate on the area.

1.2.2 The guidance provided in this section is geared toward the physical attributes most commonly left unpaved at an aerodrome. Specifically, these are runway and taxiway shoulders, runway end safety areas (RESAs) and runway strips outside the runway shoulder area. The guidance does not apply to unpaved runways themselves, since the strength requirements for a runway are much more stringent.

1.2.3 For any unpaved surface, the ingestion or jet blast of foreign object debris by aircraft turbine engines is an important consideration. The protection of the surface to ensure no loose material is allowed is the responsibility of the aerodrome. Some type of chemical treatment or the use of turf may be required for the unpaved surface, along with visual inspections, to ensure that foreign object debris is not present.

1.2.4 Attention is drawn to the fact that any bearing strength-related guidance provided in this chapter should in no way be interpreted as a design requirement. Such guidance is only to support the judgment of the engineer when no specific data is available.

1.3 Scope and purpose

1.3.1 The scope of this guidance on the strength assessment and classification of runway surfaces, is limited to aerodromes having unpaved and grassed runways intended for light aircraft of mass equal to or less than 5 700 kg.

1.3.2 The purpose of this manual is to provide guidance on the strength assessment and classification of unpaved and grassed runway surfaces.

1.3.3 This guidance does not include paved surfaces, pavements, ice, compacted snow, or water as surface types.

2. ACRONYMS AND ABBREVIATIONS

ACR — Aircraft Classification Rating

AFM — Aircraft Flight Manual

AIP — Aeronautical Information Publication

NOTAM — Notice to Airmen

PCR — Pavement Classification Rating

POH — Pilots Operating Handbook

RTF — Radiotelephony

3. DEFINITIONS

When the following terms are used in this manual they have the following meanings:

Natural Surface — undisturbed ground surface before excavation or construction

Subgrade — a surface of earth or rock leveled off to receive a foundation

Using Aircraft — the expected capability of the aircraft using the unpaved surface

Using Aircraft Experience — capability

4. CLASSIFICATION OF RUNWAY SURFACE TYPE

4.1.1 The description of the type of runway surface is required to be reported for use by pilots to correct the effective operational length.

4.1.2 The following is a list of the standard terminology to be used in describing an unpaved runway surface. Only one term can be used when reporting the description of an unpaved runway surface:

Surfaces	**Abbreviation**	**Note**
Coral	CR	
Firm Grass	GR(f)	
Grass	Gr/GRASS	
Gravel	GRVL	
Gravel (stabilised)	GRVL(st)	
Primed gravel	PRIME	Bitumen, oil or tar bound pavements with no stone cover.
Natural Ground Surface	NS	undisturbed ground surface before excavation or construction
Sand	SA	
Soft Grass	GR(s)	
Snow and compacted snow	SN	

5. ASSESSMENT OF BEARING CAPABILITY OF UNPAVED RUNWAY SURFACE

5.1 Strength of runways

5.1.1 Annex 14 Volume I, paragraph 3.1.21 recommends that the runway should be capable of withstanding the traffic of aeroplanes the runway is intended to serve.

5.1.2 The following subsections provide three methods which may be applied to an unpaved runway surface. It is up to the responsible state or aerodrome operator to determine which method, or an alternative means, is most suitable for the intended operation.

5.2 Using aircraft experience (intended aircraft)

5.2.1 This method relies upon the operational experience of aircraft utilizing an existing runway surface.

5.2.2 Note: This method is very simple to use however the limitations below need to be understood first before it is applied

5.2.3 This method is not recommended for aircraft with an apron (ramp) mass greater than 5 700 kg. In these cases, a technical evaluation should be used to more accurately define the bearing strength properties of the surface. Refer subsection 5.4.

5.2.4 This method also relies upon previous experience which may not be reflective of future performance. For example, an existing aircraft type may have successfully used an unpaved surface however its strength may have been compromised through repeated use. Environmental conditions, the absorption of water, temperature variability, soil reactivity and other factors such as any depression, distress and undulation of the surface could make a previously suitable surface no longer serviceable for the intended operation.

5.2.5 Aircraft factors, including its mass, tyre pressure, braking application and takeoff/landing speeds can also impact upon the performance of the unpaved runway surface and need to be considered.

5.2.6 To mitigate against this potential hazard, regular inspections should be undertaken of the surface. Refer subsection 6.1.

5.2.7 To use this method:

5.2.8 **Step 1:** Select the intended aircraft type based upon the desired or expected use of the existing unpaved runway surface.

5.2.9 **Step 2:** Obtain the maximum take-off weight and tyre pressure(s) for the selected aircraft. This information can generally be located from the Pilots Operating Handbook (POH), the Aircraft Flight Manual (AFM) or officially published technical data from the aircraft manufacturer.

5.2.10 **Step 3:** Publish these technical parameters for the unpaved runway surface in Aeronautical Information Publication (AIP) or another suitable document.

5.2.11 This method can also be used in conjunction with the vehicle-based method, or other evaluative or empirical methods.

5.3 Vehicle-based method

5.3.1 An aircraft can land anywhere between the cone markers, not necessarily along the centre-line. If the aircraft strikes a soft spot at high speed it is most likely to lose directional control or front wheel assembly will be torn off and result in nosing over.

5.3.2 The vehicle-based assessment method for indicating the bearing capability of a runway surface involves the simulation of impact an aircraft may cause to the runway surface by using a test vehicle of correlating weight as shown in the table below.

Type of aircraft	**Test vehicle**
Light single aircraft Bonanzas, Cessnas etc	Light laden 3 tonne truck with repetitive passes in wet areas
Medium twins such as Aero Commander, Baron Twin-otter, Cessna 421, Kingair etc.	Fully laden 3 tonne truck with repetitive passes in wet and moist areas associated with your experience of aircraft using the aerodrome
Heavier aircraft such as F27, Caribou, DC3 etc	Fully laden 5 tonne truck with repetitive passes in moist and wet areas

5.3.3 A test vehicle as indicated should be driven in a zigzag pattern at a speed not exceeding 15 km/hr for the full length and width of the runway. Particular attention should be paid to suspect areas with possibly three passes of the test vehicle over these areas. If tyre imprints exceed a depth of 25mm, the surface is not suitable for aircraft operations particular to the test vehicle. Unnecessary cutting up of the surface is to be avoided because imprints are hard to remove when the surface has dried out. In some instances, the surface may be unsafe with a lesser imprint and this is at the discretion of the inspecting officer.

5.3.4 Remember that the above test may leave wheel ruts, which will need to filled in later before the runway can be reopened for aircraft movement.

5.3.5 Because the 5 700 kg limit for light aircraft represents pavement loads only two-thirds or less of common highway loads, the assessment of traffic using pavements should extend to consideration of heavy ground vehicles, such as fuel trucks, fire trucks, snow ploughs,

service vehicles, etc. These must also be controlled in relation to load limited pavements *(Doc 9157 Aerodrome Design Part 3 – Pavements, clause 3.5.12).*

5.3.6 To test for slippery condition, any 4-wheel drive vehicle may be used, but it is necessary to use the same or similar vehicle throughout the test. During dry conditions the vehicle is driven over the runway at 50 km/hr and the brakes applied to lock all four wheels. The length of skid is measured and recorded. During wet conditions the operation is repeated and the length of skid measured. If this dimension exceeds 1.5 times the recorded dry skid distance the surface is considered to be unacceptably slippery.

5.3.7 The test for rough surface condition is to drive a stiffly sprung vehicle such as a Land Rover, without discomfort to the passengers, at a speed not less than 75 km/hr for the central 30m, and not less than 50 km/hr for the remainder of the runway strip. The maximum allowable width of cracks and size of stones permitted is 25mm within the central 30m and 50mm for the remainder. If there is a soft wet condition within the runway strip area, the entire direction must be closed if it is unacceptably rough.

5.4 Empirical method

Paved surfaces

5.4.1 The bearing strength of a pavement intended for aircraft of apron (ramp) mass equal to or less than 5 700 kg shall be made available by reporting the following information *(Annex 14 Volume I, 2.6.8)*:

a) maximum allowable aircraft mass; and
b) maximum allowable tire pressure.

Example: 4 000 kg/0.50 MPa

5.4.2 Light aircraft are those having a mass of 5 700 kg or less. These aircraft have pavement requirements less than that of many highway trucks. Technical evaluations of those pavements can be made but an evaluation based on “using aircraft” is satisfactory. It is worth noting that, at some airports, service vehicles such as fire trucks, fuel trucks or snow ploughs may be more critical than aircraft. Since nearly all light aircraft have single-wheel undercarriage legs, there is no need for reporting subgrade categories. However, since some helicopters and military trainer aircraft within this mass range have quite high tire pressures, limited quality pavements may need to have tire pressure limits established *(Doc 9157 Aerodrome Design Part 3 – Pavements, clause 3.3.6).*

5.4.3 In evaluating pavements meant for light aircraft — 5 700 kg mass and less — it is unnecessary to consider the geometry of the undercarriage of aircraft or how the aircraft load is distributed among the wheels. Thus, subgrade class and pavement type need not be reported, and only the maximum allowable aircraft mass and maximum allowable tire pressure need to be determined and reported. For these, the foregoing guidance on techniques for “using aircraft” evaluation should be followed *(Doc 9157 Aerodrome Design Part 3 – Pavements, clause 3.5.11).*

Unpaved surfaces

5.4.4 Due to the nature of unpaved surfaces, an empirical method for assessing the bearing capability has inherent limitations. An unpaved or natural surface may not have a consistent bearing capability across the entire surface; therefore, consideration should be made for developing a process that considers the capability of the surface so far as reasonably practicable. Additionally, prevailing weather conditions may significantly affect the capability of the runway.

5.4.5 One example of a bearing capability assessment is the use of a Dynamic Cone Penetrometer[1] which can generate a strength estimate of the surface.

5.4.6 An aerodrome operator should develop an assessment process that includes sufficient measurements to develop an appreciation of the capability of the entirety of the unpaved runway and the associated surfaces that should be load-bearing.

5.4.7 An aerodrome operator should engage with aircraft operators to ensure aircraft operators understand the capability data of the runway, and the conditions in which the measurements were taken. With the assistance of subject-matter experts, operators should agree the criteria under which the runway is considered usable for a design aircraft, or for aircraft specific to operators.

[1] https://apps.dtic.mil/sti/pdfs/ADA281985.pdf

6. INSPECTION AND REPORTING PROCESS

6.1 Inspections of unpaved surfaces

6.1.1 Inspections of the movement area should be planned to ensure that an appropriate level of vigilance is maintained at all times.

6.1.2 The inspection of unpaved surfaces should cover, at a minimum, the following items:

a) the runway;

b) the remaining manoeuvring area, including taxiways and adjacent areas;

c) the apron and service areas as applicable;

6.1.3 During the inspection, particular attention should be given to:

a) surface conditions including signs of damage or distress;

b) detection of FOD or other surface contamination

c) detection of surface depressions, rutting or undulation

d) detection of areas with a weaker surface strength including mud, sinkholes, standing water, erosion, etc.

e) The general condition of the surface grass/vegetation, particularly any areas of blast. Rotor wash or prop wash erosion

f) the grass length including any weed growth.

6.1.4 Ideally, a first inspection should be conducted prior to daily operations. Subsequent inspections should also be undertaken in the event of:

a) Significant precipitation or snow;

b) High winds;

c) Otherwise following an extreme or seasonally uncommon weather event.

6.1.5 A log should be kept recording the results of the inspection.

6.2 Reporting of unpaved surface condition

6.2.1 If a dangerous or otherwise hazardous unserviceability is discovered during an inspection it should be immediately reported.

6.2.2 If a NOTAM service is available at the aerodrome, it should be used to advise aircraft operators and other stakeholders of the change to aerodrome condition or capability.

6.2.3 If a radiotelephony (RTF) service is available and the reporter is sufficiently qualified and experienced to use such equipment, the provision of advice via RTF to any arriving or departing aircraft should be considered.

6.2.4 The entity in charge of aerodrome operations should also be informed.

6.2.5 Consideration should also be given to updating any published information, such as in AIP or other operational documents.

7. RISK MITIGATION

7.1.1 If there is any doubt as to the serviceability of an unpaved runway surface, appropriate mitigation options should be immediately considered to protect aircraft operations.

7.1.2 This may include but not be limited to the following:

a) The affected runway, taxiway and/or apron should be restricted or closed to aircraft operations until the conditions improve.

b) Visual aids in the form of unserviceability markers should be used to alert pilots of the restricted or closed portion of the movement areas.

c) If the unpaved surface is available for nighttime operations, any lighted visual aids should be extinguished or covered so that they are no longer visible.

d) Vehicles and person should avoid driving on the unserviceable areas as they may become stranded or may exacerbate the surface condition.

7.1.3 Once the conditions return to a serviceable state, the closed or restricted areas can be returned to service, visual aids removed/reinstated and appropriate reports made as to the aerodrome condition.

REFERENCES

1) ICAO Annex 14, Volume I

2) PANS-Aerodromes (Doc 9981)

3) Aerodrome Design Manul (Doc 9157), Part 3

4) CASA Australia AC139.C-07V1.0 Strength Rating of Aerodrome Pavements

5) New Zealand ……

AP-ADO/TF TASK LIST
(Updated by AP-ADO/TF/6)

	ACTION ITEM/PLANNED ACTIVITIES	RESPONSIBLE PARTY	TIME FRAME	STATUS	REMARKS
1/1	Identify experts in various AOP fields and maintain a database for the Asia/Pacific Region	States – nomination of experts Secretariat – maintaining database	Continuous	Open	From TOR
1/2	Draft regional guidance for the design and operations of:				From AP-ADO/TF/1 AP-ADO/TF/2 - WP/13
	(a) Altiports	Nepal to lead; assisted by China, Fiji, India and Indonesia	December 2021 Final Draft to be submitted to AOP/SG/8	~~Ongoing~~ Completed	Modified in AP-ADO/TF/2 AP-ADO/TF/3-WP/09 - First draft of the GM AP-ADO/TF/4-WP/09 – Second Draft of the GM AP-ADO/TF/5-WP/11 – Third Draft of the GM

	ACTION ITEM/PLANNED ACTIVITIES	RESPONSIBLE PARTY	TIME FRAME	STATUS	REMARKS
1/3	- Study and discuss aerodrome SARPs and guidance materials related to aerodrome planning, design and operations including PANS-Aerodromes; and	States and AP-ADO/TF	Continuous	Ongoing	
	- Provide expert advice and clarification to APAC States on any issues related to the implementation of the requirement specified in the SARPs and guidance materials. [Reference: From TOR]	AP-ADO/TF and Secretariat	Continuous	Ongoing	
1/4	- Review and discuss AOP parts of the Asia/Pacific ANP and Seamless ANS Plan; and	AP-ADO/TF	Continuous	Ongoing	~~PfAs for six States have been completed in 2023. Processing of PfAs submitted by two other States are in progress.~~
	- Formulate amendment proposals to the APAC ANP Table AOP I - 1 and Table AOP II – 1 as necessary. [Reference: From TOR]	States and Secretariat	Continuous	Ongoing	PfA submitted by Sri Lanka in progress.

	ACTION ITEM/PLANNED ACTIVITIES	RESPONSIBLE PARTY	TIME FRAME	STATUS	REMARKS
2/1	Conduct seminars / workshops for aerodrome regulatory and aerodrome operator staff in APAC Region		Continuous	Ongoing	Conducted GRF Webinars in 2021 in coordination with: – FTF, ACI, IFALPA, IFATCA and IFAIMA – Japan incorporating winter operations
3/1	Technical assistance/Workshop for APAC States that have yet to implement GRF	United States FAA (upon request and on case by case basis)	Continuous	Ongoing	Nil request received from States
3/2	GRF Seminar	China (Lead), ACI & ICAO	Q3, 2022	Completed	Seminar on GRF - *Ten Months into GRF, Challenges Met and Lessons Learnt in Asia-Pacific* conducted by ICAO jointly with China and ACI on 29 Sep. 2022
AP-ADO/TF/4					
4/1	Workshop on Aerodrome Pavement Design and Evaluation including ICAO ACR-PCR Method in Reporting Pavement Strength for Asia and Pacific Regions	With FAA support and Secretariat	Q1, 2024	Completed	Aerodrome Pavement Workshop conducted from 7 to 9 Feb. 2024
AP-ADO/TF/5					
5/1	Develop Regional guidance material on the transposition of Annex 14 ICAO SARPs	**Malaysia** (Lead), ROK, Nepal, PNG, Australia, Thailand & ACI,	By November 2024	Completed	Submitted the draft Guidance Material on the Transposition of Annex 14 SARPs with AP-ADO/TF/6-**WP/17** for endorsement by the Task Force.

	ACTION ITEM/PLANNED ACTIVITIES	RESPONSIBLE PARTY	TIME FRAME	STATUS	REMARKS
5/2	Organize workshops on the transposition of Annex 14 SARPs into National Standards	**Malaysia** (Lead), ACI and Secretariat	In conjunction with AP-ADO/TF/6 in Jan/Feb 2025	Completed	Workshop was conducted on 17 February 2025.
5/3	Organize workshops for States and aerodrome operators to share experience in AGA audit area of USOAP CMA especially on alternative means of compliance with AGA related SARPs as advocated for in DGCA/58/DP3/01	**Pakistan** (Lead – TBC by AOP/SG/8), Australia, China (TBC by AOP/SG/8), India, Secretariat	In conjunction with AOP/SG/9 in July 2025		Vietnam shared their experience at AOP/SG/8. China shared at AP-ADO/TF/6.
5/4	Regional Guidance on Risk Assessment for Lights with the Hazardous Effects	**ROK** (Lead), India Nepal, Thailand	~~Dec 2025~~ Dec 2026	Ongoing	AP-ADO/TF - WP/16
5/5	Regional Guidance for Strength assessment and classification for grass and unpaved runway [Task 7/2 from AOP/SG/7]	**PNG** (Lead), Nepal, Australia	Dec 2025	Ongoing	The First Draft was submitted to AP-ADO/TF/6 for review and comments along with WP/18
AP-ADO/TF/6					
6/1	Conduct research and analysis to develop measurable conspicuity standards for runway and taxiway markings to provide aerodrome operators and regulators with clear, objective criteria for evaluating marking effectiveness	Malaysia (Lead), India, Thailand, Vietnam and ACI	Dec 2027		
6/2	Develop a regional guidance on the assessment and mitigation of glare and glint from solar panels installed at or in the vicinity of the aerodrome	Malaysia (Lead), India, Philippines and Sri Lanka	Dec 2027		

	ACTION ITEM/PLANNED ACTIVITIES	RESPONSIBLE PARTY	TIME FRAME	STATUS	REMARKS
6/3	Develop a generic guidance for circumstances/situation where the phrase "**as far as practicable and/or wherever practicable**" would be needed for flexibility of the implementation of SARPs based on experiences and best practices of APAC States from different geographical regions.	Nepal (Lead), Australia, Malaysia, Wellington Airport (New Zealand), Pakistan	Dec 2027		
6/4	Develop regional guidance to provide interrelationship between ICAO Annex 10 Volume I, ICAO Annex 14 volume I and Aerodrome Design Manual (DOC. 9157) Part 6 for visual and non-visual aids installation on runway and taxiway strips and RESA (Action by the meeting proposed by WP/12 refers)	Nepal (Lead), Fiji (TBC), India, China (TBC)	Dec 2027		