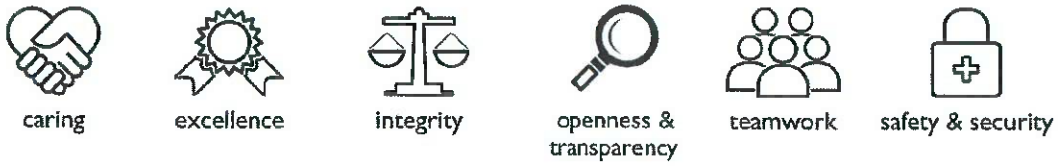
National Nuclear Regulator

# Report

## Representations received during the NNR Public Consultation for the Koeberg Long Term Operations Application

TR-NPP-24-003

Rev 0



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# 1 INTRODUCTION

Eskom Holdings SOC(Ltd) applied to the National Nuclear Regulator (NNR) on 10 May 2021 to operate the Koeberg Nuclear Power Station (KNPS) beyond the timeframe established in the Nuclear Installation Licence NIL-01 (Variation 19).

In accordance with the provisions of section 21(3) of the NNR Act, (Act 47 of 1999) the NNR directed Eskom to serve notice of the application to stakeholders directly affected by the application and to publish notices in the Government gazette and local community newspapers which invited members of the public to make representations in the form of comments to the NNR. The closing date for submitting comments to the NNR was 31 March 2023.

The NNR received comments in response to the invitation. A report on the comments received was submitted to the NNR Board. The NNR Board took a decision to hold further public debate in the form of public hearings on health, safety and environmental issues connected with the application. The 1st set of hearings comprising of 3 sessions were held on 3,10 and 17 February 2024 in the Western Cape. The 2nd set of hearings comprising of 5 sessions were held on 3 and 4 June 2024 in the Northern Cape and on 6,7 and 8 in the Western Cape provinces respectively.

High level summary of the consultation activities implemented in listed below:

| # | Activity | Date |
|---|---|---|
| 1. | NNR directed Eskom to publish notice of the application. Public invited to comment. Closing date for comments. | 31 March 2023 |
| 2. | Public information sharing meeting in Atlantis | 5 November 2023 |
| 3. | Public information sharing meeting Athlone | 12 November 2023 |
| 4. | Public information sharing meeting Mitchells Plain | 2 December 2023 |
| 5. | Public information sharing meeting in Tableview | 9 December2023 |
| 6. | Public hearing in Tableview | 3 February 2024 |
| 7. | Public hearing in Athlone | 10 February 2024 |
| 8. | Public hearing in Atlantis | 17 February 2024 |
| 9. | Public hearing in Kamiesberg, Northern Cape | 3 June 2024 |
| 10. | Public hearing in Concordia, Northern Cape | 4 June 2024 |
| 11. | Public hearing in Tableview | 6 June 2024 |
| 12. | Public hearing in Athlone | 7 June 2024 |
| 13. | Public hearing in Atlantis | 8 June 2024 |

The representations received from members of the public and interested and affected stakeholders were analysed and the outcomes are presented in this report.

## 2 PURPOSE

The purpose of this report is to document the analysis of the representations made by the public as part of the 1st and 2nd round of public hearings on the LTO application for KNPS.

## 3 SCOPE

The scope applies to the analysis and outcomes of the representations received in response to the Koeberg LTO application.

## 4 ABBREVIATIONS

| | |
|---|---|
| AMP: | Ageing Management Programmes |
| ASME: | American Society of Mechanical Engineers |
| DSSR: | Duynefontein Site Safety Report |
| EdF | Électricité de France |
| EIA: | Environmental Impact Assessment |
| EQ: | Equipment Qualification |
| ICCP: | Induced Concrete Cathodic Protection |
| ICRP | International Commission on Radiological Protection |
| ILRT: | Integrated Leak Rate Test |
| LTO: | Long Term Operation |
| NECSA: | Nuclear Energy Corporation of South Africa |
| NEMA: | National Environmental Management Act |
| NUM: | National Union of Mineworkers |
| PID: | Public Information Document |
| PSA: | Probabilistic Safety Assessment |
| SAFCEI: | Southern African Faith Communities Environment Institute |
| SALTO: | Safety Aspects of Long-Term Operation |
| SAYNPS | South African Young Nuclear Professional Society |
| SRA: | Safety Reassessment |
| SSHAC: | Senior Seismic Hazard Analysis Committee |
| TISF: | Transient Interim Storage Facility |
| TLAA: | Time Limited Ageing Analyses |

# 5 DISCUSSION

## 5.1 Overview of representations

A total of 154 representations (written comments and oral presentations) were registered up until the 8th of June 2024.The representations were made by civil society organisations, public interest groups, concerned citizens, members of the public and industry bodies/associations.

The NNR also received submissions in the form of hand delivered and online written comments from members of the public. During the eight (8) public hearing sessions conducted, the NNR panel received twenty-eight (28) oral representations from pre-registered interveners and forty-two (42) members of the public provided oral comments at the hearings.

The comments from the written submissions have been collated, including those representations captured at the hearings. All comments have been allocated to common themes for ease of administration and responses where appropriate. It must also be noted that during the second round of hearings there were multiple repetitions of what was commented on already during the 1st round. All these were however captured and are included in the results presented in this report.

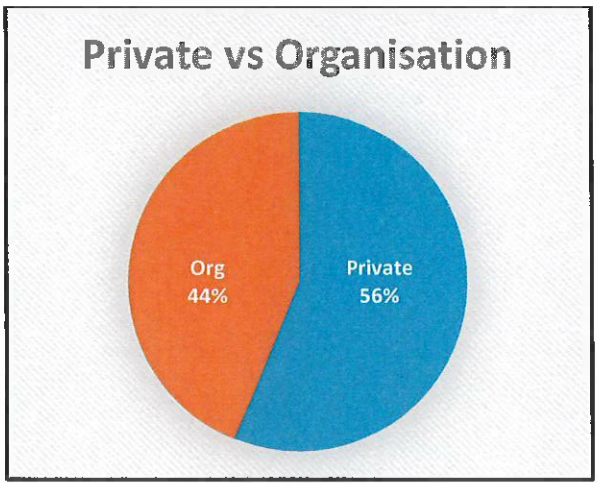
## 5.2 Representation Statistics

A summary of the statistics and categorisation of the representations received is presented as follows.

- The NNR received 154 representations and extracted 603 comments from the representations. Twenty (20) representations were identified as duplications (ie Covered by representation made at the hearings), not connected to the LTO application or statements/requests unrelated to the application. 134 representations were identified as connected to the LTO application.

- Of the 603 comments extracted, 24 were considered not applicable, of the 579 applicable comments there were 326 from individuals commenting in their private capacity and 253 comments from NGO's or organisations.

- Refer to Annexure A for the record of representations received.




Representations considered not in support of Koeberg LTO were received from the following environmental, social and faith communities:

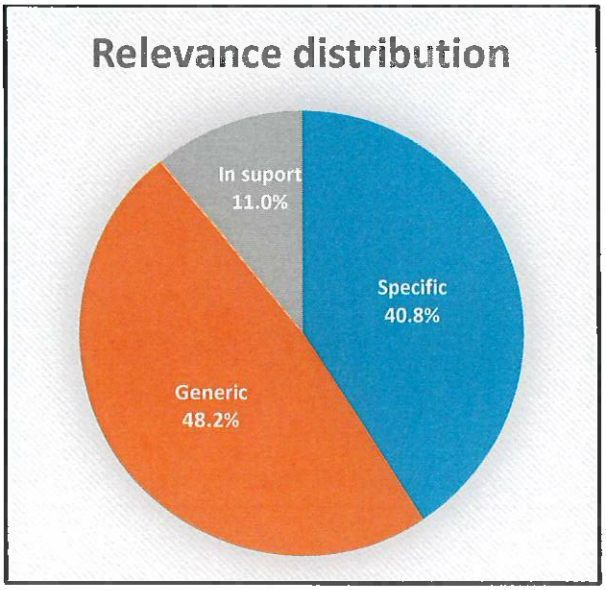
- Blikkies dorp community
- Congolese Civil Society
- Earthlife Africa
- Eastern Cape Environmental Network
- Greenpeace Volunteer
- Koeberg Alert
- Macedonian Revival Community Development
- Nama Tribe
- Project 90 by 2030
- SAFCEI
- Springfontein Estate
- The Green Connection

Representations in support of Koeberg LTO were received from the following stakeholder groups or organisations.

- Truth in Energy
- SAYNPS
- NECSA
- NUM
- Ward Councillor
- 6 private individuals

### 5.3 Relevance and Applicability of Representations Received

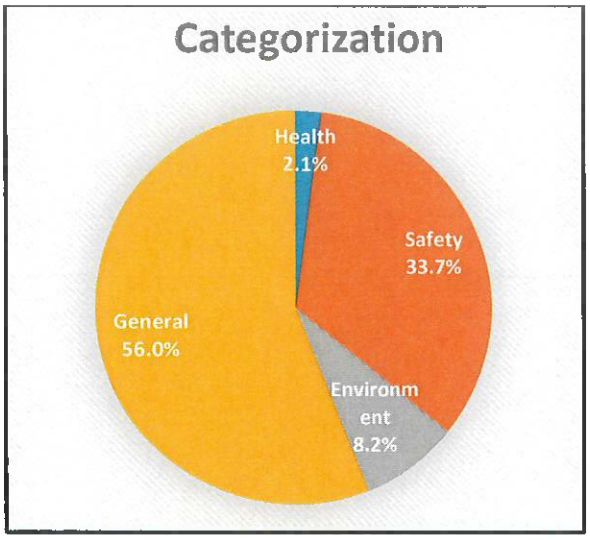
Of the 579 applicable comments extracted, 279 can be attributed non-technical or generic status, 236 technical or specific in nature, and 64 in support of LTO.




The comments were considered and grouped into themes. Refer to Annexure B for the list of themes. The grouping approach serves to highlight the public's interest in specific safety issues connected with nuclear and Koeberg LTO. Comments directly relating to health, safety and environment, were categorised as technical or substantive in nature.

### 5.4 Comments relating to Health, Safety and Environment

The evaluation and grouping of the 515 comments not in support of LTO indicate that 11 comments related to health, 174 related to safety and 42 related to environment.




General comments not directly related to health, safety or environment were regarded as non-substantive and accounted for 288 comments. When the distribution is compared to the comments received during the period in January 2023 when the public were notified about the application and invited to comment on the application, it shows a close correlation to the distribution with a slight increase in comments related to safety and environment.

This increase is attributed to the comments that was received from the communities around Vaalputs contributing mostly to safety and environmental impact concerns.

| Categories | Received during 1st phase (Notice and comment) in March 2023 | Received during 2nd phase (Public Hearings) in February & June 2024 |
|---|---|---|
| Health | 2.6% | 2.1% |
| Safety | 31.7% | 33.7% |
| Environment | 7.3% | 8.2% |
| General | 58.6% | 55.9% |

## 6 REPRESENTATIONS ON HEALTH, SAFETY AND THE ENVIROMENT

During the hearings various issues were considered substantive in nature. It must be noted in some instances based on information that was obtained from sources that are unverified, not peer reviewed and in some instances incorrect. The information has been used in various representations. The summary below clarifies some of these comments and provide clarity on the issues raised. It also aims to provide the correct technical information where there might be misrepresentation or the wrong contextualisation of nuclear concepts.

### 6.1 Cracks in containment

The main issue is the long circumferential crack near the edge on the containment dome that have been repaired and is being monitored. Eskom has justified that the crack has no impact on the structural integrity or leak tightness of containment. It has also demonstrated that the crack is not growing.

Leak tightness of containment is not linked to the crack as the inner steel liner of containment is assuring the leak tightness function. The concrete structure is there to provide for structural integrity of the containment.

Eskom has demonstrated in the LTO safety case that the structural integrity of containment is not challenged and that the cracks do not in any manner impact on the analyses or the structural integrity of containment.

### 6.2 Containment instrumentation

Throughout the years the containment buildings have experienced a gradual and systematic deterioration and loss of its monitoring instrumentation. The instrumentation includes the embedded strain gauges, dynamometers, pendulums and temperature gauges. These instrumentations are not required for the online

operability determination of containment but for the purpose of long-term monitoring of containment health.

Although there are some of the instrumentations defective, it was verified that the remaining monitoring devices can provide information on long-term trends of the containment structural behaviour. However, due to the limited remaining instruments there is a concern due to some of the equipment becoming non-functional.

A modification to upgrade and replace the defective monitoring instrumentation has been approved and initiated by Eskom. This modification will initially supplement, but eventually supersede the current containment online monitoring equipment. The modification is planned to be implemented during the X29 outages, i.e. maintenance outages 129 and 229.

Critical instrumentation required to monitor containment conditions and to ensure operability of the 3rd barrier during normal and accident conditions are periodically tested. Continued plant operation is reliant on its availability, it is governed by the KNPS operating technical specifications that have strict shutdown requirements if instrumentation becomes unavailable.

The instruments affected by the degradation and loss of monitoring functions are not part of these critical instruments but still important for the long-term monitoring of containment and providing of data to ensure the integrity of future engineering analyses in regards structural integrity.

### 6.3 ICCP modification

Containment has been identified as a civil structure important to safety with ageing mechanisms that poses a risk if not treated in a timely manner. The containment buildings are subject to chloride-induced reinforcement corrosion for which historic repairs were already implemented. The long term proposed solution however is to implement an impressed current cathodic protection (ICCP) system into the concrete of the containment buildings to neutralise the corrosion effects of the chlorides. This modification is currently in the testing and design phase.

### 6.4 Cracks detected in French NPPs

The cracks identified in some of the reactors in France was a topic of discussion between the NNR and the French regulator in 2022. At the time the issue was ringfenced to be unique to the 4 loop designs and at the time eliminated to be a phenomenon present on the KNPS 3 loop design due to design and piping layout differences.

KNPS on receipt of the operating experience (OE) directly from their French counterparts in 2022, as per KNPS licensing basis process, graded the OE and initiated the process of investigation into whether the specific KNPS piping may be affected by the phenomenon. An engineering evaluation of the impact of this OE on KNPS and identification of the scope and timing of any supplementary inspections that may need to be carried out was done with input from the French.

The evaluation concluded that there was no immediate concern for this degradation phenomenon occurring at KNPS and that further information would be evaluated as it becomes available.

### 6.5 Core catcher

The core catcher is a design measure being implemented on some Generation III nuclear power plants for accident conditions (beyond design base) to assist with the prevention of potential basemat failure when core melt and reactor pressure vessel failure has occurred. The protection strategies implemented to mitigate this type of accident, to maintain cooling of the corium and to prevent potential basemat failure may be achieved through means other than what have been implemented on some Generation III nuclear power plants.

The NNR regulations do not require the implementation of a core catcher as a specific design measure as the regulations are technology neutral. The regulations define safety criteria and requirements that must be complied with by all operators to ensure nuclear safety. The NNR further, through its requirement for performance of periodic safety reviews against current international standards, requires that practical measures are implemented to ensure continuous improvement of safety. This is in line with the approach adopted in other countries such as France and in line with IAEA Safety Standards.

To ensure nuclear safety of the public and environmental, the integrity of the containment as a barrier must be ensured even during beyond design base accident scenarios. Koeberg has implemented protection strategies which are included in their severe accident management guidelines to achieve the objective of protecting the third barrier (Containment) in case of a severe accident. The Koeberg approach adopted in its severe accident management guidelines is firstly to prioritise in vessel retention of the damaged reactor core, and secondly to inject water into containment to cool the corium outside of the vessel but still within containment.

As mentioned, the NNR requires that practical measures be implemented to ensure continuous improvement of safety. As part of ongoing safety improvements Eskom

has in the past implemented measures such as hydrogen management and others are being implemented (hardened water and electrical supplies) or planned (containment venting) as part of the Fukushima Daiichi accident safety reassessment and associated improvement actions.

The approach adopted by the NNR is similar to what has been adopted by the French regulator for plants similar to Koeberg with the objective of bringing the safety levels closer to new facilities or current standards. The Operator in France has implemented measures to be able to cool the corium at the bottom of the reactor building and have been required by its regulator to take further steps to reinforce certain concrete walls in areas where corium could spread, as well as to provide means of injecting additional volume of water into containment.

It should further be noted that the Koeberg basemat design differs in so far it is almost double the thickness of the basemat of similar plants in France. Hence the ability to implement the measures and protection strategies implemented in the current KNPS severe accident management guidelines.

### 6.6 Frequency and performance of ILRT

A statement was made in reports in the public domain that in France the Integrated Leak Rate Test (ILRT) frequency has been decreased from 10 to 5 years. The question was raised on why South Africa is not also decreasing its frequency to 5 years and why the ILRT will only be conducted post potential LTO.

At KNPS the code and rules applicable for in service inspections and testing is the American ASME code. The code requires that the ILRT test is performed once per interval (10 years). Leak rate tests that focus on systems and containment penetrations are performed every outage.

Although KNPS do not directly implement the French inspection code RCCM, sharing of operating experience related to in service testing in France is providing experience that is reviewed by KNPS and considered for adoption/implementation to improve the Koeberg inspection and testing programmes. In some cases, this expands the testing programmes beyond that as required by ASME.

As reported, the testing frequency in France is also 10 years and that it only changes to 5 years if there are any identified leaks in excess of the limits established.

The ILRT at KNPS is only planned to be performed post potential LTO due to the scheduling rules allowed by the ASME standards for an interval. The ILRT, as previously reported by the NNR also do not form part of the required tests for the TLAA

assessment to demonstrate the structural integrity and the continued operability of the containment structures.

### 6.7 Defence in Depth

The statement was made that Koeberg only has three layers of defence and not the five as required by the IAEA. The concept of Defence in Depth has five levels and as for other Pressurise Water Reactors, KNPS also has three barriers, viz. (1) the fuel cladding, (2) the reactor vessel and coolant system, and (3) the containment. The barriers are part of the implementation of the Defence in Depth concept in the design of the plant.

The five levels of Defence in Depth are:

(1) Level 1: Prevention of abnormal operation and failures
(2) Level 2: Control of abnormal operation and detection of failures
(3) Level 3: Control of accidents within the design basis
(4) Level 4: Control of severe accident conditions, including prevention of accident progression and mitigation of the consequences of severe accidents
(5) Level 5: Mitigation of radiological consequences of significant releases of radioactive materials

There has been a misrepresentation of the concepts in the public domain, the five levels of Defence in Depth have been implemented in the KNPS design, operational procedures, severe accident management guidelines and the integrated nuclear emergency plan. Eskom as part of the 3rd PSR did a review of the adequacy of the 5 layers of defence in depth and it was found to be adequate.

### 6.8 SALTO findings

During the 2nd round of hearings statements were made that the status of the IAEA findings is not known, there is no plans or long-term solutions provided and why the NNR are not waiting for the IAEA follow up mission later in 2024.

The findings identified by the IAEA in the SALTO Mission are not nuclear safety concerns but rather advice to improve LTO preparation. The findings are typical of nuclear power plants in the planning phase for LTO and are in the process of aligning their organisation to international practices, IAEA processes and standards for safe LTO.

The NNR monitors the actions implemented to close out the IAEA issues. The status of and progress of these actions were reported in the Public Information Document available both on the NNR and Eskom websites. Those findings required to be

resolved prior to LTO has been included into the LTO Safety Case also available on the Eskom and NNR websites. Both documents were made available prior to the hearings, the information was available to the public and provided the information necessary to provide clarity to the questions asked, and statements made regarding the claims of inadequate information and unknown status of the IAEA findings.

The NNR LTO decision is not reliant on the findings or issues reported in the mission report. It is used as independent verification and used to inform or validate any regulatory decision that is made based on own evaluation of presented information, supplied by Eskom in support of the application.

It should also be noted that the IAEA findings is listed as recommendations and observations. An IAEA recommendation is made where inadequate conformance with the IAEA Safety Standards is noted while a suggestion is an opportunity for improvement not directly related to inadequate conformance with IAEA safety standards but rather intended to make performance more effective.

Ideally a licensee does not want any findings in its final SALTO mission, in the case of KNPS it is unfortunately not the case because of delayed and late start to LTO activities. When one considers the number of findings in the pre-SALTO missions of KNPS then there has been an enormous amount of effort made to close out the findings.

As reported by Eskom, all the actions associated with the findings have been closed out or is in process to be closed out. Those deemed important and linked to be completed prior to LTO have been completed.

### 6.9 Hydrazine

Hydrazine is a colourless and flammable hazardous liquid, which is used as a corrosion inhibitor in nuclear power plants, and which is often difficult to accurately measure. Hydrazine is used at Koeberg and in line with coastal environmental legislation. Koeberg investigated the feasibility of reducing the discharge hydrazine to lower the adverse impact on the environment. Studies are in progress to support the use of film-forming amines as an alternative to hydrazine. This matter is not related to nuclear safety and is regulated by Environmental affairs.

## 7 DETERMINATION OF SIGNIFICANCE OF PUBLIC COMMENTS

The representations received were grouped by themes and are listed in Annexure B.

The 10 dominant issues or themes are as follows:

| Issue No | Themes |
|---|---|
| 1 | Emergency planning issues |
| 2 | Public consultation process |
| 3 | Nuclear waste issues |
| 4 | Communities not informed |
| 5 | Lack of and access to information |
| 6 | KNPS old design, maintenance, safety and safety upgrade issues |
| 7 | Containment and Civil structure issues |
| 8 | NNR mandate, transparency, and the Board |
| 9 | Loadshedding impact and cost of electricity |
| 10 | Cost of LTO and decommissioning |

As seen above, most comments (1st theme) were related to issues or concerns regarding Emergency planning, not knowing about the arrangements that is in place, questioning the ability of the emergency plan to protect the public due to the issues identified during the previous (2022) emergency exercise.

The role of the emergency plan and the connection with safety is not necessarily appreciated considering the representations made during the hearings. An effort must be made to further educate the public on the role of the emergency plan in the overall management of an accident and importance in terms of safety.

The level of understanding could be attributed to lack of information and education in this area. Similarly, more education and communication are needed considering comments raised on important issues regarding the public consultation process (2nd), communities that is not informed (4th) and the lack and access to information (5th).

Three of the top five themes are not related to health, safety and environment, which shows an underlying concern that must be addressed. The sharing of information, educating the public and building trust through increased transparency. The issues related to health, safety and environment raised during the public consultation process can be explained, and justification provided in terms of their relevance to the LTO application.

## 8 SUMMARY AND CONCLUSIONS

The NNR prior to embarking on the public consultation process identified risks to and issues of concern that might surface during the hearings. From this list the following are highlighted as coming to the fore and in various ways impacting on the process:

| No | Issue |
|---|---|
| 1 | Delays in completing SSHAC and Tsunami probability analyses |
| 2 | Close out of all safety case commitments related to SRA-2, Fukushima Daiichi safety reassessment, SALTO mission findings, TLAAs, AMPs etc |
| 3 | Challenges to NNR public participation process specifically with regards to local disadvantaged communities not having technical and scientific expertise/resources to participate in the NNRs public participation process. |
| 4 | Role of and delayed ILRT in operability of containment civil structures |
| 5 | Public and stakeholder view of impact of 2022 Emergency Exercise results on LTO |

Issue 1 above related to the delayed completion of the SSHAC and Tsunami probability analyses played a major role in the process, conduct and planning of the 2nd phase of consultation. It impacted the original planned hearings and eventually resulted in the hearings to be held over two rounds to allow the information to be made available to the public.

Issues 3 and 5 above linked to the 2022 exercise and the public participation process were found to form part of the comments that dominated the hearings and ended as the top two themes, listed as Emergency planning and public consultation process.

It is clear from the eight public hearing sessions conducted, that most comments originate from opinion pieces in the public domain, from media and from sources not independently or peer reviewed for accuracy and/or validity. It is shared between organisations and individuals to use during their representations.

An analysis of the representations made by the public found that the issues related to health, safety and the environment are either addressed or dispositioned by the nuclear installations licence conditions, the current licensing basis of KNPS, the safety case or are subject to ongoing review by the NNR.

The hearings also showed that there is difference of opinions in the public domain:

a) Support for LTO - Some is in support of electricity generation from KNPS because the need for electricity and no-load shedding as they experience inconvenience and an increase in crime. They are concerned about the loss of jobs and impact on the economy. Support was also seen from unions and young participants.

Especially those that understand the technology and wish for future opportunities to develop and be recognized as experts both locally and internationally.

b) Support with conditions - Some people have a caveat or view at the end of their presentation that if LTO is approved it must be done with respect to taking safety into considerations, ensure all open items are resolved, and compensation is considered for loss of land.

c) No support for LTO - The people oppose to KNPS continued operation commented from the point that nuclear is not welcomed or necessary because it is dangerous, pose a risk to health and is not managed safely. The arguments presented in support of this narrative are not always correct or applicable. A number of times reference have been made to perceived or existing weaknesses with the current legislation, regulatory space, known technical issues, licensee operations and conduct.

## 9 REFERENCES

[1] Submissions and Representations received, refer to Annexure B
[2] Regulations in terms of section 36, read with section 47 of the NNR Act on the Long-Term Operation of Nuclear Installations (R.266).
[3] K-27660-E; Application to operate the Koeberg nuclear power station (KNPS) beyond the timeframe established in the nuclear installation licence No. NIL-01 (Variation 19), including attachments.
[4] 240-165294677; Public Information Document for the Long-Term Operation of Koeberg Nuclear Power Station, Rev 3
[5] 331-618; Safety Case for Long-Term Operation of Koeberg Nuclear Power Station, Rev 3

# ANNEXURE A: RECORD OF SUBMISSIONS AND REPRESENTATIONS RECEIVED

| Representation No | Date Received | Method | Capacity/Organisation represented | Name |
|---|---|---|---|---|
| 1 | 27-Jan-24 | e-mail | Truth in Energy | [redacted] |
| 2 | 29-Jan-24 | e-mail | Private | [redacted] |
| 3 | 29-Jan-24 | e-mail | Private | [redacted] |
| 4 | 31-Jan-24 | e-mail | Springfontein Estate | [redacted] |
| 5 | 31-Jan-24 | e-mail | Private | [redacted] |
| 6 | 1-Feb-24 | By hand | Private | [redacted] |
| 7 | 1-Feb-24 | By hand | Private | [redacted] |
| 8 | 1-Feb-24 | By hand | Private | [redacted] |
| 9 | 1-Feb-24 | By hand | Private | [redacted] |
| 10 | 1-Feb-24 | By hand | Private | [redacted] |
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| 20 | 1-Feb-24 | By hand | Private | [redacted] |
| 21 | 1-Feb-24 | By hand | Private | [redacted] |
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| 45 | 1-Feb-24 | By hand | Private | [redacted] |
| 46 | 1-Feb-24 | By hand | Private | [redacted] |
| 47 | 1-Feb-24 | By hand | Private | [redacted] |
| 48 | 1-Feb-24 | By hand | Private | [redacted] |
| 49 | 1-Feb-24 | By hand | Private | [redacted] |
| 50 | 1-Feb-24 | By hand | Private | [redacted] |
| 51 | 1-Feb-24 | By hand | Private | [redacted] |
| 52 | 1-Feb-24 | By hand | Private | [redacted] |
| 53 | 1-Feb-24 | By hand | Private | [redacted] |
| 54 | 1-Feb-24 | By hand | Private | [redacted] |
| 55 | 1-Feb-24 | By hand | Private | [redacted] |
| 56 | 1-Feb-24 | By hand | Private | [redacted] |
| 57 | 1-Feb-24 | By hand | Private | [redacted] |
| 58 | 1-Feb-24 | By hand | Private | [redacted] |
| 59 | 1-Feb-24 | By hand | Private | [redacted] |
| 60 | 1-Feb-24 | By hand | Private | [redacted] |
| 61 | 1-Feb-24 | By hand | Private | [redacted] |
| 62 | 1-Feb-24 | By hand | Private | [redacted] |
| 63 | 1-Feb-24 | By hand | Private | [redacted] |
| 64 | 1-Feb-24 | By hand | Private | [redacted] |
| 65 | 1-Feb-24 | By hand | Private | [redacted] |
| 66 | 1-Feb-24 | By hand | Private | [redacted] |
| 67 | 1-Feb-24 | By hand | Private | [redacted] |
| 68 | 1-Feb-24 | By hand | Private | [redacted] |
| 69 | 1-Feb-24 | By hand | Private | [redacted] |
| 70 | 1-Feb-24 | By hand | Private | [redacted] |
| 71 | 1-Feb-24 | By hand | Private | [redacted] |
| 72 | 1-Feb-24 | By hand | Private | [redacted] |
| 73 | 1-Feb-24 | e-mail | Private | [redacted] |
| 74 | 1-Feb-24 | e-mail | SAFCEI | [redacted] |
| 75 | 3-Feb-24 | Oral presentation | The Green Connection | [redacted] |
| 76 | 3-Feb-24 | Oral presentation | Private | [redacted] |
| 77 | 3-Feb-24 | Oral presentation | Private | [redacted] |
| 78 | 3-Feb-24 | Oral presentation | Private | [redacted] |
| 79 | 9-Feb-24 | e-mail | Private | [redacted] |
| 80 | 10-Feb-24 | Oral presentation | Private | [redacted] |

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| 81 | 10-Feb-24 | Oral presentation | SAFCEI | [redacted] |
| 82 | 10-Feb-24 | Oral presentation | SAYNPS | [redacted] |
| 83 | 10-Feb-24 | Oral presentation | Earthlife Africa | [redacted] |
| 84 | 10-Feb-24 | Oral presentation | Necsa | [redacted] |
| 85 | 10-Feb-24 | Oral comment | Ward Councillor - Atlantis | [redacted] |
| 86 | 10-Feb-24 | Oral comment | Private | [redacted] |
| 87 | 10-Feb-24 | Oral comment | Private | [redacted] |
| 88 | 10-Feb-24 | Oral comment | Private | [redacted] |
| 89 | 10-Feb-24 | Oral comment | Private | [redacted] |
| 90 | 10-Feb-24 | Oral comment | Private | [redacted] |
| 91 | 10-Feb-24 | Oral comment | Private | [redacted] |
| 92 | 10-Feb-24 | Oral comment | Private | [redacted] |
| 93 | 10-Feb-24 | Oral comment | Private | [redacted] |
| 94 | 10-Feb-24 | Oral comment | Private | [redacted] |
| 95 | 17-Feb-24 | Oral comment | Project 90 by 2030 | [redacted] |
| 96 | 17-Feb-24 | Oral comment | Koeberg Alert | [redacted] |
| 97 | 17-Feb-24 | Oral comment | Congolese Civil Society | [redacted] |
| 98 | 17-Feb-24 | Oral comment | Private | [redacted] |
| 99 | 17-Feb-24 | Oral comment | SAYNPS | [redacted] |
| 100 | 17-Feb-24 | Oral comment | SAYNPS | [redacted] |
| 101 | 17-Feb-24 | Oral comment | Private | [redacted] |
| 102 | 17-Feb-24 | Oral comment | NUM | [redacted] |
| 103 | 17-Feb-24 | Oral comment | Private | [redacted] |
| 104 | 17-Feb-24 | Oral comment | Greenpeace Volunteer | [redacted] |
| 105 | 22-May-24 | e-mail | Private | [redacted] |
| 106 | 24-May-24 | e-mail | Private | [redacted] |

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| 107 | 3-Jun-24 | Oral comment | Private | [redacted] |
| 108 | 3-Jun-24 | Oral comment | Question | [redacted] |
| 109 | 3-Jun-24 | Oral comment | Private | [redacted] |
| 110 | 3-Jun-24 | Oral comment | SAYNPS | [redacted] |
| 111 | 3-Jun-24 | Oral comment | Private | [redacted] |
| 112 | 3-Jun-24 | Oral comment | SAYNPS | [redacted] |
| 113 | 4-Jun-24 | Oral comment | Landowner | [redacted] |
| 114 | 4-Jun-24 | Oral comment | Landowner | [redacted] |
| 115 | 4-Jun-24 | Oral comment | Landowner | [redacted] |
| 116 | 4-Jun-24 | Oral comment | Landowner | [redacted] |
| 117 | 4-Jun-24 | Oral comment | Landowner | [redacted] |
| 118 | 4-Jun-24 | Oral comment | Landowner | [redacted] |
| 119 | 4-Jun-24 | Oral comment | Landowner | [redacted] |
| 120 | 4-Jun-24 | Oral comment | Landowner | [redacted] |
| 121 | 4-Jun-24 | Oral comment | Landowner | [redacted] |
| 122 | 4-Jun-24 | Oral comment | Landowner | [redacted] |
| 123 | 4-Jun-24 | Oral comment | Landowner | [redacted] |
| 124 | 4-Jun-24 | Oral comment | Landowner | [redacted] |
| 125 | 4-Jun-24 | Oral comment | Landowner | [redacted] |
| 126 | 4-Jun-24 | Oral comment | Landowner | [redacted] |
| 127 | 4-Jun-24 | Oral comment | Landowner | [redacted] |
| 128 | 4-Jun-24 | Oral comment | Namakwaland Besigheidskamer | [redacted] |
| 129 | 4-Jun-24 | e-mail | Project 90 by 2030 | [redacted] |
| 130 | 6-Jun-24 | e-mail | Private | [redacted] |
| 131 | 6-Jun-24 | Question | Private | [redacted] |
| 132 | 6-Jun-24 | Question | Private | [redacted] |
| 133 | 6-Jun-24 | Question | SAFCEI | [redacted] |
| 134 | 6-Jun-24 | Question | Congolese Civil Society | [redacted] |

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| 135 | 6-Jun-24 | Oral presentation | Private | [redacted] |
| 136 | 6-Jun-24 | Oral presentation | SAFCEI | [redacted] |
| 137 | 6-Jun-24 | Oral presentation | Private | [redacted] |
| 138 | 6-Jun-24 | Oral presentation | Elder | [redacted] |
| 139 | 7-Jun-24 | Oral presentation | Project 90 by 2030 | [redacted] |
| 140 | 7-Jun-24 | Oral presentation | Macedonian Revival Community Development | [redacted] |
| 141 | 7-Jun-24 | Oral presentation | Project 90 by 2030 | [redacted] |
| 142 | 7-Jun-24 | Oral presentation | Blikkies dorp | [redacted] |
| 143 | 7-Jun-24 | Oral presentation | Chairperson | [redacted] |
| 144 | 7-Jun-24 | Oral presentation | Senior | [redacted] |
| 145 | 7-Jun-24 | Oral presentation | Eastern Cape Environmental Network | [redacted] |
| 146 | 7-Jun-24 | Oral presentation | Climate activist | [redacted] |
| 147 | 7-Jun-24 | e-mail | Private | [redacted] |
| 148 | 8-Jun-24 | Oral presentation | Private | [redacted] |
| 149 | 8-Jun-24 | Oral presentation | Private | [redacted] |
| 150 | 8-Jun-24 | Oral presentation | Nama Tribe | [redacted] |
| 151 | 8-Jun-24 | Oral presentation | Private | [redacted] |
| 152 | 8-Jun-24 | Oral presentation | Private | [redacted] |
| 153 | 8-Jun-24 | Oral presentation | Private | [redacted] |
| 154 | 8-Jun-24 | Oral presentation | Private | [redacted] |

Note – All names redacted

## ANNEXURE B: SUMMARY OF THEMES AND APPLICABILITY

| Themes | No of comments | Health, Safety & Environment |
|---|---|---|
| Emergency planning issues | 68 | Y |
| In support of LTO | 64 | N |
| Public consultation process | 48 | N |
| Nuclear waste issues | 47 | Y |
| Communities not informed | 38 | N |
| Public lack of and access to information | 33 | N |
| KNPS and design are old, maintenance, safety, and safety upgrades issues | 31 | Y |
| Not applicable Note 1 | 24 | N |
| Containment and Civil structure issues | 22 | Y |
| NNR mandate, transparency, and the Board | 20 | N |
| Loadshedding impact and cost of electricity | 16 | N |
| Cost of LTO and decommissioning | 15 | N |
| Eskom resource adequacy, mistrust and corruption | 15 | Y |
| Technical documents and issues | 15 | Y |
| Regulatory Framework | 14 | Y |
| IAEA recommendations | 13 | Y |
| Property and land issues | 13 | N |
| Climate change | 12 | Y |
| Alternative energy considerations | 11 | N |
| Risk of Seismic events and outdated report | 11 | Y |
| Health hazard | 10 | Y |
| Employment impact | 9 | N |
| Impact on developments, financial compensation | 9 | Y |
| Safety of communities | 8 | Y |
| Environmental sampling status | 7 | Y |
| The risk is too high | 7 | Y |
| Danger to people and environment | 6 | Y |
| EIA consideration | 4 | N |
| Grid, baseload and electricity generation | 4 | N |
| Safety Culture status | 3 | Y |
| Concerns in safety case | 2 | Y |
| NRWDI role | 2 | Y |
| Nuclear Security | 2 | Y |

Note 1 – Statements and comments made unrelated to the application.

## ANNEXURE C: THEMES WITH RESPONSES

| Themes | Response |
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| Alternative energy considerations | Regarding the 11 comments received under the theme.<br><br>The NNR's mandate is specific to regulating nuclear safety in accordance with the NNR Act. This comment falls outside the mandate of the NNR and should therefore be directed towards the Department of Electricity and Energy. |
| Climate change | Regarding the 12 comments received under the theme.<br><br>Eskom has a strategy for improving potable water resilience at Koeberg Nuclear Power Station KNPS which includes the following:<br>• Prepare the plant for running out of site water<br>• Reduce site water consumption<br>• Use of boreholes installed in the Koeberg Nature Reserve more than two decades ago<br>• Installation of a water treatment plant<br>• Consideration of sea water desalination.<br><br>Both, the City of Cape Town (CCT) and the Department of Water and Sanitation own and operate dams in the Western Cape in an integrated manner to provide the users with relevant assurance of supply and in KNPS with increased assurance, as a strategic water user.<br><br>The potential threat of quantity to supply to KNPS is no longer as imminent as during the 2015-2017 drought. Based on the most recent report by the CCT in their water strategy development plan (gazetted in early 2021), the CCT will increase supply through various options, including groundwater augmentation, wastewater re-use and desalination. Demand management through water restrictions will also be implemented sooner, and the probability of reaching a "Day Zero" scenario is considered negligible.<br><br>The 3rd Periodic Safety Review that has been submitted in support of the LTO safety case has review the impact of climate change on the safety of the plant. |
| Communities not informed | Regarding the 38 comments received under the theme.<br><br>Some of the commentators claimed that they did not know of the public hearings, and some said that they did not know anything about Koeberg. The NNR has implemented extensive communications and consultation efforts for the public hearings. These efforts included notices published in print media, online platforms; local community radio broadcasts, local community information sessions and public |

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| | hearings. These were done in English, Afrikaans, isiXhosa and Setswana. |
| Concerns in safety case | Regarding the 2 comments received under the theme.<br><br>The NNR review of the information in the safety case covered all aspects and considered all concerns the public raised. |
| Containment and Civil structure issues | Regarding the 22 comments received under the theme.<br><br>Eskom submitted a Civil Monitoring Programme to the NNR which ensures, as part of the Civil Ageing Management Programme, that the design and safety functions of civil SSCs are fulfilled over the assumed original operating plant life, including long-term operation (LTO) of the plant.<br><br>NNR has received the report on the containment structures as well as the rollout plan of the system health reports for the balance of the other Safety Related (SR) structures.<br><br>Eskom has submitted to the NNR the Time-Limited Ageing Analysis (TLAA) for the containment structures and Eskom concluded that the structural integrity of containment is not challenged.<br><br>Eskom has submitted for the LTO repair an engineering position on containment structures. and the NNR has reviewed the submission. Eskom is also investigating other options to reduce the effect of chloride ingress which is the main cause of defects in the containment structure.<br><br>Repair works have been implemented on the containment buildings where any defects, including delamination and cracks, were identified.<br><br>A modification for the upgrade/ replacement of the Containment monitoring equipment will be implemented, this includes the installation of additional monitoring devices on the containment structures for the next ten yearly Leak Rate Tests, over and above the planned monitoring already in place.<br><br>A monitoring program has been implemented to detect any changes in the condition of the structures. The NNR provides oversight in the form of reviews and physical inspections on works conducted by Eskom. |
| Cost of LTO and decommissioning | Regarding the 15 comments received under the theme.<br><br>The comments related to the cost of LTO do not directly apply to the scope of these public hearings. |

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| | In regards decommissioning the NNR requires of Eskom through a condition in the licence to have a decommission fund available. It is for the purpose of ensuring future availability of funds to ensure decommissioning of the units and removal of infrastructure to eventual greenfields status. |
| Danger to people and environment | Regarding the 6 comments made under the theme.<br><br>The NNR provides regulatory oversight to Koeberg operations considering exposure to the environment, the employees and the public through inspections and review of performance reports against limits prescribed in the NNR regulations. The NNR produces and releases to the public the NNR annual report, which contains performance figures against prescribed limits. Occupational exposure figures in the past 5 years have been well within the limits at an average of 47 % to the limit (for the highest individual dose), 2 % of the average individual dose and any discharges to the environment have been so limited that their releases were less than 1 % of the prescribed limit. The protection of the employees, the environment and the public are well assured, with monitoring and continuous improvement required by the NNR. |
| EIA consideration | Regarding the 4 comments made under theme.<br><br>This comment falls outside the mandate of the NNR and should therefore be directed to the Department of Forestry Fisheries and Environment. |
| Emergency planning issues | Regarding the 68 comments made under the theme.<br><br>Section 5 (f) of the National Nuclear Regulator Act, 1999 (Act No. 47 of 1999), states that "The objects of the Regulator are to ensure that provisions for nuclear emergency planning are in place". The NNR Act further in section 38 directs the holder of a nuclear authorisation (in this case Eskom/Koeberg) to enter into an agreement with the relevant municipalities and provincial authorities to establish an emergency plan within a period determined by the Regulator. Once the emergency plan is established as per the act, the Regulator need to approve it and ensure that it is effective for the protection of persons should a nuclear accident occur. When the nuclear accident occurs, the holder of a nuclear authorisation must implement the emergency plan as approved by the Regulator.<br><br>In addition, the Act describes the Responsibilities of holders of nuclear authorisations. Section 26 (4) of the act states that "The holder of a nuclear installation licence must establish a public safety information forum as prescribed in order to inform the persons living in the municipal area in respect of which an emergency plan has been established in terms of section 38(1) on nuclear safety and radiation safety matters". |

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| | The public safety information forum (PSIF) must conduct all meetings open to any member of the public at a minimum frequency of one meeting per quarter. The PSIF must communicate the date, time and venue of meetings of the forum within the relevant municipal area not less than 14 days prior to each meeting. At Koeberg Nuclear Power Station, the PSIF are held on a quarterly basis and the discussions are related to nuclear/radiation safety matters, including but not limited to nuclear incidents/accidents. Eskom/Koeberg invites the National Nuclear Regulator, the relevant municipality (Disaster Management Centre), the relevant Province (Disaster Management Centre) and relevant national government departments as appropriate to all meetings to facilitate the sharing of information. In terms of Section 4 of the updated Regulations No. 968 dated 12 September 2008, on the establishment of the PSIF, the Board of the National Nuclear Regulator is responsible for appointing the Chairpersons and Deputy Chairpersons for the respective Public Safety Information Forums and they are appointed from the members of the public.<br><br>It is the responsibility of the Regulator to ensure the effectiveness of the emergency plan and emergency preparedness and response arrangements. Amongst other things, the Regulator conducts inspections and regulatory emergency exercises as well as monitoring the corrective actions that need to be taken where there were non-compliances that were identified. These inspections and regulatory exercises test amongst others, the availability of resources, availability and operability of emergency equipment, activation, and communication between the response organisations, to ensure that the protective actions for the members of the public are implemented effectively. |
| Employment impact | Regarding the 9 comments made under the theme.<br><br>The comments received under this theme falls outside the scope of the NNR public hearings held. |
| Environmental sampling status | Regarding the 7 comments made under the theme.<br><br>Ground water samples are taken by Eskom once every 6 months. In August 2019, Eskom had performed tritium analysis on the ground water samples and has performed gamma spectrometry analysis of ground water for samples from August 2023.<br><br>The NNR operates a radionuclide analysis laboratory to independently determine the levels of radioactivity in environmental samples taken from regulated facilities and environment outside those facilities for compliance assurance purposes.<br><br>The NNR on a quarterly basis collect environmental samples and send them for analysis as part of the NNRs independent environmental |

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| | monitoring programme. Further than that KNPS is required to submit quarterly and annual Environmental Survey Laboratory Reports for NNR review and acceptability.<br><br>The KNPS safety analyses report details that, in addition to measurement of radioactivity by a sampling of the effluents before release, devices are provided for continuous measurement of the activity of potentially contaminated releases. In addition, samples are taken in the power station area to monitor the ambient radioactivity: surface water, groundwater, food pre-products, etc. |
| Eskom resource adequacy, mistrust and corruption | Regarding the 15 comments received under this theme.<br><br>Section 20.6 of the Koeberg Nuclear Installation Licence No. NIL-01 Variation 20 requires that the licensee ensures that 'only suitably qualified and experienced persons perform any duty, which may affect the safety of operations on the site'. In addition, Section 4 (d) of the of the LTO Regulation No. R,266 states the licensee must "demonstrate availability of financial and human resources as well as knowledge management for the period of Long-Term Operation, which knowledge management shall include an integrated, systematic approach to identifying, managing and sharing an organisation's knowledge and enabling groups of people to collectively create new knowledge to help achieve the organisation's object". The monitoring of the resources and competency levels at KNPS are undertaken by the NNR compliance assurance programme. Where shortage of resources and skills are experienced from time to time, appropriate recruitment strategies are implemented to address the skills gap, included as appropriate, fixed term contracts, etc.<br><br>The NNR standards require the implementation of an integrated management system, including requirements to ensure a good safety culture. The NNR performs regular oversight activities to ensure compliance with its safety standards and takes necessary enforcement actions if required. |
| Grid, baseload and electricity generation | Regarding the 4 comments received under this theme.<br><br>Base load power is needed to provide power to components which are always running, also known as continuous load. The units at KNPS are the only baseload electrical generating units in the southern part of SA. Due to the nature and layout of the national grid where most of the generating capacity is in the northern part of SA, baseload generating units assist to stabilise the national electricity grid due to their base load generating capacity. |
| Health hazards | Regarding the 10 comments received under this theme. |

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| | The NNR safety standards relating to releases to the environment as well as dose to both workers and the public are based on international standards as recommended by the IAEA and the ICRP.<br>The NNR provides regulatory oversight over exposure to the environment, the employees and the public through inspections and review of performance reports against limits prescribed in the NNR regulations. The NNR produces and releases to the public the NNR annual report, which contains performance figures against prescribed limits. Occupational exposure figures in the past 5 years have been well within the limits at an average of 47 % to the limit (for the highest individual dose), 2 % of the average individual dose and any discharges to the environment have been so limited that their releases were less than 1 % of the prescribed limit. The protection of the employees, the environment and the public are well assured, with monitoring and continuous improvement required by the NNR.<br><br>In so far claimed health issues by employees, the conditions of the license require an annual medical surveillance of workers. These surveillances are approved by suitably qualified medical doctors. If there are any unusual conditions, they would be flagged by these surveillances. So far, the NNR is not aware of any unusual medical conditions from current and former employees. |
| IAEA recommendations | Regarding the 13 comments received under this theme.<br><br>The comments related to the issues identified by the IAEA in the SALTO Mission, these IAEA findings are regarded as advice to improve LTO preparation rather than nuclear safety issues.<br><br>The NNR monitors the actions implemented to close out the IAEA findings. The status of and progress of these actions were reported in the Public Information Document. Those issues required to be resolved prior to LTO has been included into the LTO Safety Case available on the Eskom and NNR websites. Both documents were made available prior to the hearings, the information was available to the public and provided the information to satisfy the questions asked and statements made regarding the claims of inadequate information and unknown status of the IAEA findings.<br><br>The NNR LTO decision is not reliant on the findings or issues reported in the mission report. It is used as independent verification and to inform or validate any regulatory decision that is made based on own evaluation of presented information, as supplied by Eskom in support of the application. |
| Impact on developments, financial compensation | Regarding the 9 comments received under this theme.<br><br>The NNR Act in section 38 directs the holder of a nuclear authorisation (in this case Eskom/Koeberg) to enter into an agreement with the relevant municipalities and provincial authorities to establish an |

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| | emergency plan within a period determined by the Regulator. Eskom has established an agreement with the City to ensure that adequate disaster management infrastructure is in place to ensure effective implementation of the Integrated Koeberg Nucellar Emergency Plan. NNR requirements relating to emergency planning zones and associated public evacuation criteria have been incorporated in the City's bylaws ensuring control of developments within the defined zones.<br><br>In terms of the NNR Act as well as the conditions of the nuclear authorisation, the operator of the nuclear installation is strictly liable for compensation in case of nuclear damage as defined in the NNR Act. The this end it is regulated that the operator provides annual proof of financial assurance in case of a nuclear incident or accident. |
| KNPS and its design are old, maintenance, safety and safety upgrade issues | Regarding the 31 comments received under this theme.<br><br>Although the Koeberg design is considered "old" because it is a previous generation deign, it was continuously upgraded over time to implement safety improvements and align itself to the safety levels of a new modern design. Eskom has continuously upgraded the plant over the past 39 years, either from lessons learnt from the French or from other international experiences. The continuous modifications and improvements are evident in the improved risk levels presented in the safety case.<br><br>In general, the Eskom maintenance, inspection and testing processes follows established codes and standards, including, ASME OM Code, US Code of Federal Regulations 10 CFR 50.55a and ASME Section XI and incorporate international operating experience were applicable, especially for components that play an important role in safety.<br><br>The NNR, on a sampling basis, implements regular inspections on KNPS maintenance processes. Where maintenance issues exist, in addition to Eskom addressing the respective issues they are required to report these to the NNR. The NNR evaluates the issues on a case-by-case basis to ensure that adequate corrective and preventative measures are developed and implemented in the interest of safety. |
| Loadshedding impact and cost of electricity | Regarding the 16 comments received under this theme.<br><br>The comments received falls outside the scope of the public hearings held. Notwithstanding, since the integrity of the national grid and the supply of electricity to the Western Cape should be protected and the offsite power to KNPS assured, the NNR monitors the situation as well as how KNPS together with Eskom ensures the security of and operability of the offsite power supply through the management of loadshedding. |

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| NNR mandate, transparency, and the Board | Regarding the 20 comments received under this theme.<br><br>The comments received falls outside the scope of the NNR Public hearings held. The NNR safety standards and regulatory practices are based on international standards primarily that of the IAEA. The NNR governance processes ensures that regulatory decisions are independent, in line with the respective standards and is science based. The composition as well as authority of the Board is prescribed in the NNR Act. In line with best practice the functioning of the board is performed in accordance with the Board Charter and associated terms of reference. |
| NRWDI role | Regarding the 2 comments received under this theme.<br><br>NRWDI is an institute established by the government to manage radioactive waste. NRWDI has the mandate to ensure the safe management of radioactive waste in accordance with international best practice. This will, among others, ensure that the waste is managed in such a way that current and future generations are not impacted by the potential hazards posed by the radioactive content. |
| Nuclear Security | Regarding the 2 comments received under this theme.<br><br>The NNR has acted on all items listed under the comments received and on the nuclear security issues related to elements of Cyber security, NNR inspections are conducted during NNR processes. |
| Nuclear waste issues | Regarding the 47 comments received under this theme.<br><br>Koeberg waste is managed in accordance with international requirements of the IAEA. These require that the waste is contained and isolated from the environment. Nuclear waste is disposed of in accordance with international best practice until radioactive content has decayed to levels that no longer pose a hazard.<br><br>The safety of radioactive waste from Koeberg is overseen by the NNR. Over the years, the NNR has ensured that Koeberg complies with requirements for the management of radioactive waste. The NNR continues to ensure that the current and future generations are protected from any negative effects of the waste from KNPS.<br><br>In the past 5 years no issues have been raised relating to compliance to these requirements. The NNR also conducts reviews and inspections in this regard. The NNR annual report also contains a section dedicated to Radioactive waste safety and transport safety.<br><br>The low and intermediate level waste produced at Koeberg is transported to and stored at Vaalputs, authorized to receive waste from both Koeberg and Necsa. |

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| | Vaalputs was studied in the early 1980s and it was determined that the environment and the public would not be affected by the waste disposed at the site. LTO will result is more waste, however, this additional waste will not exceed the original capacity of Vaalputs.<br><br>Vaalputs began operating in 1986 and as of 2019 (33 years later), less than 15 % of the capacity was utilized. The additional 20 years of operation is not envisaged to reach the capacity limit. South Africa publishes the *South African National Report on the Compliance to Obligations Under the Joint Convention On Safety Of Spent Fuel Management and on the Safety of Radioactive Waste Management* freely available online, more information relating to the capacity performance of the Vaalputs can be found therein.<br><br>The initial studies conducted from 1979 to 1982, and the continuous safety assessments and regulatory oversight by the NNR indicate that there is no negative impact to the public and the environment from the disposal of waste at Vaalputs. This study also indicates that both current and future generations will not be impacted by the disposal of waste at Vaalputs.<br><br>The design and manufacturing of the waste packages, the loading of the waste packages onto the transport vehicle and the transport of the waste packages are tested and qualified to ensure that the public and the environment are not affected in case of accidents. |
| Property and land issues | Regarding the 13 comments received under this theme.<br><br>The comments received under this theme fall outside the scope of the NNR public hearings held. |
| Public consultation process | Regarding the 48 comments received under this theme.<br><br>Some of the commentators indicated that they did not know of the public hearings, and some said that they did not know anything about Koeberg. The NNR has implemented extensive communications and consultation efforts for the public hearings. These efforts included notices published in print media, online platforms, local community radio broadcasts, local community information sessions and public hearings. These were done in English, Afrikaans, isiXhosa and Setswana. |
| Public lack of and access to information | Regarding the 33 comments received under this theme.<br><br>The NNR has acted on the factors listed under this theme. Extensive information has been provided beyond the Public Information Document and Safety Case to the public on both the NNR and Eskom websites. |

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| | Additional information was released prior to the second round of hearings that was held by the NNR. |
| Regulatory Framework | Regarding the 14 comments received under this theme.<br><br>Various statements were made during the hearings related to the inadequacy of the Regulatory Framework based on differences to the French approach and its regulatory requirements.<br><br>The NNR regulatory framework considers the national legislative environment as well as international standards and practices, primarily the IAEA standards. The LTO regulations that have been promulgated considers both national legislation and international practice that is informed by ten yearly periodic safety reviews as performed in France. |
| Risk of Seismic events and outdated report | Regarding the 11 comments received under this theme.<br><br>A probabilistic seismic hazard analysis (PSHA) was conducted by the Council for Geoscience (CGS) as a Senior Seismic Hazard Analysis Committee Enhanced Level 2 (SSHAC EL-2) study.<br><br>The PSHA uses earthquake scenarios for a range of magnitudes and potential fault sources to determine the earthquake ground-shaking hazard at KNPS and the Duynefontein site. The results of the study will be used to perform further engineering and design analysis.<br><br>The LTO safety case however used an enveloping interim site response curve to inform the 3rd PSR design reviews. |
| Safety Culture status | Regarding the 3 comments received under this theme.<br><br>As part of the NNR compliance assurance plan the regulator conducts oversight inspections related to nuclear safety culture of KNPS as prescribed in the licence condition. The NNR reviews the nuclear safety culture assessment report conducted by the licence holder to ensure that any nuclear safety culture deviations are address and corrected.<br><br>All non-compliances to the licencing documents are independently investigated by the regulator or the regulator reviews the licence holder's investigation report to ensure that they are classified and investigated at the correct level. The corrective actions are evaluated by the regulator prior to implementation. Once corrective actions are implemented, they are evaluated in future inspections for its effectiveness. |
| Safety of communities | Regarding the 8 comments received under this theme. |

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| | "Section 5 (f) of the National Nuclear Regulator Act, 1999 (Act No. 47 of 1999), states that "The objects of the Regulator are to ensure that provisions for nuclear emergency planning are in place". The NNR Act further in section 38 directs the holder of a nuclear authorisation (in this case Eskom/Koeberg) to enter into an agreement with the relevant municipalities and provincial authorities to establish an emergency plan within a period determined by the Regulator. Once the emergency plan is established as per the act, the Regulator need to approve it and ensure that it is effective for the protection of persons should a nuclear accident occur. When the nuclear accident occurs, the holder of a nuclear authorisation must implement the emergency plan as approved by the Regulator.<br><br>In addition, the act describes the Responsibilities of holders of nuclear authorisations. Section 26 (4) of the act states that "The holder of a nuclear installation licence must establish a public safety information forum as prescribed to inform the persons living in the municipal area in respect of which an emergency plan has been established in terms of section 38(1) on nuclear safety and radiation safety matters".<br><br>The public safety information forum (PSIF) must conduct all meetings open to any member of the public at a minimum frequency of one meeting per quarter. The PSIF must communicate the date, time and venue of meetings of the forum within the relevant municipal area not less than 14 days prior to each meeting. At Eskom/Koeberg, the PSIF are held on a quarterly basis and the discussions are related to nuclear/radiation safety matters, including but not limited to nuclear incidents/accidents. Eskom/Koeberg invites the National Nuclear Regulator, the relevant municipality (Disaster Management Centre), the relevant Province (Disaster Management Centre) and relevant national government departments as appropriate to all meetings to facilitate the sharing of information. In terms of Section 4 of the updated Regulations No. 968 dated 12 September 2008, on the establishment of the Public Safety Information Forum, the Board of the National Nuclear Regulator is responsible for appointing the Chairpersons and Deputy Chairpersons for the respective Public Safety Information Forums and they are appointed from the members of the public.<br><br>It is the responsibility of the Regulator to ensure the effectiveness of the emergency plan and emergency preparedness and response arrangements. Amongst other things, the Regulator conducts inspections and regulatory emergency exercises as well as monitoring the corrective actions that need to be taken where there were non-compliances that were identified. These inspections and regulatory exercises test amongst others, the availability of resources, availability and operability of emergency equipment, activation, and communication between the response organisations, to ensure that the protective actions for the members of the public are implemented effectively. |

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| Technical documents and issues | Regarding the 15 comments received under this theme.<br><br>The NNR has acted on the comments received noting that they were not specific and did not have verifiable references.<br><br>The comment around the inadequate technical documents was made without any direct reference or additional information to be able to identify the subject inadequate documents.<br><br>In reference to the various technical issues (Containment cracks, ILRT frequency, etc) mentioned the NNR could not find any technical justification for the claims made. The information to clarify these technical issues is contained within the multiple documents released to the public.<br><br>There have been no new information presented that invalidate the information. During the hearings there were requests made to the public to supply examples of equipment that is of concern, to date no such listing has been received.<br><br>Accurate and up to date information related to all the following technical issues raised are contained within the suite of documents available to the public:<br>• Containment cracks<br>• Containment instrumentation<br>• ICCP modification<br>• ILRT<br>• IAEA SALTO findings |
| The risk is too high | Regarding the 7 comments received under this theme.<br><br>The NNR authorised the operation of KNPS through the issuing of a Nuclear Installation Licence (latest version NIL-01 Variation 20, dated 26 January 2024). In terms of this licence, Koeberg is required to perform risk assessments to demonstrate compliance with the safety criteria issued by the NNR. KNPS demonstrate compliance with these licensing requirements through risk analysis studies, maintenance and inspection programmes. Tsunami and seismic impact on the site have been evaluated for the Duynefontyn site, and such studies are continuing. There are also various administrative (management system e.g. emergency planning and response measures) and engineering features (civil, electrical, mechanical etc.) that are designed to minimise or mitigate the risk. All of these measures are periodically reviewed and inspected by the NNR and regulatory enforcement action get undertaken where necessary.<br><br>1) KNPS contributes about 4% to South Africa's electricity production. The NNR is specifically empowered in terms of National Nuclear Regulator Act (Act 47 of 1999) to regulate nuclear safety and security |

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| | aspects of Koeberg Nuclear Power Station and other nuclear facilities and activities in the country.<br><br>2) Human activity, and in particular nuclear electricity generation is not free of risk. The NNR safety standards include risk criteria for both the public and workers. KNPS has demonstrated that the radiation doses to personnel and the public does not exceed the dose limits specified by the Regulations on Safety Standards for Regulatory Practices (SSRP), 2006 for normal operational activities. The risk assessment furthermore demonstrates compliance with NNR risk criteria. Safety improvements that have been implemented at KNPS have resulted in improved safety performance over the years. |