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Our reference: k10001925N
Your reference: n/a

19 July 2024

Senior Manager (Nuclear Licensing)
C/o Nuclear Licensing
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Dear Sir

NNR DIRECTIVE: OUTCOME OF ASSESSMENT FOR LONG TERM OPERATION

This directive addresses the conditions for Long Term Operation as covered by condition 16.4 of NIL-01, Variation 21.

- 1) The extended operation of KNPS Unit 1 is subject to the following conditions:
 - a) Implementation of all commitments as listed with the timeframes specified in Tables A.2-1, A.2-2, and A.2-3 of Appendix A of the Safety Case for Long-Term Operation of Koeberg Nuclear Power Station, 331-618, Rev 3.
 - b) Implementation of all planned safety improvements with the timeframes as identified in Appendix I of the 3rd Periodic Safety Review Global Assessment and Integrated Implementation Plan Report, 331-608, Rev 2.
- 2) In addition, the activities listed below must be finalised within the timeframes specified.
 - a) Emergency Plan
 - i) Conduct an assessment of the effectiveness of the Koeberg Nuclear Emergency Plan and a review of the existing nuclear disaster management infrastructure in conjunction with the City of Cape Town. (Due: December 2025)
 - ii) Implement improvement actions within a reasonable timeframe and as agreed by the NNR. (Due: TBD)

- b) Submit to the NNR the external events Level 2 Probabilistic Safety Assessment (PSA) and update of the Emergency Plan Technical Basis (EPTB) with the results of the external events Level 2 PSA. (Due: December 2025)
- c) Seismic Assessment
 - i) Validate the seismic assessment of the plant in the 15 - 45 Hz frequency domain of the updated seismic response spectrum (USRS) by developing and submitting for regulatory approval the updated floor response spectra (UFRS). (Due: December 2025)
 - ii) Develop a seismic probabilistic safety assessment (Seismic PSA) to demonstrate fulfilment of the seismic safety goals specified in PP-014. (Due: December 2025)
- d) Aseismic bearings
 - i) Use representative samples (or in the case of a lack of representative samples, manufacture new samples) for aseismic bearings and perform accelerated ageing tests to ensure that their condition is representative of the in-situ bearings. Evaluate the impact of these test results on the shear modulus and the potential impact on global plant safety and also evaluate the safety margins of the material properties. (Due: December 2025)
 - ii) Evaluate and justify that there are adequate remaining safety margins to cover the seismic demand resulting from requirements coming from post-Fukushima re-assessment. (Due: December 2025)
 - iii) Re-assess the surveillance procedures including surveillance frequencies, calculation methods, and acceptance criteria. (Due: December 2025)
- e) Containment (Due: Outages 129 and 229)
 - i) Restore the functionality of the containment monitoring system.
 - ii) Re-assess the surveillance procedures including surveillance frequencies and calculation methods.
 - iii) Extract sample specimens/test coupons from the structural components of containment structures and perform relevant material tests.
 - iv) Initiate research program to investigate improved methods for the estimation of changes in material properties.
- f) Complete the process of cable testing originally initiated for the re-qualification of qualified cables. (Due: December 2025)
- g) Perform the re-assessment of qualified life of identified transmitters in mild environments. (Due: December 2030)

- h) Reactor Pressure Vessel:
 - i) Develop and implement the RadTrack quality assurance procedure for the calculation of neutron fluence projections and limits to incorporate post SGR operating data. (Due: December 2025)
 - ii) Update reactor pressure vessel pressurised thermal shock analyses as appropriate. (Due: July 2029)
 - i) Perform further engineering assessment for Design Extension Conditions of flooding and the impact of the predicted flood water depths and currents on the systems and components to determine whether further protective measures may be needed in the remaining period until the end of decommissioning. (Due: December 2026)
- 3) Eskom is hereby directed to:
- a) Conform to the timelines as committed to in (1)(a) and (1)(b) and specified in (2) of this directive.
 - b) Report six monthly (biannually) on the status of implementation of all activities covered under (1)(a), (1)(b) and (2) above.
 - c) Communicate periodically to the Public Safety Information Forum (PSIF) and the public at large on the status of implementation of all activities.

Please address all correspondence to the Programme Manager: Nuclear Power Plants.

Yours faithfully

Ms Ditebogo Kgomo
CHIEF EXECUTIVE OFFICER