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Dear Mr Davis Kgosimolao Moshweunyane
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And
Mr Manyaapelo Richard Makgotlho
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RE: ESKOM SUPPLEMENTARY RESPONSE TO ICASA´S DRAFT NATIONAL RADIO FREQUENCY PLAN (NRFP) 2025

Eskom Holdings SOC Ltd appreciates the opportunity to provide written comments on the Draft National Radio Frequency Plan 2025, as published in Government Gazette No. 53637 dated 7 November 2025.

Firstly, Eskom applauds ICASA in ensuring radio spectrum is allocated and managed in a fair and equitable manner that supports economic growth and benchmarked with international trends.

As a state-owned enterprise wholly owned by the South African Government, Eskom is mandated to ensure the provision of electricity in an efficient and sustainable manner, thereby supporting economic growth and reducing the cost of doing business in South Africa. In provisioning of electricity in the country, spectrum is critical to safely control and monitor the electrical network.

1. Proposal for Allocation of Band 31 (450 MHz – 470MHz) for Utility Services.

1.1 Background

Eskom has in the past utilized some parts of the 450 MHz spectrum for their analogue point to point narrow band links for SCADA services. Emanating from Final Radio Frequency Spectrum Assignment Plan for the Frequency Band 450 MHz – 470 MHz: 2023, Eskom was therefore required to migrate all their links out of this band. Eskom notes that the 450–470 MHz band is addressed through ICASA's IMT450 RFSAP and associated licensing framework, which is the practical instrument for assignment and conditions of use (rather than the NRFP allocation table alone).

It has since been a challenge for Eskom to migrate some of the links out of spectrum as the next available frequency to use is the 1.4GHz which requires line of sight for optimal performance. In some areas, line of sight is unattainable due to harsh terrains.
In addition, some links are within/near the Karoo Central Astronomy Advantage Areas where spectrum use is restricted unless exempted and permitted under the KCAAA regulatory framework, which further constrains feasible alternatives.

1.2 Recommendation on Band 31 (450 MHz – 470MHz) allocation:

Although in full support of allocation of this band for IMT application, it is Eskom's view that this spectrum be exclusively allocated to utility services for their own internal usage in smart grid services, such as Advanced Metering Infrastructure (AMI), grid sensors and similar applications. Eskom also acknowledges that the spectrum is wide enough to be shared with other utilities such as water services and railway operators; and therefore, proposes in-band channelization where each utility is exclusively allocated some part of this spectrum.

While Eskom supports the technology-neutral framework and the use of this band for IMT, Eskom propose that ICASA enable PRIORITY/PROTECTED ACCESS for critical infrastructure networks (electricity, water and rail) in 450–470 MHz through the IMT450 RFSAP and associated licensing conditions (rather than a rigid 'exclusive' NRFP allocation). This aligns with international principles that identification for IMT does not preclude other allocated uses, and administrations may determine national implementation based on national circumstances.
Eskom recommends that ICASA consider one or more of the following implementable mechanisms within the IMT450 licensing framework:

(a) Reserve a national critical-infrastructure block (or blocks) for utilities/critical infrastructure under managed/closed-user access; and/or

(b) Enable a shared national critical-infrastructure IMT450 network with logical separation (e.g., APN/slicing/QoS) and service-level obligations; and/or

(c) Explicitly permit technically compatible narrowband utility/SCADA services to coexist where this does not undermine IMT450 deployment (noting that the IMT450 RFSAP already contemplates narrowband coexistence).

2. Power Line Carrier (PLC) / Power Line Transmission (PLT)

2.1 Background

The Draft National Radio Frequency Plan (NRFP) 2025 does not currently cover anything on the powerline communication. There is a matured ecosystem on usage of PLC/PLT which largely operates in the range of 2MHz – 100MHz with radiated power of 2W to 5 W (compliant with emission limits and measurement methods (EMC). PLC/PLT is typically managed through EMC/type approval frameworks because RF impact is primarily unintended radiation from wired networks. Eskom envisage proliferation

of devices that will utilize the powerline carriers as communication medium for different services in the foreseeable future, in support of AMI, among other services.

2.2 Recommendation on Power Line Carrier (PLC) / Power Line Transmission (PLT)

It is Eskom's view that ICASA as a regulator should include PLC/T frequencies in the NRFP to ensure synergy and co-existence amongst different users of this medium. This can be achieved through providing guidance on interference management of users in the same vicinity and limitation on radiated power.

Eskom recommends that PLC/PLT be addressed primarily through EMC/type approval and interference-mitigation obligations (rather than NRFP allocation tables). Eskom therefore requests:

a) an informative NRFP note/annex clarifying that PLC/PLT/BPL devices must comply with EMC/type approval requirements and must not cause harmful interference to radiocommunication services; and
b) a dedicated ICASA PLC/PLT technical guideline specifying emission limits, measurement methods, interference-resolution procedures (complaints-driven mitigation), and notching/avoidance where required to ensure coexistence.

In developing this guideline, ICASA may reference established international approaches such as FCC Access BPL rules (1.705–80 MHz) and European PLC disturbance standards (e.g., EN 50561-1 for in-home PLC), adapted for South African conditions.

Yours sincerely

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