

No. T-11012/17/2023-ISR
Ministry of Communications
Department of Telecommunications
Wireless Planning & Coordination Wing
20 Ashoka Road, Sanchar Bhawan, New Delhi-62

No. T-11012/05/2023-ISR

Dated: 08 June 2023

OFFICE MEMORANDUM

Subject: Strategy for the ITU-R and Other International Organizations.

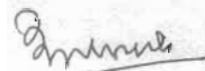
This strategy for the Radiocommunication Sector of the International Telecommunication Union (ITU-R) and Asia Pacific Telecommunity (APT), has the following objectives.

1. Objectives:

- (i) To increase intellectual contribution to ITU-R and APT by carrying out India specific studies by the Indian industry and academia by using Indian operational conditions and thereby contribute to the development of the Reports and Recommendations of these international organisations (ITU-R and AWG).
- (ii) To follow and participate on a continuous basis in all the international studies relating to Radiocommunications, especially those that have a potential to result in a change in the ITU Radio Regulations and that can have a direct or indirect effect on the country's economy and industry, the start-ups; and for implementation of progressive and dynamic radio spectrum rules in the country conducive to Social, economic and cultural advancement.
- (iii) To take leadership roles in ITU-R and APT commensurate with India's size, population and economic strength.
- (iv) Create, nurture and sustain technical expertise in the field of radiocommunication, especially among the young generation of researchers and students, and enable them to participate in the studies carried by ITU-R/ AWG etc.
- (v) To promote spectrum engineering as a discipline in academics and R&D organisations of India.

2. The main components of the Strategy:

- (i) Create National Working Parties (NWP), which are focused groups of engineers and scientists with appropriate expertise and experience, for each important study item of ITU-R and AWG and especially for each Agenda Item of the World Radio Conference;



- (ii) To put in place an appropriate working method for the NWP's to carry out their work in a predictable and systematic manner and optimise their effectiveness in coordinating national level studies in the radiocommunication sector;
- (iii) To facilitate and encourage participation from Academia and Industry and contribution to national/ITU-R/APT studies in the field of radiocommunications;
- (iv) To promote young engineers and scientists from all domains – Government, Industries, startups, Industry associations, etc. to lead the National Working Parties (NWP's) and allow them the freedom to carry out the activities of the NWP;
- (v) To put in place an appropriate supervisory mechanism to ensure that the NWP's holds regular meeting and provide timely inputs to Government;
- (vi) To create and sustain human resources by especially promoting the radiocommunications studies in universities at the M-Tech level courses as a specialised discipline or as part of the larger curriculum;
- (vii) To provide financial assistance to reputed colleges/ universities/ R&D organisations, willing to carry out studies.

3. The National Study Groups:

The ITU-R Study Groups develop the technical bases for decisions taken at World Radiocommunication Conferences and develop global standards (Recommendations), The National Study Groups (NSG) will be formed in the same manner at the National level.

- (i) The National Study Groups will be Chaired by a JWA level officer.
- (ii) The National Study Group Chairs shall have minimum 7 to 8 years' experience in the relevant Radiocommunication field.
- (iii) The NSG Chairs will identify all other work except the agenda items and prepare a list of stakeholders and drive these issues through the relevant Group in WPC Wing and the user departments. For example, successive WP5A meetings are working on Reports and Recommendations on Intelligent Transport Systems, Railway Communications, Amateurs, PPDR. Indian industry can make substantial contribution to these activities although they are not WRC agenda items. The NSG Chairs will engage the Indian stakeholders academia, industry, start-ups, etc. and prepare contributions for ITU meetings.
- (iv) The Standing items such as General Issues and Agenda Item 7 Satellite Regulatory Issues will be dealt separately; preferably by the ISR Group or by any person nominated by the Wireless Advisor.
- (v) The work on the specific Agenda Items will be carried out by the National Working Parties which will in turn be monitored by the NSG.

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4. The National Working Parties – composition, mandate and functioning

4.1 National Working Parties (NWP) will be the group responsible for the bulk of technical work. Each NWP will follow and participate on a continuous basis in all the international studies relating to at least one WRC Agenda Item in a study cycle, especially those having potential to result in a change in the international treaty document– The ITU Radio Regulations; and those that could have a direct/ indirect relevance to the country’s economy and industry; and for implementation of progressive and dynamic radio spectrum rules in the country.

4.2 These NWP shall continuously engage themselves in the studies in specific areas of work in a WRC study cycle; NWP will have members from the industry, academia and other Government stakeholders’ organisations with good knowledge of the Radio Regulations, ITU-R Reports and Recommendations.

4.3 Composition

- (i) There will a National Working Party for each WRC Agenda Item.
- (ii) Additional NWP may be formed for other ITU-R study areas depending on the importance of any emerging area of study for the country.
- (iii) A NWP will have a Chairman and a Coordinator.
- (iv) The Chairman can be a young person from Government/ private/ academia and shall have at least three years of experience; as a user or as a licensor, in the relevant spectrum management domain. A working level understanding of the provisions of the Radio Regulations, the ITU-R Reports and Recommendations will be necessary.
- (v) The Chairman must use his own ITU TIES Account, which is available to all sector members of the ITU, to have access to ITU documents.
- (vi) The Coordinator shall have at least two years’ experience.
- (vii) A National Working Party may be responsible for more than one Agenda Item, but for similar area of work.

4.4 Main Responsibilities of NWP

- (i) The NWP will be responsible for specific area of study which could be a specific WRC Agenda Item, or any other special work.
- (ii) The NWP can be asked to carryout investigation on any topic related to its area of work that may be assigned to it from time to time.
- (iii) NWP will be responsible to generate the momentum for the task. To this end it shall identify and reach out to any organisations, especially academia and start-ups who have the capability and who are interested to carryout studies in radiocommunication. This may include personal visit to these organisations in addition to email or physical correspondences.

4.5 Functioning of NWP

- (i) The NWP Chair and Coordinator will identify the stake holders who can contribute to the agenda/ topic dealt by it. [Also refer to Para 4.4 (iii)]
- (ii) NSGs/NWPs will identify the institutions (IITs, IISERs, IISc etc.) for conducting coexistence, sharing and propagation studies, etc. i.r.o the agenda items relevant to their scope. DO letters at suitable level shall be proposed to the Head of the Organisations requesting for participation in the studies.
- (iii) It will be the responsibility of NSG Chair, NWP Chair and Coordinator to share information to the members from time to time, especially the information available on ITU website.
- (iv) The NWP shall work, to the extent possible through hybrid meetings and in exceptional cases, virtual meeting can be conducted.
- (v) The NWP Chairman can host the meeting in his office or will request for reservation of a meeting room in Sanchar Bhawan at least 15 days before the meeting, two or three options should be given in case rooms are not available or cancelled at the last moment.
- (vi) The Chairman of the NSG will be responsible to hold meetings in timely manner. It is expected that each NWP will have a quarterly meeting.
- (vii) In any case, at least 15 days before the relevant meeting of the Working Party, the NWP Chair will convene a meeting, which will discuss the output of the previous meeting; and the participation in the upcoming meeting.
- (viii) In case NWP Chair is unable to discharge his function temporarily or permanently, a new NWP Chair may be selected. Until such time the NWP Coordinator will act as the NWP Chair.
- (ix) Failure to hold the meeting prior to ITU-R WP meeting, failure to submit report, preparing superficial and insubstantial report will result in reconstitution of the NWP under a different Chairperson.

4.6 Monitoring and supervision of the NWP

- (i) The Monitoring of the NWP will be done at the NSG level.
- (ii) The activities of the NSG and NWP will be periodically reviewed by the Wireless Advisor on monthly basis and by the Member (T) on quarterly basis.
- (iii) A special WRC review meeting will be held on India's preparations, one month prior to the beginning of 2nd session of CPM, and WRC meeting.
- (iv) All NSG Chairs will make presentation to these review meetings taken by WA/ Member (T) or Secretary (T).

4.7 NWP meetings.

- (i) NWP Chairs will prepare an Information document on the specific Agenda Item based on the information available on the WP webpage and provide this information to all stakeholders. Copy will be given to NSG Chair and ISR

Section of WPC Wing. The information document will contain key areas of work for each Working Party.

- (ii) When required, NWP (Chairs) will consult among themselves and will convene joint meetings. Such meeting will be co-chaired by two or more NWP Chairs.
- (iii) NWP Chair will convene a meeting preferably, on the next working day of closing date for receipt of submission of documents for a WP meeting. The NWP meeting will broadly discuss the input documents received for the ITU-R WP for the relevant WP meeting.
- (iv) NWP will prepare a short information document for the WP meeting based on the information available on WP webpage "contribution as received" and its own contribution, if any, in which, WP will identify the main areas of work for the ITU-WP meeting.

4.8 Processing of contribution received by NWP

4.8.1 Processing an Indian Contribution: Upon receipt of any contribution(s) for the Working Party meeting from an Indian stakeholder, the NWP chair will immediately circulate the contribution among the stakeholders and seek comments. A meeting, either physical or virtual or hybrid, shall also be convened and the contribution(s) shall be discussed. The NSG chair will be informed of such meeting. The ISR section will also be informed. The NSG chair and ISR Group officers can participate in the NWP discussion like any other participant and without any privilege. Upon conclusion of the meeting, the NWP Chair will send the document, with his own comments about open unresolved issues, to Wireless Advisor and to ISR Section officers with copy to NSG Chair. This must be received at least 15 days before the closing date of receipt of the contribution for the relevant WP meeting.

4.8.2 NSG Chair will send his comments within 03 working days of receipt of such document by email or physical letter to the Wireless Advisor. This must be received atleast 12 days before the closing date of receipt of the contribution for the relevant WP meeting. If no comments are received from NSG Chair within the stipulated time, it will be considered that NSG Chair has no further comments to make. ISR Section will then take necessary approval of competent authority and send the contributions to the WP meeting as Indian contribution.

4.9 Participation in the ITU WP meeting.

- (i) A person who is not part of the NWP shall not be nominated for the physical participation in the meeting.
- (ii) The NWP members will be nominated to attend the WP meeting. The WP meeting will have physical as well as virtual participation. The physical participation will be limited to optimal number to cover each Agenda item.
- (iii) To encourage participants, the members will be given equal opportunities to attend the physical meetings on rotational basis.

- (iv) Any person who holds position of Chairman/ Vice-chair/ rapporteur/ etc of ITU or APT or AWG shall be nominated for physical participation for a meeting where he will or he may be asked to act as Chair or be on a Panel.
- (v) The Chairman/ Coordinator of each National Working Party shall without fail participate in the relevant ITU WP meeting without fail, physically or remotely subject to approval of nomination. Generally, one or more member of the NWP will attend the ITU WP meeting physically and the rest of the members will support remotely from India.
- (vi) Each ITU-WP meeting will have participation by the WMTDC officers and the ISR Group officers remotely or physically, as appropriate.
- (vii) Other organisations will be welcomed to participate as per their organisational nomination and on their own cost.
- (viii) The remote participants will participate on equal footing with those attending the meeting physically.
- (ix) Generally, the remote participants will be relieved from office to attend the meeting full time. If that is not possible, the participant may attend office but shall not be assigned any routine official work during the duration of the meeting and in the files on official channel of submission for the unit, "participating in WP-XX meeting virtually" shall be noted.

4.10 Report of the WP meeting.

NWP shall submit a report to WA through the NSG Chair after each ITU-R Working Party meeting within 15 days of the completion of the ITU-R meeting. The report should give clear indication on:

- (i) Whether the developments could be potentially detrimental to the interest of the country?
- (ii) What are the areas of potential gain?
- (iii) Specific interventions made by delegates in the meeting
- (iv) Future strategy, if any
- (v) A summary in about 500 words about the output of the meeting in easy to understand language rather than in technical jargons.

5. DOT Funding to carry out studies

- (i) Coexistence studies among different radiocommunication services are generally carried out by using statistical analysis by using a suitable software, and may not be a capital intensive activity.
- (ii) The Radio wave propagation studies use empirical models to carry out studies, may not be a high capital intensive activity.
- (iii) Yet, if an reputed academic institution or organisation need to carry out a field measurement activity, a reasonable amount of financial assistance by DOT to carry out such activity can be considered.

- (iv) A proposal to this effect with details of the set up/ test bench if any should be made available to DOT, with expected output and relevance to the ITU-R studies, deliverables, etc.
- (v) Such funding requirement should be for the communication equipment and not for office stationery or computers; however any specialised software indispensable for the studies shall be included;
- (vi) Such application can be considered and funded subject to Government norms for such funding.

6. The Conference Preparatory Group of Asia Pacific Telecommunity (APG).

6.1 About APG and NPC: The APG is one of the Regional Telecommunication Organisations recognised by ITU. The APG is responsible for regional harmonisation in the Asia Pacific Region. Under the current strategy, the national level preparations for APG related activities are undertaken by the National Preparatory Committee (NPC) under ex-officio chairmanship of the Wireless Advisor. Over the years, the NPC has evolved into a successful activity and has the benefit of active participation of stakeholders. As a result, it has been able to consistently provide meaningful input to WPC Wing.

6.2 NPC structure: The NPC has five Working Groups dealing with Terrestrial, Aeronautical and Maritime, Satellite, Science and General issues. The NPC structure mirrors the APG structure. The main role of NPC is coordination among various stakeholders and consensus building at the National level.

6.3 Formation of NPC: The NPC and its five Working Groups are formed after every First meeting of APG in a WRC Study Cycle. Considering that the main activity is related to a Coordination activity among stakeholders, the chairmen of the five Working Groups will be from WPC Wing.

6.4 NPC under the new strategy: NPC will retain its Form and function under this Strategy. However, the following working method will be observed by NPC.

6.4.1 Working Method of NPC: Each Working Group under NPC will hold meetings at least four weeks before the APG meeting and submit the input to the NPC Chairman at least 03 weeks prior to the APG meeting. The NPC Chair will convene a meeting thereafter and will seek approval of the competent authority to send the Indian position to APG.

7. The APG Wireless Group (AWG)

AWG is part of APT which carries out studies on new wireless technologies. These studies are generally along the same pattern as ITU studies. Hence, AWG strategy can be carried out by NWPs, i.e. either by giving such responsibilities to existing NWPs or

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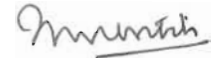
groups or creating new NWP's with specific assigned task.

8. Effective date of the Strategy

- 8.1 The strategy comes into force immediately and will be effective, as amended from time to time, for all future ITU/ APT Study Cycles. A Sample structure of various National Study Groups and National Working Parties is at Appendix A. The actual number of NWP's will vary from one study cycle to another depending on the number of Agenda Items and Studies in the Study Cycle
- 8.2 However, since most of the ITU-WP studies have been completed in the current cycle (2019-23), National Working Parties will be asked to provide if they have any input on the various issues to be discussed in WRC-23 including the Agenda Items.
- 8.3 It is also relevant to mention that the National Preparatory Committee for WRC-23 have already initiated the process to finalize India's position on the WRC-23 Agenda item, responsible officer/stakeholder department has been identified for each WRC-23 agenda item. The responsible officers will ensure that various issues w.r.t agenda items are deliberated with various stakeholders' and India's position is finalized before 15th July 2023. The structure for these responsible officers is provided in Annexure-B.

This issues with the approval of Secretary(T).

- Enclosure: 1) Annexure A: Structure of National Study Groups and National Working Parties for WRC Cycle 2023-2027.
- 2) Annexure B: Strategy for the remaining period of WRC cycle 2019-2023.
- 3) Annexure-C: Composition of the National Working Parties for WRC Cycle 2023-2027.



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WPC Wing

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नई दिल्ली/New Delhi

To,

1. Secretary, Ministry of Information and Broadcasting, with a request to nominate expert from Doordarshan/AIR for Chairmanship of National Working Party (NWP) 6 for the WRC Cycle 2023-2027.
2. Secretary, Ministry of Civil Aviation, with a request to nominate expert from DGCA for Chairmanship of National Working Party (NWP) 5B-2 for the WRC Cycle 2023-2027.

3. Secretary, Ministry of Ports, Shipping and Waterways, with a request to nominate expert from DG Shipping for Chairmanship of National Working Party (NWP) 5B-1 for the WRC Cycle 2023-2027.
4. Secretary & Chairman, ISRO, Department of Space with a request to nominate experts from ISRO/DoS for Chairmanship of National Working Party (NWP), 4A-1, 4A-2, 4B, 4C, 7B & 7C for the WRC Cycle 2023-2027.
5. Centre Director, NCRA-TIFR, Pune, with a request to nominate expert from NCRA for Chairmanship of National Working Party (NWP) 7D for the WRC Cycle 2023-2027.
6. Director, National Physical Laboratory, with a request to nominate expert for Chairmanship of National Working Party (NWP) 7A for the WRC Cycle 2023-2027.
7. Sr. DDG, TEC with a request to nominate officer for Chairmanship of National Working Party (NWP) 5D-1 for the WRC Cycle 2023-2027.
8. All NSG Chairmen and Rapporteurs.
9. All NWP Chairmen and Coordinators.

Copy to:

- 1 PSO to Secretary (T), DoT
- 2 PSO/Sr. PPS to Member (F), DoT
- 3 Sr. PPS to Member (T), DoT
- 4 Sr. PPS to Wireless Adviser, WPC Wing, DoT
- 5 DDG, IR Section, DoT
- 6 PPS to JWA-I & JWA-II, WPC Wing
- 7 DoT website.

Annexure-A**Structure of National Study Groups and National Working Parties for WRC Cycle 2023-2027**

ITU-R Structure		National Structure	
Study Group	Working Parties	National Study Groups (Sh./Smt./Ms.)	National Working Party (Sh./Smt./Ms.)
SG 1: Spectrum management	1A - Spectrum Engineering techniques	NSG 1: Chairman: M. K. Pattanaik, Sr.DWA Rapporteur: Avneesh Kumar, AWA	NWP 1A: Chairman: P S M Tripathi, Sr. DWA Coordinator: Neeraj Juyal, DWA
	1B - Spectrum management methodologies and economic strategies		NWP 1B: Chairman: Director, WPF Coordinator: ADG(WPF)
	1C - Spectrum Monitoring		NWP 1C: Chairman: P.S. Shekhawat, EiC Coordinator: Anu Ahlawat, Engineer.
SG 3: Radio wave propagation	3J - Propagation fundamentals	NSG 3: Chairman: Narendra Bharti, Director, WMO Rapporteur: Ajay Singhal, Sr.DD	NWP 3: Chairman: Reputed Academic Institute (IIT/NIT/IISER) (will be nominated) Coordinator: Priti Sinha, Engineer
	3K - Point-to-area propagation		
	3L - Ionospheric propagation and radio noise		
	3M - Point-to-point and Earth-Space propagation		
SG 4: Satellite services	4A - Efficient orbit/spectrum utilization for FSS and BSS	NSG 4: Chairman: M. Revathi, JWA Rapporteur: Amit Gulati, Sr. DWA	NWP 4A-1: Chairman: DoS (will be nominated) Coordinator: Sandeep Kumar, Engineer NWP 4A-2: Chairman: DoS (will be nominated) Coordinator: Arun Kumar, AWA



	4B - Systems, air interfaces, performance and availability objectives for FSS, BSS and MSS, including IP-based applications and satellite news gathering.		NWP 4B: Chairman: DoS (will be nominated) Coordinator: G.K. Reddy, EiC
	4C - Efficient orbit/spectrum utilization for MSS and RDSS		NWP 4C: Chairman: DoS (will be nominated) Coordinator: Preetam Meena, Engineer
SG 5: Terrestrial services	5A - Land mobile service above 30 MHz* (excluding IMT); wireless access in the fixed service; amateur and amateur-satellite services	NSG 5: Chairman: Gulab Chand, JWA Vice-Chairman: DDG (TEC) Rapporteur: L D Meghwal, Sr. DD	NWP 5A-1: Chairman: Tarun Chaudhary, Sr. DD Coordinator: Yogesh Nandwani, Engineer
	5B - Maritime mobile service including Global Maritime Distress and Safety System (GMDSS); aeronautical mobile service and radiodetermination service		NWP 5A-2: Chairman: Sachin Kumar, AWA Coordinator: Hemandra Parikh, Engineer
			NWP 5B-1: Chairman: DG Shipping (will be nominated) Coordinator: Manish Sheelwant, DWA
			NWP 5B-2: Chairman: DGCA (will be nominated) Coordinator: K Radhika, AWA
	5C - Fixed wireless systems; HF and other systems below 30 MHz in the fixed and land mobile services		NWP 5C: Chairman: M P S Alawa, Sr. DWA Coordinator: Anil Kumar Verma, Sr. DWA
5D - IMT Systems		NWP 5D-1: Chairman: TEC (will be nominated) Coordinator: Vineeth Kurien Mathew, AWA	
		NWP 5D-2: Chairman: Pvt./MSME (will be nominated) Coordinator: Bhoomika Gaur, ADG, TEC	

			NWP 5D-3: Chairman: Reputed Academic Institute (IIT/NIT/IISER) (will be nominated) Coordinator: R C Malik, DD
SG 6: Broadcasting service.	6A - Terrestrial broadcasting delivery	NSG 6: Chairman: N K Bhola, JWA Rapporteur: R C Kota, DWA	NWP 6: Chairman: Doordarshan/AIR (will be nominated) Coordinator: Manoj Gupta, EiC
	6B - Broadcast service assembly and access		
	6C - Programme production and quality assessment		
SG 7: Science services	7A - Time signals and frequency standard emissions	NSG 7: Chairman: Viresh Goel, JWA Rapporteur: Prateek Srivastava, EiC	NWP 7A: Chairman: National Physical Laboratory (will be nominated) Coordinator: S K Rawat, AWA
	7B - Space radiocommunication applications: Systems for transmission/reception of telecommand, tracking and telemetry data for space operation, space research, Earth exploration-satellite, and meteorological satellite services.		NWP 7B: Chairman: ISTRAC (will be nominated) Coordinator: Kshitij Gupta, Engineer
	7C - Remote sensing systems: active and passive remote sensing application in the Earth exploration-satellite service and systems of the MetAids service, as well as space research sensors, including planetary sensors.		NWP 7C: Chairman: NRSA (will be nominated) Coordinator: Raju Dey, Engineer
	7D - Radio astronomy: radio astronomy and radar astronomy sensors, both Earth-based and space-based, including space very long		NWP 7D: Chairman: National Centre for Radio Astrophysics (will be nominated) Coordinator: Shalini Gupta, Engineer

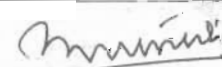
	baseline interferometry (VLBI)		
APT Conference Preparatory Group (APG)		National Preparatory Committee for WRC <i>(to be constituted for WRC-27)</i> Chairman: Wireless Adviser Convener: Sr. DWA(ISR)	Working Groups of the NPC to be constituted after the structure of the CPMReport is finalized by CPM27-1 (Dec-23).

Note: The agenda items for WRC-27 will be decided by WRC-23 and Responsible Groups will be identified by CPM27-1. Therefore, depending upon the WRC-27 Agenda items assigned to each ITU-R Working Party as Responsible Group, the number of National Working Parties (NWP) associated with each ITU-R Study Group may vary to avoid overload of one NWP.

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Strategy for the remaining period of WRC cycle 2019-2023

Agenda Items	Short description of each WRC-23 Agenda Item or topic	Responsible Officers/ Team
AI1.1	Review of RR No. 5.441B regarding IMT identification in 4 800-4 990 MHz	1. Sh. MPS Alawa, Sr.DWA 2. One officer from JCES
AI1.2	IMT identification in 3 300-3 400 MHz, 3 600-3 800 MHz, 6 425-7 025 MHz, 7 025-7 125 MHz and 10.0-10.5 GHz	1. Sh. MPS Alawa, Sr.DWA 2. One officer from DoS (preferably Sh. Saket Buch, Scientist E, SAC Ahmedabad)
AI 1.4	Use of HIBS below 2.7 GHz	
AI1.3	MS allocation in 3.6-3.8 GHz in Region 1	1. Sh. MPS Alawa, Sr.DWA 2. One officer from DoS
RR21.5	Studies on RR No. 21.5	1. Sh. MPS Alawa, Sr.DWA
AI1.5	Review of UHF band in Region 1	1. Sh. MPS Alawa, Sr.DWA 2. One Officer from Prasar Bharti
AI9.1.c	Use of IMT in FS bands	1. Sh. MPS Alawa, Sr.DWA
AI 1.6	Sub-orbital vehicles	1. Ms. M. Revathi, JWA 2. One officer from DGCA/AAI
AI 1.7	New AMS(R)S VHF allocation	
AI 1.8	UAS CNPC links via FSS	1. Ms. M. Revathi, JWA 2. One officer from DGCA/AAI 3. One officer from DoS
AI 1.9	Digital tech for aviation safety-of-life applications (App.27)	1. Ms. M. Revathi, JWA 2. One officer from DGCA/AAI
AI 1.10	New AMS allocation (@15.5 & 22 GHz) for non-safety applications	
AI 1.11	GMDSS modernization and e-navigation	1. Ms. M. Revathi, JWA 2. One officer from DG shipping 3. One officer from MHA/MoD
Res. 427	Updating provisions related to aeronautical services in the Radio Regulations	1. Ms. M. Revathi, JWA 2. One officer from DGCA/AAI
1.12	New secondary allocation to the EESS (active) service for spaceborne radar sounders within the range of frequencies around 45 MHz	1. Sh. A. Singhal, Sr. DD 2. One officer from JCES
1.13	Possible upgrade of the allocation of the frequency band 14.8-15.35 GHz to the space research service	1. Sh. A. Singhal, Sr. DD 2. One officer from DoS



Agenda Items	Short description of each WRC-23 Agenda Item or topic	Responsible Officers/ Team
1.14	Possible new primary frequency allocations to EESS (passive) in the frequency range 231.5-252 GHz	1. Sh. A. Singhal, Sr. DD 2. One officer from DoS
9.1-a)	Spectrum requirements and appropriate radio service designations for space weather sensors	1. Sh. A. Singhal, Sr. DD 2. One officer from IMD/DoS
9.1-d)	Protection of EESS (passive) in the frequency band 36-37 GHz from non-GSO FSS space stations	1. Sh. A. Singhal, Sr. DD 2. One officer from DoS
AI 1.15:	GSO ESIM use in 12.75-13.25 GHz	1. Sh. M. K. Pattanaik, Sr.DWA 2. One officer from DoS
AI 1.16:	Non-GSO ESIM use in Ka band	
AI 1.17:	Sat-sat links in Ku/Ka bands	
AI 1.18:	Narrowband MSS allocation in Region 1 and 2	1. Sh. M. K. Pattanaik, Sr.DWA
AI 1.19:	FSS s-E allocation in 17.3-17.7 GHz in Region 2	1. Sh. M. K. Pattanaik, Sr.DWA 2. One officer from DoS
AI 7	Review of satellite regulatory issues	1. Sh. M. K. Pattanaik, Sr.DWA 2. Sh. Arun Kumar, AWA 3. One officer from DoS
2	Review of ITU-R Recommendations incorporated by reference	1. Sh. Anil Kumar Soni, Sr. DWA 2. Sh. R.C. Malik, DD
4	Review of the Resolutions and Recommendations of previous conferences	
8	Deletion of country footnotes or country names from the footnotes	
9.1- b)	Protection of RNSS (s-to-E) receivers from the amateur and amateur-satellite services in the frequency band 1 240-1 300 MHz	
9.2	Difficulties and inconsistencies encountered by the BR in the application of the RR	
10	Items for inclusion in the agendas of future WRCs	

Anand

Officers assisting the NPC Working Group Chairs under various Agenda Items from WPC and WMO:

NPC WGs	Chairmen (Name, Designation, Email)	Topics (WRC 2023 Agenda Items)	Name, Designation & Email of assisting officers w.r.t. assigned Agenda Items
WG-1	Sh. MPS Alawa, Sr. DWA ms.alawa@nic.in	Fixed, Mobile & Broadcasting issues (1.1, 1.2, 1.3, 1.4, 1.5, 9.1 (c), Article 21.5)	1. Mr. Sachin Kumar, AWA, COP sachin.kumar46@gov.in 2. Mr. Shitanshu Shekhar, AWA RLO Guwahati shitanshu.shekhar@gov.in
WG-2	Smt. M. Revathi, Sr. DWA m.revathi@nic.in	Aeronautical and maritime issues (1.6, 1.7, 1.8, 1.9, 1.10, 1.11)	1. Ms. K. Radhika, AWA, IT&SACFA radhika.kollu@gov.in
WG-3	Sh. Ajay Singhal, Sr. DD singhal.ajay@nic.in	Science issues (1.12, 1.13, 1.14, 9.1(a) and 9.1 (d))	1. Sh. Prateek Srivastava, EiC p.srivastava89@gov.in 2. Sh. Vishal Singh Yadav, Dy. Director vishals.yadav@nic.in 3. Sh. Tarun Choudhary, Dy. Director tarun.chaudhary@nic.in
WG-4	Sh. M.K. Pattanaik, Sr. DWA pattanaik.mr@gov.in	Satellite issues (1.15, 1.16, 1.17, 1.18, 1.19, 7)	1. Mr. P S M Tripathi, Sr. DWA, (AI 1.18 and 1.19) psm.tripathi@nic.in 2. Mr. Arun Kumar, AWA, ISR (AI 7) angurana.arun@nic.in 3. Mr. Preetam Meena Engineer (AI 1.16 and 1.17) preetam.meena@gov.in 4. Mr Sandeep Kumar: Engineer (AI 1.15) sandeep.kr30@gov.in
WG-5	Sh. Anil K. Soni, Sr. DD anilk.soni@nic.in	General issues (2, 4, 8, 9.1 (b), 9.2 and 10)	Sh. R.C. Malik, DD rameshc.malik@nic.in

S. Anil K. Soni

Composition of the National Working Parties for WRC Cycle 2023-2027

National Study Groups (Sh./Smt./Ms.)	National Working Party (Sh./Smt./Ms.)	Members of National Working Party
NSG 1: Chairman: M. K. Pattanaik, Sr. DWA Rapporteur: Avneesh Kumar,AWA	NWP 1A: Chairman: P S M Tripathi, Sr. DWA Coordinator: Neeraj Juyal, DWA	MHA, MIB, DOS, TEC, DCPW, JCES, Reputed Academic Institutions, COAI, Manufacturers, TSPs, Satellite Operators, BIF, Satellite Industry Associations, DG Shipping, DGCA, IAFI, CEWiT
	NWP 1B: Chairman: Director, WPF Coordinator: ADG(WPF)	MHA, MIB, DOS, Finance Wing DoT, TEC, DCPW, JCES, Reputed Academic Institutions, COAI, Manufacturers, TSPs, Satellite Operators, BIF, Satellite Industry Associations, DG Shipping, DGCA, IAFI, CEWiT, Railways, C-DoT, IMD
	NWP 1C: Chairman: P.S.Shekhawat, EiC Coordinator: Anu Ahlawat, Engineer.	MHA, MIB, DOS, TEC, DCPW, JCES, Reputed Academic Institutions, COAI, Manufacturers, TSPs, Satellite Operators, BIF, Satellite Industry Associations, DG Shipping, DGCA, IAFI, CEWiT
NSG 3: Chairman: Narendra Bharti, Director, WMO Rapporteur: Ajay Singhal, Sr.DD	NWP 3: Chairman: Reputed Academic Institute (IIT/NIT/IISER) (will be nominated) Coordinator: Priti Sinha, Engineer	Reputed Academic Institutions, CEWiT
NSG 4: Chairman: M. Revathi, JWA Rapporteur: Amit Gulati, Sr. DWA	NWP 4A-1: Chairman: DoS (will be nominated) Coordinator: Sandeep Kumar, Engineer	MHA, JCES, MIB, DoS, Satellite Start-ups, Satellite Service Providers, IAFI, COAI, Reputed Academic Institutions, Satellite Industry Associations, other Industry Associations,
	NWP 4A-2: Chairman: DoS (will be nominated) Coordinator: Arun Kumar, AWA	
	NWP 4B: Chairman: DoS (will be nominated) Coordinator: G.K. Reddy, EiC	MHA, JCES, MIB, DoS, Satellite Start-ups, Satellite Service Providers, IAFI, COAI, Reputed Academic Institutions, Satellite Industry Associations, other Industry Associations

	NWP 4C: Chairman: DoS (will be nominated) Coordinator: Preetam Meena, Engineer	MHA, JCES, MIB, DoS, Satellite Start-ups, Satellite Service Providers, IAFI, COAI, Reputed Academic Institutions, Satellite Industry Associations, other Industry Associations
NSG 5: Chairman: Gulab Chand, JWA Vice-Chairman: DDG (TEC) Rapporteur: L D Meghwal, Sr. DD	NWP 5A-1: Chairman: Tarun Chaudhary, Sr. DD Coordinator: Yogesh Nandwani, Engineer	COAI, TSPs, BIF, IAFI, Reputed Academic Institutions, other Industry Associations, DCPW, JCES, DoS, Qualcomm, Inmarsat, manufacturers, National Institute of Amateur Radio, CEWiT, Start-ups, C-DoT, Railways
	NWP 5A-2: Chairman: Sachin Kumar, AWA Coordinator: Hemandra Parikh, Engineer	COAI, TSPs, BIF, IAFI, Reputed Academic Institutions, other Industry Associations, DCPW, JCES, DoS, Qualcomm, Inmarsat, manufacturers, National Institute of Amateur Radio, CEWiT, Start-ups, C-DoT, Railways
	NWP 5B-1: Chairman: DG Shipping (will be nominated) Coordinator: Manish Sheelwant, DWA	COAI, BIF, IAFI, Reputed Academic Institutions, other Industry Associations, DCPW, JCES, DoS, CEWiT, Start-ups, DGCA, DG Shipping, AAI
	NWP 5B-2: Chairman: DGCA (will be nominated) Coordinator: K Radhika, AWA	COAI, BIF, IAFI, Reputed Academic Institutions, other Industry Associations, DCPW, JCES, DoS, CEWiT, Start-ups, DGCA, DG Shipping, AAI
	NWP 5C: Chairman: M P S Alawa, Sr. DWA Coordinator: Anil Kumar Verma, Sr. DWA	COAI, BIF, IAFI, Reputed Academic Institutions, other Industry Associations, DCPW, JCES, DoS, CEWiT, Start-ups, C-DoT, AIR
	NWP 5D-1: Chairman: TEC (will be nominated) Coordinator: Vineeth Kurien Mathew, AWA	COAI, TSPs, BIF, IAFI, Reputed Academic Institutions, other Industry Associations, DCPW, JCES, DoS, Qualcomm, Inmarsat, manufacturers, TSDSI, Tejas Networks, CEWiT, Start-ups, DGCA, DG Shipping, TEC, C-DoT, Railways
	NWP 5D-2: Chairman: Pvt./MSME (will be nominated) Coordinator: Bhoomika Gaur, ADG, TEC	COAI, TSPs, BIF, IAFI, Reputed Academic Institutions, other Industry Associations, DCPW, JCES, DoS, Qualcomm, Inmarsat, manufacturers, TSDSI, Tejas Networks, CEWiT, Start-ups, DGCA, DG Shipping, TEC, C-DoT, Railways

Amrinder

	NWP 5D-3: Chairman: Reputed Academic Institute (IIT/NIT/IISER) (will be nominated) Coordinator: R C Malik, DD	COAI, TSPs, BIF, IAFI, Reputed Academic Institutions, other Industry Associations, DCPW, JCES, DoS, Qualcomm, Inmarsat, manufacturers, TSDSI, Tejas Networks, CEWiT, Start-ups, DGCA, DG Shipping, TEC, C-DoT, Railways
NSG 6: Chairman: N K Bholra, JWA Rapporteur: R CKota, DWA	NWP 6: Chairman: Doordarshan/ AIR (will be nominated) Coordinator: Manoj Gupta, EiC	MIB, AIR, Doordarshan, Reputed Academic Institutions, CEWiT
NSG 7: Chairman: VireshGoel, JWA Rapporteur: Prateek Srivastava, EiC	NWP 7A: Chairman: National Physical Laboratory (will be nominated) Coordinator: S K Rawat, AWA	Reputed Academic Institutions, National Physical Laboratory
	NWP 7B: Chairman: ISTRAC (will be nominated) Coordinator: Kshitij Gupta, Engineer	DoS, Reputed Academic Institutions, Start-ups.
	NWP 7C: Chairman: NRSA (will be nominated) Coordinator: Raju Dey, Engineer	DoS, Reputed Academic Institutions, Start-ups.
	NWP 7D: Chairman: National Centre for Radio Astrophysics (will be nominated) Coordinator: Shalini Gupta, Engineer	NCRA(GMRT), Reputed Academic Institutions, Start-ups.
National Preparatory Committee for WRC (to be constituted for WRC-27) Chairman: Wireless Adviser Convener: Sr. DWA(ISR)	Working Groups of the NPC to be constituted after the structure of the CPM Report is finalized by CPM27-1 (Dec-23). 	