

20 May 2022
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: DRAFT RADIO FREQUENCY ASSIGNMENT PLANS FOR IMT 450 BAND IN TERMS OF THE INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA ACT, 2000 (ACT NO.13 OF 2000)

Transnet SOC LTD (Herein referred to as Transnet) welcomes the opportunity to respond to the **Draft Radio Frequency Spectrum Assignment Plans for the frequency band 450 MHz to 470 MHz for public consultation.**

Transnet SOC LTD is a government owned entity will thus submit these written representations to ICASA in its capacity as a licensee of spectrum and also the holder of an I-ECS and I-ECNS licences.

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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TRANSNET HAS A 'ZERO GIFTS' POLICY. NO EMPLOYEE IS ALLOWED TO ACCEPT GIFTS, FAVOURS OR BENEFITS

1 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 **Draft Radio Frequency Spectrum Assignment Plans for the frequency band 450 MHz to 470 MHz in response to GG 46160 of March 2022**. Transnet are giving the inputs as one of the users and also an impacted party for plans on spectrum allocation in the IMT 450 MHz. Transnet SOC use the 450 MHz band spectrum to run mission critical train, port and pipeline operations. Transnet SOC also implemented RFID technology as well as Locomotive Radio distributed power (RDP) systems. National Development Plan 2030 is an integrated developmental framework that give guidance to South Africa as a developmental state, and an observation was made by NDP when it comes to railway infrastructure-

“South Africa needs reliable, economical and smooth-flowing corridors linking its various modes of transport (roads, Rail, Air, Sea Ports and Pipelines) currently, these corridors are dominated by outdated, malfunction-prone railway technology and poor intermodal linkages” – NDP (Chapter 4, Page 160)

The NDP views the outdated technology infrastructure in the railway system as an impediment to economic growth as it causes bottlenecks in the logistics deliverables. NDP mentions Waterberg/Lephalale/Richards Bay (NorthCor), JHB/Durban (Natcor) and COEGA as areas of importance in Strategic Infrastructure Project in realizing the goals of NDP 2030.

Transnet SOC recommends to ICASA to take into cognisance the NDP 2030 goals related to railway infrastructure development, urge ICASA to allocate 450 MHz broadband spectrum that would lead to improved modern railway communication system.

TRANSNET SOC COMMENTS:

2 PURPOSE

- 2.1 Transnet SOC supports the purpose of ICASA as outlined from 2.1 to 2.4 as it is planning to deploy LTE networks complying with all key features of 2.4.
- 2.2 As noted from the Transnet submission for the IMT roadmap public consultations (GG45690) the use of the Band for IMT450 would greatly serve the Transnet needs and also contribute to the provision of coverage in Rural areas. The band is critical to provide coverage in sparsely populated areas. With the size of the available spectrum the band does not provide high capacity but assists with the access of IMT technology in rural areas.

3 GENERAL

- 3.1 Transnet SOC supports the general conditions of ICASA as outlined from 3.1 to 3.8 with the emphasis on 3.6 as Transnet operates machine to machine devices and is committed to use the spectrum on a sharing & coordinated basis with other licensed users and is also willing to share its spare capacity with the rural communities where its network traverses.
- 3.2 The use for the band for PPDR and critical communication would ensure that the network deployment is optimised. Thus, PPDR and Logistics can share network infrastructure and reduce the cost of deploying networks, especially in rural areas. This would lead to the improvement of service delivery for the communities that are served by PPDR and Railways.

4 CHANNELLING PLAN

- 4.1 Transnet SOC supports 4.1 to 4.2 of ICASA channelling plan requirement with the emphasis of D14 Plan as envisaged by 3GPP.
- 4.2 The use of Band 31 is already established in countries such as Denmark, Finland, and Norway. This ensures that the device ecosystem has already been developed. Transnet recommends that the use of this Band in South Africa for IMT will ensure that the cost of deploying LTE is not exorbitant which is required for networks that may not generate revenue in themselves.

5 REQUIREMENTS FOR USAGE OF RADIO FREQUENCY SPECTRUM

- 5.1 Transnet SOC supports 5.1 to 5.9 of ICASA requirements for usage of radio frequency spectrum and will comply fully with those requirements.
- 5.2 On Clause 5.6 Transnet welcomes the option to have a case-by-case application for higher EIRP. Transnet would also like to recommend that the authority consider the use of High-Power Use Equipment (HPUE) in this band similar to the 3GPP recommendation (Release 11) in Band 14. This is especially important considering that both PPDR and Railways use Mission critical Push to Talk (MCPTT) which requires proximity (device to device) communication.

6 IMPLEMENTATION

- 6.1 Transnet SOC supports the implementation 6.1 to 6.5 of ICASA with the emphasis on 6.2 where the EC Act 36 of 2005 and would like to emphasize on Section 31(4) and 34 (16) when these plans are implemented.

Section 31(4) of the Act states:

“The Authority may amend a radio frequency spectrum licence-

- a) To implement a change in radio frequency plan*
- b) In the interest of orderly radio frequency spectrum management*
- c) To effect the migration of licences in accordance with a revised radio frequency plan or transition from analogue to digital broadcasting*
- d) If requested by the licensee concerned to the extent that the request is fair and does not prejudice other licences, or*
- e) With the agreement of the licensee”*

Section 31(16) of the Act states:

“The Authority may, where the national radio frequency plan identifies radio frequency spectrum that is occupied and requires the migration of the users of such radio frequency spectrum to other radio frequency band in accordance with national radio frequency, except where such migration involves governmental entities or organisations, in which case the Authority –

- a) Must refer the matter to the Minister; and*
- b) May migrate the users after consultation with the Minister”*

- 6.2 Transnet SOC would draw the attention of ICASA to 6.4 and appeal that 1st April 2023 is not feasible as Transnet has engaged the authority on several occasions with regards to its plans to deploy an IMT technology in the band. The processes that must be followed to comply within the stipulated period is not feasible for government entities when considering compliance to other legislation, e.g. PFMA.
- 6.3 Transnet supports the usage of the band for multiple users co-existing as noted on clause 6.1, RF migration plan. The feasibility of sharing the band should also be explored extensively to ensure that the band is optimally used.

7 COORDINATION REQUIREMENTS

- 7.1 Transnet SOC supports all coordination requirements as stated by ICASA to prevent harmful interference and as a basis for spectrum sharing. Transnet operates across SADC region, e.g. Zambia, eSwatini, etc.
- 7.2 Transnet operates railway services into neighbouring countries, specifically Mozambique and Swazilani as shown below:



Figure 1: Transnet Operation in neighbouring Countries

- 7.3 Transnet has experienced interference in the 450 MHz band in this area of operations. Transnet recommends that the authority uses the established Harmonised Calculation Method for Africa (HCMA) agreement.

8 ASSIGNMENT

- 8.1 Transnet SOC does not support ITA for state entities that are existing users of the band. that would lead to spectrum auctioning as it would lead to ICASA issuing spectrum in an inequitable manner as most government entities in that band are not commercial operators.
- 8.2 Transnet SOC believes that 450 MHz band, while designated for IMT applications, that the band is not a high demand

spectrum.

8.3 Transnet would like to highlight to the authority that the spectrum is being deployed for Mission critical communications and in support of the

- mandate given to it by government, i.e. to reduce the cost of doing business in the Republic.
- the Rail Policy Bill which mandates 3rd party access on Transnet Rail Network. As the infrastructure manager of the railways, spectrum assignment to Transnet SOC in this band will represent the most efficient use of the spectrum due to its scale.
- the National Development Plan 2030,

8.4 Transnet would also like the authority to note that if the Spectrum Auction is used as a mechanism for spectrum assignment, this could lead to a spectrum monopoly by incumbent mobile network operators, and it will increase the cost of deploying IMT technology within the band.

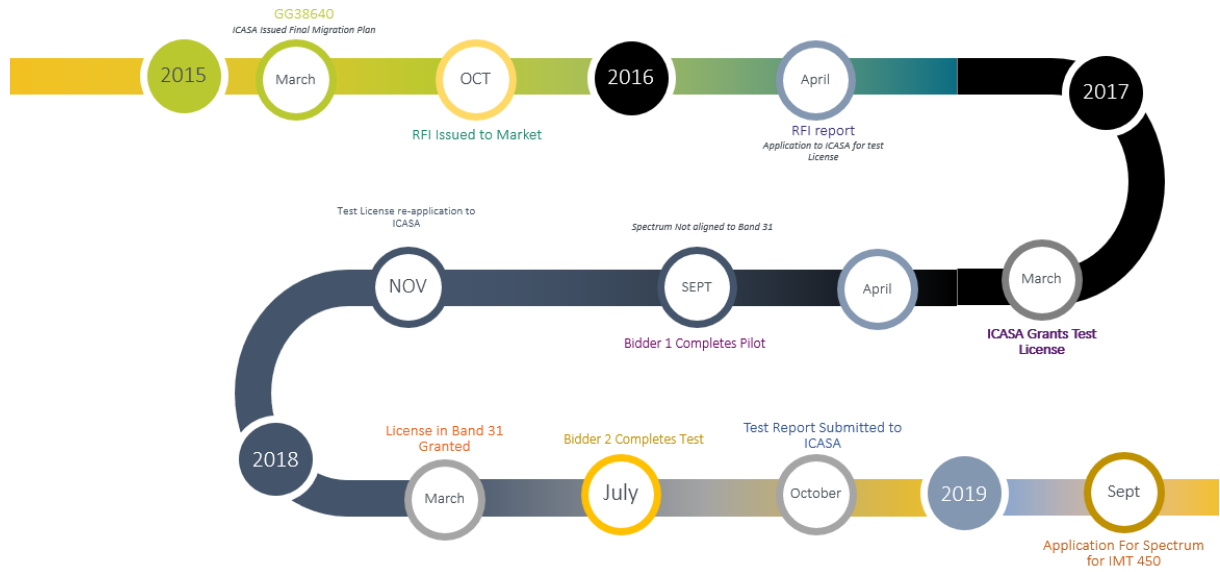
9 REVOCATION

9.1 Transnet notes the date of revocation for 1st April 2023. Transnet would like to highlight to the Authority the magnitude of the project: The building of over 50 new masts that require environmental authorisation, the installation of over 600 high sites with IMT network equipment and the changing of User equipment (2500 Locomotives during operations and 15000 handheld devices)

10 RADIO FREQUENCY MIGRATION

10.1 Transnet SOC does not support ICASA envisaged migration plan to the lower band as it has made numerous presentation to the Authority about its intention to implement LTE broadband network and its intention to co-exist with other players in the IMT 450 MHz band.

10.2 Transnet would like to highlight the process that has been undertaken since the publication of Government Gazette 38640.



- 10.3 Transnet has been working with the Authority to ensure that the Migration plans are executed to ensure the implementation of the RFSAP.
- 10.4 Transnet would also want to highlight to the authority that footnote 16 in clause 10.2 with reference to Dual illumination talks to Government Gazette No 45984. The announcement for the minister was focused on the Broadcasting digital migration Policy.

11 CONCLUSION

- 11.1 Transnet looks forward to working with the authority in ensuring the delivery of the RFSAP to the benefit of the South African economy.

The End