

6 March 2023
Mr. Manyapelo Richard Makgotlho
Independent Communications Authority of South Africa
350 Witch-Hazel Ave, Eco-Park Estate
CENTURION
0144

Per Email: rmakgotlho@icasa.org.za

Dear Mr Makgotlho

**RE: TRANSNET RESPONSE TO THE SECOND DRAFT RADIO FREQUENCY ASSIGNMENT PLAN FOR
IMT 450 BAND FOR PUBLIC CONSULTATION**

Transnet SOC LTD (Herein referred to as Transnet) welcomes the opportunity to respond to the second draft radio frequency assignment plan for IMT 450 Band for public consultation.

Transnet SOC supports the second draft RFSAP as it brings clarity to the implementation and allocation of spectrum to the IMT 450 band. Transnet SOC commits to fully co-operate with ICASA and future licensee in co-ordinating and sharing of spectrum in IMT 450 Band.

Yours Sincerely
Selby Mchunu

A handwritten signature in black ink, appearing to be "Selby Mchunu", written over a horizontal line.

Transnet Representative
Transnet SOC LTD.

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EXECUTIVE SUMMARY

Transnet SOC is a Freight logistic company that focuses on the delivery of freight within South Africa. As the custodian of ports, rail and pipelines, Transnet's objective is to ensure a globally competitive freight system that enables sustained growth and diversification of the country's economy. Transnet wishes to give comments on the second draft RFSAP for the IMT 450 band for public consultation. Transnet are giving the inputs as one of the users and an impacted party for plans on spectrum allocation in the long term. Currently Transnet makes use of the 450 MHz band spectrum to run mission critical train, port, and pipeline operations. Transnet also has implemented RFID technology as well as Locomotive Radio distributed power (RDP) systems. As such the impact on the spectrum allocation for the next 10-20 years has a major impact on the ability of Transnet to fulfil its given mandate. Transnet SOC supports the second draft RFSAP and commits to work with ICASA in co-ordinating and sharing of spectrum with the future licensee and appreciate the administrative allocation proposal to Transnet SOC.

GENERAL COMMENTS

Clause: 2.2

Transnet concurs with the Authority on the designation of this band for IMT and will work with the authority to ensure that the services currently deployed will not interfere with the usage on this band for this purpose.

Clause: 2.4

Transnet acknowledges the requirements of the band to include technology that is packet based. It is Transnet's hope that the authority will ensure that the policies that are enacted guarantee the proliferation of peripheral devices in this band. This will aid the development of the ecosystem of such devices and contribute to the reduction of costs of ownership of the IMT technologies within this band.

Clause:3.6

Transnet acknowledges the designation of this band to be used for PPDR (as laid out in Resolution 646 (WRC15)) or Machine type communication. Transnet would also include the designation of the band for mission critical communication networks. Since the band has the ability for coverage and less on capacity (availability of 5 MHz), it will be very useful for communication that must always exist in an emergency and time sensitive urgent response.

Clause 4: Channel Plan

Transnet agrees with the authority that D13, and D14 closely correspond with the ITU Band 31. Implementation of the band plan in this manner will assist the industry to develop equipment that currently has an eco-system. Furthermore, Transnet welcomes the channel plan for the band being aligned with the ITU and thus will assist the harmonisation of the Band within the SADC region.

Interference Management at IMT 450

Transnet undertakes to ensure that all interference is minimised during the deployment of the IMT technologies in the IMT450 Band. Transnet operations are largely in the rural areas which are sparsely occupied by the civilian population. Transnet will work with the designated IMT450 operator to ensure that a coordination of the Base station infrastructure will be completed during the design phase. For ensuring the reduction and elimination of interference Transnet will deploy the following ITU recommended (Recommendation ITU-R M.2101-0) methods. Transnet will also ensure that simulation of interference is conducted before any deployment of sites is concluded.

Since it is likely that the frequency used in the band will be the same for both the IMT service provider and Transnet, the elimination of Co-Channel interference will be done during project design phase. To reduce the Adjacent Channel emission interference, Transnet will apply stringent technical specifications for the vendors of the equipment in line with the safety critical Railway environment. Transnet will also enforce the TFR type approval of all deployed equipment to ensure that the equipment is able to operate with minimal Adjacent Emissions. Regarding blocking interference, Transnet will ensure that the design for base stations is planned between the two organisations. To ensure coordination, Transnet will propose interworking between the two IMT networks.

Clause 6: Implementation

Transnet acknowledges the requirements in clause 6.2 of ensuring that narrowband services that can co-exist with IMT will be permitted upon licensing. Transnet requires such narrowband provision because of operations in the SKA area where there is a prohibition against broadband wireless networks to limit the interference with the SKA telescopes. Transnet undertakes to work with both the Authority and the SKA management authority to minimise adverse impact on the Radio Astronomy activities in the Northern Cape.

Transnet notes the commitment by the authority to setup exclusion zones for areas where government services are deployed. Transnet undertakes to supply the authority with all the data required about the operations and deployed base stations. Transnet also commits to supplying the authority with the Migration Plan to ensure the smooth transition of the band to IMT based technologies.

Clause 7: Coordination requirements

Transnet notes the requirements of ensuring coordination with SADC countries for the use of this band. Transnet will work with the authority to ensure that South Africa will honour the coordination requirements. Transnet would also like to highlight that it operates some of its rolling stock in Neighbouring countries (e.g. eSwatini). This has resulted in the use of the 450 MHz band being deployed within eSwatini for the seamless operations of the train service. Transnet would like the Authority to assist in ensuring that the Final RFSAP is communicated with the Authority in the kingdom, to facilitate the transition.

With Transnet operations in Mozambique, Transnet would like to highlight that coordination will also be critical for the successful implementation of IMT in the band. Currently Mozambique has implemented a CDMA technology in some areas in the country. Transnet will also be working with the authority to ensure that coordination can be done with Mozambique and interference is reduce or eliminated.

Clause 8: Assignment

Transnet acknowledges the directive for its allocation to be amended to harmonise the technologies within the band. Transnet undertakes to fully cooperate with the authority to ensure that the smooth deployment of IMT in this band is completed.

Clause 9: Revocation

Transnet notes the revocation of licences in the band and the date of 1 April 2023.

Clause 10: Radio Frequency Migration

Transnet undertakes to work with the new band holder for the deployment of IMT technologies within the band. Transnet will endeavour to share the network topology with the licence holder, share the operation infrastructure were possible and results of interference analysis conducted.

THE END

