International Civil Aviation Organization

FIFTH MEETING OF SPECTRUM REVIEW WORKING GROUP (SRWG/5)

Video Teleconference, 15 – 17 March 2021

Agenda Item 4: Frequency coordination process and improvement for the Asia/Pacific Region

REVIEW OF REGIONAL PROCESS

(Presented by Secretariat)

SUMMARY

This paper presents an overview of the practices to improve the efficiency and accuracy of the current process since SRWG/4.

1. INTRODUCTION

1.1 The SRWG/4 meeting revisited the process of Aeronautical Frequency Spectrum Coordination and Management in the APAC Region, and proposed relevant measures to further improve current practices and coordination procedure for aeronautical facilities and services operating in the aeronautical frequencies bands of 190-526.5 kHz – NDB; 108-117.975 MHz and - 960 – 1215MHz - VOR/DME and ILS, VDL Mode 4 and VHF Frequency Bands from 117.975 to 137MHz.

1.2 ICAO APAC Regional Office and States have been continuing with the streamlined process based on the implementation of Frequency Finder for the coordination of frequency assignments at regional level, with the goal to improve the efficiency and accuracy in frequency coordination.

2. DISCUSSION

Current coordination process updates

2.1 The current process for frequency coordination has served the APAC community well over the years and is expected to do so for the foreseeable future. It is based on a minimum bureaucracy when performing the frequency coordination and registration.

2.2 ICAO APAC Regional Office is maintaining Frequency List 1, 2 on Frequency Manager, which is a standalone application, while the Frequency List 3 is with Frequency Finder, the free ICAO tool provided to States/Administration and Regional Office by HQ, which is the basis for global database. The Regional Office has been testing the VHF NAV module of Frequency Finder for more than half year, by duplicating the input and test on Frequency Manager and Frequency Finder. There are no significant findings during this effort.

e-Submission for Frequency List No. 3

2.3 With the support of member States, ICAO APAC Regional Office has successfully registered hundreds frequencies submitted via e-submission from China, India, Indonesia and Malaysia. The export/Import functions provided with Frequency Finder have been tested and validated during this

practices. It greatly facilitates the final coordination step that is performed by the ICAO Regional Office, in terms of efficiency and accuracy.

2.4 As Frequency Finder is a common platform for ICAO and States, it provides a solution on the urgent implementation of frequency. The State can check a selected frequency to satisfy any operational need and to check the compatibility of this proposed frequency with other frequency assignments in the Frequency List No.3 locally by itself, and then inform ICAO Regional Office for formal registration, as the estimation is conducted on the same platform with same data. Any approved updates on Frequency List No. 3 will be shared to Frequency Finder users in real time. This practice is able to minimize the operational risk by using the frequency under urgent situation.

2.5 In order to maximize the benefits from e-submission while maintain the appropriate validation of the submitted data, it is necessary for States to provide a complete required information in company with the electronic file generated by Frequency Finder. A recommended template of Required Information for Frequency List 3 coordination is provided in **Appendix A** to this paper.

2.6 India demonstrated good cooperation with ICAO APAC Regional Office to support the implementation of the e-submission process for Frequency List 3. A sample from India is provided in **Appendix B** accompanied by **Appendix C**, which was used for real VHF COM registration through ICAO APAC Regional Office.

Improvement in Administrative aspects

2.7 Considering the important role of Frequency Finder played in the updating and maintenance of global database, relevant issues including user credential, software robustness, cyber security, etc., SRWG/4 proposed a draft conclusion (SRWG/4/3) aiming at improving the process in administrative aspect, which was then adopted by CNS SG/24 as following:

> **Conclusion CNS SG/24/8(SRWG/4/3) – Establishment a list of focal point responsible for the operation of Frequency Finder in States**.
>
> *That, States in APAC Region are requested to nominate a focal point responsible for operation of the Frequency Finder and coordination for frequencies assignments with ICAO APAC Regional Office in order to reduce operational error and improve quality management for the coordination process.*

2.8 The Frequency Finder installation status table is provided in **Appendix D** to this paper, which will serve as the list of focal point responsible for the operation of Frequency Finder in respective States/Administrations.

2.9 As per the APANPIRG Procedural Handbook, the definition of deficiencies is as follows:

> A *deficiency* is a situation where a facility, service or procedure does not comply with a regional air navigation plan approved by the Council, or with related ICAO Standards and Recommended Practices, and which situation has a negative impact on the safety, regularity and/or efficiency of international civil aviation.

2.10 The Third Asia/Pacific Regional Air Navigation (ASIA/PAC/3 RAN) Meeting, held in Bangkok in 1993, agreed that the frequency lists prepared by the Asia and Pacific Regional Office would be the frequency planning documents for the Regions. The ICAO APAC Regional Office, based on the information provided for this purpose by States, will issue Frequency Lists Nos. 1, 2 and 3 at periodic intervals [ASIA/PAC/3 RAN, Conc.11/4, 11/5 and 12/9].

2.11 In any case, ICAO holds the view that frequency assignments that have been coordinated with ICAO have priority over those that have not been coordinated. For reported interference caused by frequency implemented by States/Administrations without coordination and registration with Regional Office, it may be considered as discrepancy to the regional planning requirements, and be further identified as deficiency upon harmful impact report on international operations.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) note the information contained in this paper;
b) provide comments to **Appendix A**, **Appendix B** and **Appendix C**;
c) review and provide information to **Appendix D**.
d) discuss any relevant matters as appropriate.

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Required Information for Frequency List 3 Coordination

No.	Frequency (MHz)	Name of Station	Coordinates	Service	DOC	Remark
1	xxx.xxx		xx° xx' xx" N/S xxx° xx' xx" E/W			
2						
3						
4						
5						

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A sample from India with required information

Freq. (MHz)	Location	Coord Lat	NS	Coord Long	WE	DOC
118.300	HYDERABAD	17D27'11"	N	078D27'29"	E	SMC C-5/1
118.100	HAKIMPET	17D33'11"	N	078D31'29"	E	TWR C-25/40
118.100	GUWAHATI	26D06'18"	N	091D35'08"	E	TWR C-25/40
118.100	TEZPUR	26D42'40"	N	092D47'03"	E	TWR C-25/40
118.300	UDHAMPUR	32D54'10"	N	075D09'18"	E	TWR C-25/40
118.500	HAKIMPET	17D33'11"	N	078D31'29"	E	TWR C-25/40
118.500	MENCHUKA	28D36'00"	N	094D08'00"	E	TWR C-25/40
118.500	WALONG	28D07'00"	N	097D01'00"	E	TWR C-25/40
118.800	CHABUA	27D27'45"	N	095D07'02"	E	TWR C-25/40
118.800	HASIMARA	26D41'54"	N	089D22'08"	E	TWR C-25/40
118.800	PUNE	18D35'00"	N	073D55'10"	E	TWR C-25/40
118.800	NALIYA	23D13'23"	N	068D53'28"	E	TWR C-25/40
119.500	SRINAGAR	33D59'16"	N	074D46'28"	E	PAR C-25/40
119.500	JAMMU	32D41'33"	N	074D50'22"	E	PAR C-25/40
119.700	JAISALMER	26D53'25"	N	070D52'00"	E	APP-L C-50/120
120.200	YELAHANKA	13D08'05"	N	077D36'37"	E	APP-U C-150/450
120.200	HYDERABAD	17D27'11"	N	078D27'29"	E	PAR C-25/40
120.400	BIDAR	17D54'33"	N	077D28'55"	E	TWR C-25/40
120.400	HAKIMPET	17D33'11"	N	078D31'29"	E	TWR C-25/40
120.600	BHUJ	23D17'15"	N	069D40'14"	E	TWR C-25/40
120.600	JAIPUR	26D49'17"	N	075D48'04"	E	TWR C-25/40

Appendix C to SRWG/5 - WP/04

active record	MOD	DR Copy	Key	Region	Frequency	Country full	Ctry	Location	CoordLat	NS	CoordLong	WE	DOC	FIR name	PolyID	ER	Cat	Stat	Remarks
1#	N	R	6.37485E+13	APAC	118.300	India	IND	HYDERABAD	17D27'11''	N	078D27'29''	E	SMC C-5/1				NAT		
1#	N	R	6.37485E+13	APAC	118.100	India	IND	HAKIMPET	17D33'11''	N	078D31'29''	E	TWR C-25/40				NAT		
1#	N	R	6.37485E+13	APAC	118.100	India	IND	GUWAHATI	26D06'18''	N	091D35'08''	E	TWR C-25/40				NAT		
1#	N	R	6.37485E+13	APAC	118.100	India	IND	TEZPUR	26D42'40''	N	092D47'03''	E	TWR C-25/40				NAT		
1#	N	R	6.37485E+13	APAC	118.300	India	IND	UDHAMPUR	32D54'10''	N	075D09'18''	E	TWR C-25/40				NAT		
1#	N	R	6.37485E+13	APAC	118.500	India	IND	HAKIMPET	17D33'11''	N	078D31'29''	E	TWR C-25/40				NAT		
1#	N	R	6.37485E+13	APAC	118.500	India	IND	MENCHUKA	28D36'00''	N	094D08'00''	E	TWR C-25/40				NAT		
1#	N	R	6.37485E+13	APAC	118.500	India	IND	WALONG	28D07'00''	N	097D01'00''	E	TWR C-25/40				NAT		
1#	N	R	6.37485E+13	APAC	118.800	India	IND	CHABUA	27D27'45''	N	095D07'02''	E	TWR C-25/40				NAT		
1#	N	R	6.37485E+13	APAC	118.800	India	IND	HASIMARA	26D41'54''	N	089D22'08''	E	TWR C-25/40				NAT		
1#	N	R	6.37485E+13	APAC	118.800	India	IND	PUNE	18D35'00''	N	073D55'10''	E	TWR C-25/40				NAT		
1#	N	R	6.37485E+13	APAC	118.800	India	IND	NALIYA	23D13'23''	N	068D53'28''	E	TWR C-25/40				NAT		
1#	N	R	6.37485E+13	APAC	119.500	India	IND	SRINAGAR	33D59'16''	N	074D46'28''	E	PAR C-25/40				NAT		
1#	N	R	6.37485E+13	APAC	119.500	India	IND	JAMMU	32D41'33''	N	074D50'22''	E	PAR C-25/40				NAT		
1#	N	R	6.37486E+13	APAC	119.700	India	IND	JAISALMER	26D53'25''	N	070D52'00''	E	APP-L C-50/120				NAT		
1#	N	R	6.37486E+13	APAC	120.200	India	IND	YELAHANKA	13D08'05''	N	077D36'37''	E	APP-U C-150/450				NAT		
1#	N	R	6.37486E+13	APAC	120.200	India	IND	HYDERABAD	17D27'11''	N	078D27'29''	E	PAR C-25/40				NAT		
1#	N	R	6.37486E+13	APAC	120.400	India	IND	BIDAR	17D54'33''	N	077D28'55''	E	TWR C-25/40				NAT		
1#	N	R	6.37486E+13	APAC	120.400	India	IND	HAKIMPET	17D33'11''	N	078D31'29''	E	TWR C-25/40				NAT		
1#	N	R	6.37486E+13	APAC	120.600	India	IND	BHUJ	23D17'15''	N	069D40'14''	E	TWR C-25/40				NAT		
1#	N	R	6.37486E+13	APAC	120.600	India	IND	JAIPUR	26D49'17''	N	075D48'04''	E	TWR C-25/40				NAT		

Location	ChDate Copy	ChBy	Submission#	Range	frdeglat	frdeglong	Height	Comp	Radio Horizon	Regionexact	Select2	ChDateSAF	Select	t_freq_assgn	dupfind	Service	Cond	ChDate	Service	DR	dupfind2	Country
HYDERABAD	09/02/2021	aai	6.37485E+13	5	17.45305556	78.45805556	100	C	12	==APAC	Select2			118.300	63748464853238E	SMC		09/02/2021 16:25:36	SMC	E	N63748464853238E118.300APACIndiaINDHYDERABADSMC C-5/117D27'11''078D27'29''ENSMCNAT09/02/2021 16:25:36aai63748464853238	
HAKIMPET	10/02/2021	aai	6.37485E+13	25	17.55305556	78.52472222	4000	N	78	==APAC	Select2			118.100	63748536760186E	TWR		10/02/2021 14:38:51	TWR	E	N63748536760186E118.100APACIndiaINDHAKIMPETTWR C-25/4017D33'11''078D31'29''ENTWRNAT10/02/2021 14:38:51aai63748536760186	
GUWAHATI	10/02/2021	aai	6.37485E+13	25	26.105	91.58555556	4000	N	78	==APAC	Select2			118.100	63748544940417E	TWR		10/02/2021 14:40:03	TWR	E	N63748544940417E118.100APACIndiaINDGUWAHATITWR C-25/4026D06'18''091D35'08''ENTWRNAT10/02/2021 14:40:03aai63748544940417	
TEZPUR	10/02/2021	aai	6.37485E+13	25	26.71111111	92.78416667	4000	N	78	==APAC	Select2			118.100	63748545037633E	TWR		10/02/2021 14:42:03	TWR	E	N63748545037633E118.100APACIndiaINDTEZPURTWR C-25/4026D42'40''092D47'03''ENTWRNAT10/02/2021 14:42:03aai63748545037633	
UDHAMPUR	10/02/2021	aai	6.37485E+13	25	32.90277778	75.155	4000	N	78	==APAC	Select2			118.300	63748545127729E	TWR		10/02/2021 14:50:26	TWR	E	N63748545127729E118.300APACIndiaINDUDHAMPURTWR C-25/4032D54'10''075D09'18''ENTWRNAT10/02/2021 14:50:26aai63748545127729	
HAKIMPET	10/02/2021	aai	6.37485E+13	25	17.55305556	78.52472222	4000	C	78	==APAC	Select2			118.500	63748545639548E	TWR		10/02/2021 14:54:37	TWR	E	N63748545639548E118.500APACIndiaINDHAKIMPETTWR C-25/4017D33'11''078D31'29''ENTWRNAT10/02/2021 14:54:37aai63748545639548	
MENCHUKA	10/02/2021	aai	6.37485E+13	25	28.6	94.13333333	4000	C	78	==APAC	Select2			118.500	63748545888153E	TWR		10/02/2021 14:58:57	TWR	E	N63748545888153E118.500APACIndiaINDMENCHUKATWR C-25/4028D36'00''094D08'00''ENTWRNAT10/02/2021 14:58:57aai63748545888153	
WALONG	10/02/2021	aai	6.37485E+13	25	28.11666667	97.01666667	4000	N	78	==APAC	Select2			118.500	63748546148136E	TWR		10/02/2021 15:00:52	TWR	E	N63748546148136E118.500APACIndiaINDWALONGTWR C-25/4028D07'00''097D01'00''ENTWRNAT10/02/2021 15:00:52aai63748546148136	
CHABUA	10/02/2021	aai	6.37485E+13	25	27.4625	95.11722222	4000	C	78	==APAC	Select2			118.800	63748546262334E	TWR		10/02/2021 15:03:18	TWR	E	N63748546262334E118.800APACIndiaINDCHABUATWR C-25/4027D27'45''095D07'02''ENTWRNAT10/02/2021 15:03:18aai63748546262334	
HASIMARA	10/02/2021	aai	6.37485E+13	25	26.69833333	89.36888889	4000	N	78	==APAC	Select2			118.800	63748546401727E	TWR		10/02/2021 15:08:01	TWR	E	N63748546401727E118.800APACIndiaINDHASIMARATWR C-25/4026D41'54''089D22'08''ENTWRNAT10/02/2021 15:08:01aai63748546401727	
PUNE	10/02/2021	aai	6.37485E+13	25	18.58333333	73.91944444	4000	N	78	==APAC	Select2			118.800	63748546688228E	TWR		10/02/2021 15:13:07	TWR	E	N63748546688228E118.800APACIndiaINDPUNETWR C-25/4018D35'00''073D55'10''ENTWRNAT10/02/2021 15:13:07aai63748546688228	
NALIYA	10/02/2021	aai	6.37485E+13	25	23.22305556	68.89111111	4000	N	78	==APAC	Select2			118.800	63748546996344E	TWR		10/02/2021 15:15:55	TWR	E	N63748546996344E118.800APACIndiaINDNALIYATWR C-25/4023D13'23''068D53'28''ENTWRNAT10/02/2021 15:15:55aai63748546996344	
SRINAGAR	10/02/2021	aai	6.37485E+13	25	33.98777778	74.77444444	4000	C	78	==APAC	Select2			119.500	63748547160168E	PAR		10/02/2021 15:23:18	PAR	E	N63748547160168E119.500APACIndiaINDSRINAGARPAR C-25/4033D59'16''074D46'28''ENPARNAT10/02/2021 15:23:18aai63748547160168	
JAMMU	10/02/2021	aai	6.37485E+13	25	32.6925	74.83944444	4000	N	78	==APAC	Select2			119.500	63748548584225E	PAR		10/02/2021 16:26:04	PAR	E	N63748548584225E119.500APACIndiaINDJAMMUPAR C-25/4032D41'33''074D50'22''ENPARNAT10/02/2021 16:26:04aai63748548584225	
JAISALMER	10/02/2021	aai	6.37486E+13	50	26.89027778	70.86666667	12000	N	135	==APAC	Select2			119.700	63748551369709E	APP-L		10/02/2021 16:44:29	APP-L	E	N63748551369709E119.700APACIndiaINDJAISALMERAPP-L C-50/12026D53'25''070D52'00''ENAPP-LNAT10/02/2021 16:44:29aai63748551369709	
YELAHANKA	10/02/2021	aai	6.37486E+13	150	13.13472222	77.61027778	45000	C	261	==APAC	Select2			120.200	63748552484504E	APP		10/02/2021 16:48:43	APP	E	N63748552484504E120.200APACIndiaINDYELAHANKAAPP-U C-150/45013D08'05''077D36'37''ENAPPNAT10/02/2021 16:48:43aai63748552484504	
HYDERABAD	10/02/2021	aai	6.37486E+13	25	17.45305556	78.45805556	4000	N	78	==APAC	Select2			120.200	63748552756008E	PAR		10/02/2021 17:03:53	PAR	E	N63748552756008E120.200APACIndiaINDHYDERABADPAR C-25/4017D27'11''078D27'29''ENPARNAT10/02/2021 17:03:53aai63748552756008	
BIDAR	10/02/2021	aai	6.37486E+13	25	17.90916667	77.48194444	4000	N	78	==APAC	Select2			120.400	63748553637005E	TWR		10/02/2021 17:13:03	TWR	E	N63748553637005E120.400APACIndiaINDBIDARTWR C-25/4017D54'33''077D28'55''ENTWRNAT10/02/2021 17:13:03aai63748553637005	
HAKIMPET	10/02/2021	aai	6.37486E+13	25	17.55305556	78.52472222	4000	N	78	==APAC	Select2			120.400	63748554196603E	TWR		10/02/2021 17:16:49	TWR	E	N63748554196603E120.400APACIndiaINDHAKIMPETTWR C-25/4017D33'11''078D31'29''ENTWRNAT10/02/2021 17:16:49aai63748554196603	
BHUJ	10/02/2021	aai	6.37486E+13	25	23.2875	69.67055556	4000	C	78	==APAC	Select2			120.600	63748554610411E	TWR		10/02/2021 17:28:07	TWR	E	N63748554610411E120.600APACIndiaINDBHUJTWR C-25/4023D17'15''069D40'14''ENTWRNAT10/02/2021 17:28:07aai63748554610411	
JAIPUR	10/02/2021	aai	6.37486E+13	25	26.82138889	75.80111111	4000	N	78	==APAC	Select2			120.600	63748555094196E	TWR		10/02/2021 17:29:26	TWR	E	N63748555094196E120.600APACIndiaINDJAIPURTWR C-25/4026D49'17''075D48'04''ENTWRNAT10/02/2021 17:29:26aai63748555094196	

Frequency Finder Installation Status in APAC

No.	States/Administrations	FF Installed?	FF version	Computer Name	Operator's name	email	Remark
1							
2							
3							
4							