Immediate

Government of India
Ministry of Communication
Department of Telecommunications
Wireless Planning & Coordination Wing

Dated: 06.11.2024

Subject: Minutes of the 3rd meeting of Working Group (WG) 1 (upto 1 GHz) of NFAP – 2022-Review/ Revision.

Kindly refer to the third meeting of the Working Group-1 for the NFAP-2022 Review/Revision was held on October 8, 2024, chaired by Sh. Viresh Goel, Joint Wireless Adviser to the Government of India and please find enclosed the minutes of the meeting for reference and necessary action if any.

Preetam 06/11/2024

(Preetam Meena)
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Encl: As above

To,

All participants

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The third meeting of the Working Group-1 for the NFAP-2022 Review/Revision was held on October 8, 2024, chaired by Sh. Viresh Goel, Joint Wireless Adviser to the Government of India. The meeting was conducted in a hybrid format, allowing for both in-person and virtual participation. A diverse range of stakeholders attended, including representatives from industry, academia, officer from the Wireless Planning Commission Wing of the Department of Telecommunications (DoT), and other government organizations such as JCES, Ministry of Information and Broadcasting (MIB), Doordarshan and GMRT-NCRA etc.

2. The meeting commenced with a welcome address from the Chairman, who provided a comprehensive overview of the ongoing activities of the NFAP-2022 revision committee and the various input documents that had been received from stakeholders following the second meeting.

3. In light of the recently published Radio Regulation-2024, Shri.Vishal Singh Yadav presented the amended draft NFAP up to 1 GHz, highlighting the significant changes that had been incorporated in the original NFAP-2022. The aim was to provide a clear understanding of the proposed amendments and their potential impact on the Indian telecommunications landscape. The amended draft NFAP up to 1 GHz is attached as **Annex -I**

4. The input documents received so far, also uploaded on DoT website for information of the stakeholders, scheduled to be discussed during the 3rd meeting are listed below:

Sr No.	Name of Contributor	Proposal	Frequency Band
1	Susan Future Technologies	Revised proposal for use of HIBS in 698-960 MHz frequency band	698-960 MHz
2	Shure Audio Technologies	Revised proposal for use of 470-694 MHz for PMSE and wireless microphones	470-694 MHz
3	Arya Omnitalk Radio Trunking Services	Revised proposal w.r.t Frequency allocation plan for Digital PMRTS with 6.25/12.5/25 KHz channel spacing	806-811/ 851-856 MHz, 811-814/856-859 MHz, 814-819/859-864 MHz, 819-824/864-869 MHz
4	Mobile Trunked Radio Operators Association of India	Revised proposal w.r.t w.r.t Frequency allocation plan for Digital PMRTS with 6.25/12.5/25 KHz channel spacing	806-811/851-856 MHz, 811-814/856-859 MHz, 814-819/859-864 MHz, 819-824/864-869 MHz
5	National Centre for Radio Astrophysics - TIFR	Include IND 13 for all frequencies below 1500 MHz	Up to 1500 MHz
6	National Centre for Radio Astrophysics -	Rephrase IND 13 footnote for protection of radio astronomy services	Up to 1500 MHz

	TIFR		
7	National Centre for Radio Astrophysics - TIFR	Correct footnote IND 16 in NFAP-2022 for RAS usage in 608-614 MHz band	608-614 MHz
8	Prasar Bharati/Doordarshan	Retain 470-582 MHz exclusively for broadcasting services	470-582 MHz
9	ITU-APT Foundation of India	Revised footnote IND 16 for IMT identification in multiple frequency bands	612-960 MHz, 1427-1518 MHz, 1710-2200 MHz, 2300-2450 MHz, 2500-2690 MHz, 3300-3670 MHz, 24.25-27.5 GHz, 37-43.5 GHz, 47.2-48.2 GHz, 66-71 GHz
10	ITU-APT Foundation of India	Proposal for NB-IOT use in 918-922 MHz	867-868 MHz, 918-922 MHz
11	ITU-APT Foundation of India	Proposal for PMSE	174-230 MHz and 470-698 MHz

5. The Stakeholders were requested to introduce and present their input documents to the meeting:

5.1 Shure Audio Technology presented their revised input document to the meeting wherein they proposed for new IND footnote in the frequency band 470-694 MHz band for making provisions for use of PMSE (wireless microphone). Such use is proposed on a non-protection on co-sharing, secondary usages basis, as these are very low power usages, narrow band wide band applications and may not be interfering with usages in the band. The proposed IND footnote was discussed and it was indicated that the text may further clearly bring out the aspect of RF output powers; self regulatory aspects, secondary allocations, and type of applications etc.

5.1.1 The representative from Doordarshan also opined that the proponent have given their justifications and requirements, and PMSE usages are very low power, secondary type of usages; for indoor usages and event banded licenses are being issued by WPC Wing; there may not interfere with other usages in the band.

5.1.2 JCES also submitted that while making any provision for proposed new IND footnote in the band 470-698 the band allocated to defence shell be excluded from any such allocation.

5.2 M/s Arya Ominitalk Radio Trunking Services Private Limited presented their revised input document highlighting the requirements of continue to allocations of 811-814/856-859 MHz and 814-819/859-864 MHz bands for PMRTS and no changes are suggested in NFAP concerning widely deployed PMRS system having more than 65,000 subscribers base. They further stressed the requirement of permitting three different channel bandwidths of 25kHz/12.5kHz and 6.25kHz, supported by technologies such as DMR, NXDN, APCO Phase II, dPMR etc. This will help in migration of existing networks from Analog to Digital technology. They are in the process of migrating PMRTS operations in 814-819/859-864 MHz to 811-814/856-859 MHz for use of digital PMRTS, which may it might take some time. In response to the indications given in 800 MHz band in 2nd meeting of WG1 i.r.o. PPDR held, they highlighted that PPDR may be permitted either in the sub-band 806-811/851-856 MHz , as also suggested by IAFI, or in 819-822/864-866 MHz sub-band. The surplus spectrum within the sub-band 814-819 MHz may be made available to PPDR requirements, after their migration. It was requested from the stakeholders to submit the channel plans for channel bandwidth of 12.5 kHz and 6.25 kHz for PMRTS.

5.3 Mobile Trunked Radio Operators Association of India (MTROA) document is also on similar lines and supported the view of M/s Arya Ominitalk Radio Trucking Services Private Limited and presented a similar input document.

5.4 NCRA-TIFR submitted following three input documents concerning protection of Radio Astronomy Services for consideration Two of the input documents proposed modification of footnote IND-13 and one input document is on modification of IND 16:

i. In the 1st proposal the NCRA-TIFR has proposed to rephrase the IND 13 specifying protection to their facility centered near the village of Khodad in Pune district, included for all frequencies for which it is applicable, i.e. all frequencies below 1500 MHz ;

ii. The 2nd proposal, also related to IND 13, wherein NCRA-TIFR requested to included/ mention IND-13 in the Frequency Allocation Table for all frequencies for which it is applicable, i.e. all frequency sub-bands below 1500 MHz listed in No. 5.149 from any new services and/or spectrum allocations that may be proposed . During the meeting the NCRA-TIFR representative stated the their Astronomy facility near Pune is using the band below 1500 MHz therefore it needs to be protected from all emissions below 1500 MHz Band;

iii. In the 3rd proposal, as per ITU-R recommendations RA.314-10 (Table 3), wherein the 608-614 MHz band is primary allocated for RAS, therefore NCRA-TIFR have requested for modification of IND 16 footnote by omitting this 608-614 MHz RAS band from the table provided in IND 16 footnote. It was conveyed that these aspects may be relooked i.r.o. location specific protection requirements, wherein there are Astronomy Facility are in place or planned in near term;

NCRA-TIFR was requested if they can come up with some specific text stating the conditions for protection of NCRA facility w.r.t IND 13 footnote and IND 16 footnote.

5.5 M/s Susan Future Technologies submitted a revised proposal for adding a new note under IND 16 note for HIBS. During the discussions it was informed that as there is already a RR footnote for HIBS and India's name is included in it new note under IND 16 may not be required. In response it was submitted that as the table in IND 16 also mentions the relevant RR footnotes against the frequency bands therefore the footnote related to HIBS may also be mentioned against the relevant bands which was agreed during the meeting.

5.6 Prasar Bharti / Doordarshan presented their input document wherein they have requested to retain frequency and 470-582 MHz exclusively for broadcasting services in India. Following changes are requested in IND 16:

a. Remove frequency band 470-582 MHz from the list of identified IMT bands under footnote IND16

b. Also to delete Note-1 under IND16

5.6.1 Prasar Bharti / Doordarshan submitted that the RR footnote 5.296A, wherein 470-698 MHz, or potion thereof identified for IMT by certain other Administration, does not have mention of India. India had approached WRC-15 with a proposal to identify the band 610-698 MHz for IMT but India's name could not be included in the RR footnote 5.296A. As the band 470-585 is also allocated for Broadcasting Services on primary basis the request of Doordarshan shall be considered. They also stated that the ecosystem for IMT in 600 MHz is yet to be developed and it might take time for development of ecosystem of 600 MHz let alone in the band 470-582 MHz band. There are already new bands identified for IMT therefore this band may be made available to Broadcasting services on and delete the Note 1 of IND 16.

5.6.2 There were interventions were made during the meeting by the Stakeholders, and the Chairman. The representative from MIB also put forwarded their views in support of the Prasar Bharti / Doordarshan proposal.

5.7 In addition to above there were three input documents from IAFI, however due to non-availability of representative from IAFI, these could not be presented in the meeting. These inputs will be discussed in the subsequent meetings.

6. The Channel Plans so presented in the 2nd Meeting are attached at Annex-II

7. The Chairman thanked all the stakeholders for the active participation in the meeting and again requested everyone to provide their written comments, counter-comments in respect of the various inputs along with necessary justification, so that they may be presented and discussed during subsequent meetings of WG1. The proposals on Channel Plans are also welcome form the stakeholders.

8. The meeting ended with a vote of thanks.

Annex-I

List of participants

Sl No.	Name	Organization
1	Abhijit Panicker	COAI
2	Ankur	GMRT-NCRA
3	Anurag Gupta	CDOT
4	Anuresh Sharma	MTROA
5	Ashok Kumar Bahal	MTROA
6	Ashwini V.N.	Harman International Pvt. Ltd.
7	AVS Rao	Aryaomnitalk HQ
8	Bharti	
9	Davender Singh Rawat	WPC Wing, DoT
10	Deepali Sharma	MIB
11	Hemendra Parikh	WMO, DoT
12	Krishna	
13	M.K. Pattanaik	WPC Wing, DoT
14	Manisha Kumari	TEMA
15	Manoj Kottil	
16	Pankaj Ghosh	
17	Rajeev Kumar	Doordarshan
18	Rajeev Kumar	Doordarshan
19	Rajesh Kumar Rana	SHURE
20	RR Prasad	BECIL/MIB
21	Suresh Kumar Karthikeyan	Susan Future Technologies Ltd.
22	Swati Rawal	RJIL
23	T. Srinivasa Rao	WPC Wing, DoT
24	Uma	
25	Umesh Kumar	AAI
26	Vikas Jakhar	
27	Vinay Shrivastava	Reliance Jio
28	Vipen Malhotra	
29	Viresh Goel (Chairman)	WPC Wing, DoT
30	Vishal Singh Yadav	WMO, DoT
31	Preetam Meena	WPC Wing, DoT
32	Raju Dey	WMO, DoT

Annex-II

Tentative Frequency Plans

Freq. Plan no.	Type	Frequency Band	Channel Space	Duplex Separation	Start freq. Rx	Stop freq. Rx	Start freq. Tx	Stop freq. Tx
1	Duplex	146-172 MHz	25 KHz	5.05 MHz	146.6625 MHz	166.9375 MHz	151.7125 MHz	171.9875 MHz
2	Simplex	143.6-144 MHz	12.5 KHz	N.A	143.6 MHz	144 MHz	143.6 MHz	144 MHZ
3	Simplex	146-172 MHz	12.5 KHz	N.A	146 MHz	172 MHz	146 MHz	172 MHz
4	Duplex	143.6-149 MHz	12.5 KHz	5 MHz	143.6 MHz	143.9875 MHz	148.6 MHz	148.9875 MHz
5	Duplex	157.5-164.5	12.5 KHz	5 MHz	157.5 MHz	159.5 MHz	162.5 MHz	164.5 MHz
6a	Duplex	387.5-389.9 MHz /397.5-399.9 MHz	25 KHz	10 MHz	387.525 MHz	389.75 MHz	397.525 MHz	399.75 MHz
6b	Duplex	387.5-389.9 MHz /397.5-399.9 MHz	12.5 KHz	10 MHz	387.5188 MHz	389.7563 MHz	397.5188 MHz	399.7563 MHz
7a	Duplex	417.5-420 MHz/ 427.5-430 MHz	25 KHz	10 MHz	417.525 MHz	419.75 MHz	427.525 MHz	429.525 MHz
7b	Duplex	417.5-420 MHz / 427.5-430 MHz	12.5 KHz	10 MHz	417.51875 MHz	419.75625 MHz	427.51875 MHz	429.75625 MHz
8a	Duplex	380-387.5 MHz /390.397.5 MHz	25 KHz	10 MHz	380.025 MHz	387.25 MHz	390.025 MHz	397.25 MHz
8b	Duplex	380-387.5 MHz/ 390.397.5 MHz	12.5 KHz	10 MHz	380.01875 MHz	387.25625 MHz	390.01875 MHz	397.25625 MHz
9a	Duplex	410-417.5 MHz / 420-427.5 MHz	25 KHz	10 MHz	410.025 MHz	417.25 MHz	420.025 MHz	427.25 MHz
9b	Duplex	410-417.5 MHz / 420-427.5 MHz	12.5 KHz	10 MHz	410.01875 MHz	417.25625 MHz	420.01875 MHz	427.25625 MHz
10	Duplex	806-811 MHz/ 851-856 MHz	25 KHz	45 MHz	851.0125 MHz	855.9875 MHz	806.0125 MHz	810.9875 MHz

11	Duplex	811-814 MHz/ 856-859 MHz	25 KHz	45 MHz	856.0125 MHz	858.9875 MHz	811.0125 MHz	813.9875 MHz
12	Duplex	814-819 MHz / 859-864 MHz	25 KHz	45 MHz	859.0125 MHz	863.9875 MHz	814.0125 MHz	818.9875 MHz
13	Duplex	819-824 MHz/ 864-869 MHz	25 KHz	45 MHz	864.0125 MHz	868.9875	819.0125 MHz	823.9875 MHz