

05 August 2015

Our Ref: J27035

Your Ref: Email received 19 August 2011



City of Cape Town  
Strategy and Planning

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Dear Mr Wiseman

**RE: ESKOM EIA CONCERNS FOR THE PROPOSED NUCLEAR POWER STATION AND ASSOCIATED INFRASTRUCTURE (DEA Ref. No: 12/12/20/944)**

**Comment 1:**

**From:** Godfrey Josephs [mailto:Godfrey.Josephs@capetown.gov.za]

**Sent:** Friday, August 19, 2011 11:09 AM

**To:** Keith Wiseman

**Cc:** Ivan Bromfield; Lorraine Gerrans; Rehana Razack

**Subject:** PROPOSED ESKOM NUCLEAR-1 POWER STATION AND ASSOCIATED INFRASTRUCTURE: CITY'S COMMENT

Hi Keith

Herewith the Mayco resolution on the PROPOSED ESKOM NUCLEAR-1 POWER STATION AND ASSOCIATED INFRASTRUCTURE report submitted to Mayco on 16 August 2011, as requested:

**MC 19/08/11 PROPOSED ESKOM NUCLEAR-1 POWER STATION AND ASSOCIATED INFRASTRUCTURE: CITY COMMENT ON THE REVISED DRAFT ENVIRONMENTAL IMPACT REPORT  
RESOLVED that:**

- (a) the report on the agenda for this meeting and the resolutions of the previous Planning and Environment Portfolio Committee (PEPCO) and Mayoral Committee taken in 2010 be submitted as the City's comment on the revised draft Environmental Impact report (EIR) for the Nuclear-1 project, and that these be addressed in the final Environmental Impact Report (EIR) and communicated to the Department of Environmental Affairs
- (b) the City's concern be expressed that the strategic issues raised by the City of Cape Town have been either overlooked or inadequately investigated in the Nuclear-1 Environmental Impact Assessment (EIA), with the result that the EIA process may be substantially flawed and subject to an appeal



GIBB Holdings Reg: 2002/019792/02

Directors: R. Vries (Chairman), Y. Frizlar, B Hendricks, H.A. Kavthankar, J.M.N. Ras

Arcus GIBB (Pty) Ltd, Reg: 1992/007139/07 is a wholly owned subsidiary of GIBB Holdings.  
A list of divisional directors is available from the company secretary.

- (c) it be noted that the City disagrees with the conclusion of the Nuclear-1 EIA that Duynefontein (Koeberg) is a potentially suitable site, since the Nuclear-1 EIA has not provided sufficient information on population, health and spatial planning implications to support such a conclusion.

**ACTION: K WISEMAN; I BROMFIELD**

Regards

**Godfrey Josephs**  
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**Response 1:**

Strategic Issues previously raised by the City of Cape Town have been addressed in previous Issues and Response Reports, specifically Long Submissions dated 21 December 2010 and 21 December 2011.

Your disagreement with the conclusions of the Nuclear-1 EIA that Duynefontein is a suitable site for Nuclear-1 is noted. GIBB is confident that sufficient information has been supplied in the Revised Draft EIR revision 1 (and its associated specialist studies) to come to a conclusion regarding the feasibility of this site.

**Comment 2:**

**(Refer to Annexures at the end of the report in the attachment)**

**REPORT TO ECONOMIC, ENVIRONMENTAL & SPATIAL PLANNING PORTFOLIO COMMITTEE**

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**1. ITEM NUMBER :**

**2. SUBJECT**

**PROPOSED ESKOM NUCLEAR-1 POWER STATION AND ASSOCIATED  
INFRASTRUCTURE: CITY COMMENT ON THE REVISED DRAFT ENVIRONMENTAL  
IMPACT REPORT**

**ISIHLOKO**

**ISIPHAKAMISO SESIKHULULO SAMANDLA OMBANE INYUKLERI-1 SAKWA-ESKOM  
NESIXHOBO ESISISISEKO ESINXULUMENENE NOKO: ULUVO LWESIXEKO  
KWINGXELO ELUYILO EHLAZIYIWEYO ENGEMPEMBELELO YOKUSINGQONGILEYO**

**ONDERWERP**

# VOORGESTELDE ESKOM-KERNKRAGSTASIE (NUCLEAR-1) EN VERWANTE INFRASTRUKTUUR: STAD SE KOMMENTAAR OOR DIE HERSIENE KONSEP-OMGEWINGSIMPAKVERSLAG

LSUB2191

## 3. PURPOSE

This report is intended to inform the Economic, Environmental & Spatial Planning Portfolio Committee, Executive Mayor and Mayoral Committee of progress by Eskom with the Environmental Impact Assessment (EIA) process for the development of a Nuclear Power Station. City comment was submitted in 2008 on the draft Scoping Report and identified a number of strategic issues for the City of Cape Town. A revised Plan of Study for the EIA was published and City comment submitted on that document. A draft Environmental Impact Report was published for comment and the City commented on that report in June 2010. A revised draft Environmental Impact Report (EIR) has now been published for comment. The deadline for comment is 7 August 2011.

## 4. FOR DECISION BY

Council's System of Delegations (Delegation 12(2)) authorises the Executive Mayor in consultation with the Mayoral Committee to submit City comments on applications for environmental authorisation outside the urban edge when requested to do so by the Minister or MEC or Minister of Minerals and Energy in terms of Section 240(2) of NEMA.

### Response 2:

Your comment is noted.

### Comment 3:

## 5. EXECUTIVE SUMMARY

### 5.1 Background

Eskom Holdings Limited (Eskom) proposes to construct a conventional nuclear power station in South Africa in order to meet part of the growing total demand for electricity. This project has been named "Nuclear-1" and that name is utilised in this report. Eskom have indicated that future Nuclear-2 and Nuclear – 3 projects may follow.

South Africa is reportedly experiencing increasing electricity demand in excess of 4 %. Based on Eskom's projections, there is a requirement for more than 40 000 Megawatts (MW) of new electricity generating capacity over the next 20 years. It is Eskom's intention to investigate the feasibility of pursuing up to 20 000 MW of nuclear power generating capacity.

Nuclear-1 would therefore be the first of a series of new nuclear power stations to be constructed and would generate 4 000 MW of electricity. The area of the power station footprint assessed in the EIA however makes provision for a total capacity of 10 000 MW.

Eskom’s Nuclear Site Investigation Programme in the mid-1980s investigated the technical feasibility of five alternative sites, namely Thyspunt (Eastern Cape), Bantamsklip and Duynefontein (Koeberg, Western Cape), Brazil and Schulpfontein (Northern Cape). All these alternative sites were found to be technically feasible for the construction, operation and decommissioning of a conventional nuclear power station.

As a result of the difficulty to integrate with the electricity transmission system and the lower economic benefits and higher costs (amongst other reasons) the Northern Cape sites were removed from further consideration at the end of the Scoping Phase of this EIA.

The Nuclear-1 EIA therefore identifies and evaluates three alternative sites: Thyspunt (near Cape St Francis), Bantamsklip (Between Danger and Quoin Points in the Southern Cape) and Duynefontein (Koeberg, Western Cape). The location of these alternative sites is shown on the map below.



**Response 3:**

Your comment is noted.

The area that Eskom wants for a power station, as stated in the Revised Draft EIR, is between 200 and 280 ha for a nuclear power station with a maximum generation capacity of 4,000 MW (the maximum that could be authorised by the Department of Environmental Affairs). However, the alternative sites considered makes provision for future expansion and development in line with the IRP (2010).

#### **Comment 4:**

##### **5.2 History of City engagement with the Nuclear-1 EIA process**

City comment was submitted on the Draft Scoping Report for the Nuclear-1 Environmental Impact Assessment in May 2008, following a report to the Mayoral Committee at that time. In November 2008 the national Department of Environmental Affairs and Tourism (DEAT) approved the final Scoping Report, but requested that the Plan of Study for the EIA be amended. A revised Plan of Study for the EIA was published for comment and City comment was submitted in July 2009. Responses were received from the consultants undertaking the EIA in October 2009 and these responses were submitted to the Mayoral Committee on 17 November 2009. A draft Environmental Impact Report for Nuclear-1 was published and City comment was submitted following a report to the Planning and Environment Portfolio Committee and the Mayoral Committee in June 2010.

A revised draft Environmental Impact Report (EIR) has now been published for further comment. The deadline for comment is 23 June 2011.

#### **Response 4:**

Your comment is noted. Please note that the deadline for comment on the Revised Draft EIR (revision 1) was extended to 7 August 2011.

#### **Comment 5:**

##### **5.3 Key changes in the 2011 revised draft Environmental Impact Report (EIR)**

This report to the Executive Mayor focuses on the possible implications of Nuclear-1 for the City Of Cape Town. It is acknowledged that other significant issues and implications exist for the other alternative sites, but those issues are not discussed here.

The 2010 draft EIR was revised to incorporate additional specialist findings and address comments that were received by the EIA consultants. These additions and changes address mostly the Thyspunt alternative site, which remains the recommended alternative. There is little or no new information on the environmental impacts that would result from the location of Nuclear-1 at Duynefontein (Koeberg). As will be seen elsewhere in this report, the revised draft EIR has not addressed the City's previous comments. The key changes to the previous draft EIR include:

- The completion of groundwater monitoring studies at all three sites.
- Detailed studies of roads near Thyspunt.
- Completion of a waste specialist assessment covering general, hazardous and radioactive waste.
- A Heritage Impact Assessment of the Thyspunt site.
- Assessment of cooling water disposal options at Thyspunt.
- Assessment of spoil disposal to the surf zone at Thyspunt.

Many of the issues raised in the City's previous comments on the draft EIR (June 2010) have not been addressed in the revised draft EIR (2011). These issues were first raised by the City during the Scoping stage and in comments on the Plan of Study for Impact Assessment. The EIA consultant's response to the City's 2010 comments on the draft EIR is discussed in Section 5.5 below.

**Response 5:**

Please see response 7 to your Section 5.5 (Comment 7)

**Comment 6:**

**5.4 Conclusions and recommendations of the 2011 revised draft EIR**

The EIA has identified Thyspunt as the preferred site for Nuclear-1. This is based on a ranked comparison of the three alternatives as discussed below. The decision factors employed by the EIA consultants, Arcus Gibb, were as follows:

- Transmission integration factors for electricity
- Seismic suitability of the sites
- Impacts on dune geomorphology
- Impacts on wetlands
- Potential conservation benefits
- Impacts on heritage resources
- Economic impacts
- Impacts on vertebrate and invertebrate fauna.

The 2011 revised draft EIR concludes that all three alternative sites could be suitable for Nuclear-1 and ranks them in order of preference according to the above decision criteria. However, The Spatial Planning and Urban Design Department does not support the conclusion of the Nuclear-1 EIA that the Duynfontein site is suitable for the construction, operation and decommissioning of a new Nuclear installation. Sufficient information on the possible future outcomes of the proposed Nuclear-1 nuclear reactor has not been made available. Serious potential impacts have been omitted from the EIA and disregarded from the site selection decision making criteria. The revised draft EIR fails to address the address the key issues pertaining to:

- (1) Potential impacts of the N1 Nuclear installation on current and future land uses
- (2) Assumptions regarding future NNR regulations on development surrounding nuclear power stations
- (3) International safety guidelines established by the International Atomic Energy Agency (IAEA) relating to the siting of nuclear installations in proximity to densely populated urban areas
- (4) The responsibility for costs of emergency and other infrastructure required to plan and implement the Koeberg Nuclear Evacuation Plan, which are carried by the City.

The decision making criteria that have been selected to evaluate the alternative sites appear to reflect the best option for the applicant, Eskom, but not necessarily the best alternative for the receiving environment. Potentially adverse impacts are a secondary consideration and the spatial implications and potential incidence of a nuclear emergency have been disregarded from the EIA decision making process. The Spatial Planning and Urban Design department recommends that the Nuclear-1 EIA decision making criteria be amended to include a comparative assessment of the possible impacts of

the abovementioned criteria. This assessment could yield a different recommendation regarding the suitability of the Duynefontein site.

It is understood that the Brazil and Schulpfontein sites were removed from the list of identified alternatives on the basis of (1) a lack of existing electricity transmission corridors, (2) limited local power demand and (3) time frames for acquisition that could not meet Eskom's commitment to bring Nuclear-1 on-line. Whilst the urgency to secure alternative energy production sources is recognised, The Spatial Planning and Urban Design Department comment does not agree that this should be addressed at the expense of society and the general degradation of the environment. The Spatial Planning and Urban Design Department comment recommends that remote sites located sufficiently far away from areas of high population distribution and density should be reintroduced as alternatives to the N1-EIA process.

It is therefore recommended that the Executive Mayor advise the Environmental Assessment practitioner and the Department of Environment Affairs that the City disagrees with the conclusion of the Nuclear-1 EIA that Duynefontein (Koeberg) is a potentially suitable site, since the Nuclear-1 EIA has not provided sufficient information on population, health and spatial planning implications to support such a conclusion.

The omission of population and health issues from the EIA site selection criteria is a consequence of the separation of the EIA from the nuclear licensing process, which is the responsibility of the National Nuclear Regulator (NNR). Emergency services, emergency planning and exclusion zones, and radiological issues and assessments will form part of the NNR decision on a nuclear license application, once the site of the proposed nuclear facility has been determined by the EIA decision.

The Spatial Planning and Urban Design Department comment recommends that the National Nuclear Regulator (NNR) assessment must be reported on in the Nuclear-1 EIA and that all stakeholders must have adequate access to the inputs and the findings of the NNR. The Spatial Planning and Urban Design Department comment recommends that the NNR's assessment form part of the competent authority's decision making & site selection process.

The Spatial Planning and Urban Design Department comment also highlights the omission of a specialist town planning investigation into the potential impacts of the N1 Nuclear installation may have on current and future land uses. A specialist town planning investigation was requested by the City during the Scoping stage of the EIA and in the City's comments on the Plan of Study for the EIA.

The 2011 revised draft EIA includes a limited assessment of health and radiological issues based on assumptions of the emergency planning zones which would be needed and of the emissions from the reactor during normal operations. High level radioactive waste would be stored on site, as is the case for the existing Koeberg Nuclear Power Station.

Thyspunt is identified in the revised draft EIR as the preferred site for Nuclear-1, using the decision criteria listed above. The most important arguments in favour of Thyspunt are the conservation benefits that are predicted to be realised at Thyspunt through access control and active management of the site; the lower seismic risk profile of Thyspunt; and that it is favourably located in terms of Eskom's requirements for integration with the transmission system. The Thyspunt site is therefore recommended for authorisation by the EIA consultants. However, all three sites were found to be suitable for the future development of a nuclear power station and could be selected in future to meet the generation needs reported by Eskom.

#### **Response 6:**

Please find our responses (grouped per issue for ease of reference) to the key issues you mention below.

### Potential impacts on current and future land uses

The impact on spatial planning does not form part of the scope of the current application and was therefore not assessed as part of the Revised Draft EIR Version 1. As indicated in previous responses, the Emergency Planning Zones (EPZs) that will be applied to Nuclear-1 are significantly smaller than the zones currently applied for the Koeberg Nuclear Power Station (KNPS). Therefore, implications for spatial planning will continue to be governed by the KNPS rather than by Nuclear-1. However, please refer to Appendix E34 for the Town Planning assessment report. This assessment considers the impacts on spatial planning and land use on areas surrounding each site.

### Assumptions regarding NNR regulations on development surrounding nuclear power stations

Eskom has been in communication with the NNR regarding the issue of emergency planning zones and will justify from a safety assessment of the specific design to the NNR that the emergency planning zones will be smaller for Nuclear-1 than for older generation nuclear power stations such as the KNPS. Initial indications provided by the NNR are that it is likely that the EPZ will even be reduced for the KNPS. For instance, in a presentation to the Parliamentary Select Committee on Economic Development on 1 June 2010, the Chief Executive Officer of the NNR stated the following: *“One major outcome of these new designs is that the emergency planning zones, specifically the Urgent Planning Zone, which is the zone within which evacuation of the public has to be catered for, would in all likelihood be reduced from 16 km in the case of Koeberg, to a much smaller radius which could fall within the property owned by the holder ...”*.

### International safety guidelines established by the International Atomic Energy Agency (IAEA) relating to the siting of nuclear installations in proximity to densely populated urban areas

The current siting regulations from the NNR (published by the Department of Energy in 2011) stipulates various factors that need to be considered when evaluating sites for nuclear installations, this includes: probability of postulated events that could result in release of radioactive materials, risk of public exposure, cumulative impact, the identification and determination of emergency planning zones. The siting regulations does not specify the population density required per site as this is depended on various factors, however, the risk to public exposure and the requirement to demonstrate that risk to the public and environment will be within prescribed regulatory requirements. These principles are in line with the IAEA requirements. All this information will be addressed in the Site Safety Report in accordance with the requirements contained in the siting regulations.

### The responsibility for costs of emergency and other infrastructure required to plan and implement the Koeberg Nuclear Evacuation Plan

The current environmental application is with respect to the proposed Nuclear-1 power station and does not cover the existing KNPS. Thus GIBB as the Environmental Assessment Practitioner is unable to respond to issues with respect to existing financial responsibilities for the KNPS.

### Decision-making criteria

GIBB stands by the criteria it has applied in the Revised Draft EIR. The impact significance rating system has been substantially revised in consultation with the team of specialists. The revised impact assessment rating system was indicated in Chapter 7 of the Revised Draft EIR (Version 1).

Furthermore, based on comments received from the DEA during the review of the RDEIR Version 1, The National Department of Environmental Affairs requested the EAP to review the impact assessment methodology used in the Revised Draft Environmental Impact Report (Version 1), so as to simplify the criteria for assessment of significance and identification of a preferred site. In response, an

approach has been developed that identifies and describes key decision-making issues contained in the individual specialist studies. These decision-making issues apply to both the acceptability of the proposed Nuclear Power Station as well as to the preferred site. Please refer to Chapter 10 of the RDEIR Version 2, for the updated assessment approach.

#### Removal of Brazil and Schulpfontein from consideration

The exclusion of the Brazil and Schulpfontein sites at the end of the scoping phase was accepted by the then Department of Environmental Affairs and Tourism (now the Department of Environmental Affairs – DEA). Your comment is based on the assumption that placing Nuclear-1 in the Northern Cape would necessarily lead to lesser degradation of the environment. This assumption can be challenged. The Northern Cape (not only the location of the power station but also the areas that the transmission lines will traverse) is home to some of the most endangered and endemic succulent plant species on earth, since the Succulent Karoo Centre of Endemism, with critical biodiversity areas like the Knersvlakte, lies between the proposed Northern Cape sites and the Western Cape. Furthermore the transmission lines would have to traverse the Namaqua National Park. On the other hand the Cape Metropole is already largely developed, and the areas that would be affected by the development of the Duynefontein site are therefore already degraded from a biodiversity perspective. Therefore, your argument that the Northern Cape sites would result in less environmental degradation than the Duynefontein site is not supported.

#### NNR and radiological impacts

Your comments regarding access to the information in the NNR licensing process are noted. The NNR has a separate legal mandate to the DEA, under whom the EIA process is managed. However, the NNR's nuclear licensing process is also governed by relevant administrative justice legislation and is therefore required to be an open and transparent process, subject to public participation.

Assessment of radiological and health impacts and related matters such as emergency planning are clearly within the ambit of the NNR owing to its legal mandate in terms of the National Nuclear Regulator Act, 1999 (Act No. 47 of 1999). As with many different forms of development, construction is dependent on authorisations by a number of different legal entities, including local, provincial and national authorities. Construction of such developments is reliant on all these authorisations being obtained from entities with vastly different legal mandates. Reporting requirements to satisfy all these authorisations vary hugely, and it cannot reasonably be expected that information relevant to all these authorisations should be contained in the EIR.

The separation between the EIA process and the NNR licensing process is based on the legislative provisions of the relevant Acts, namely the National Environmental Management Act, 1998 and the National Nuclear Regulator Act, 1999, as well as the DEA / NNR co-operative agreement, which governs the consideration of radiological issues in EIA processes and the interaction between the DEA and the NNR in terms of their respective mandates for environmental and radiological safety (See Appendix B4 of the Revised Draft EIR). The agreement stipulates that issues of radiological safety are within the mandate of the NNR. Furthermore, it is not within the mandate of the Environmental Assessment Practitioner to question the legal mandates of either of these statutory bodies or the validity of their agreement. We must, therefore, conduct the EIA based on their mandates and their agreement.

In this regard you are also referred to the then DEAT's approval of the Scoping Report, dated 19 November 2008, where the following is stated:

2.21 All radiological issues raised during the EIA process, which are not comprehensively addressed, must be explicitly referred to the NNR to be addressed as part of their process.

This response by the DEAT acknowledges that radiological issues cannot be comprehensively addressed in the EIA process and can only be addressed in the NNR's nuclear licensing process.

However, in recognition of requirements in the NEMA, associated legislation such as the Promotion of Administrative Justice Act, 2000 (Act No. 3 of 2000) and other legal precedents that require the consideration of all relevant socio-economic factors in an EIA process, an assessment of radiological impacts of the proposed power station is included in the current version of the EIR. Although this approach of including an assessment of the radiological impacts of the proposed power station results in a risk of duplication between the EIA and the NNR licensing processes, the risk to the EIA in terms of possible appeals, based on the exclusion of substantive issues such as health issues from the EIA process, is regarded as greater than the risk of duplication. The current version of the EIR therefore departs substantially from the approach in the previous versions of the EIR in terms of the consideration of radiological impacts.

In this context, it must be mentioned that the approaches of the EIA process and the NNR licensing process differ substantially. The focus of the EIA process is to assess the potential impacts of radiological releases (including normal operational releases and upset conditions). However, the focus of the NNR licensing process is to demonstrate beyond reasonable doubt that defence-in-depth measures (multiple, redundant, and independent layers of safety systems) employed in the proposed power station design and operation are sufficient to reduce the probability of a failure leading to core meltdown or a failure of reactor containment to acceptable and highly-unlikely levels. Thus, the EIA process focuses on the consequences of radioactive releases. The NNR licensing process also focuses on consequences but is also designed to reduce the probability of such releases. Please refer to Appendix E32 of the RDEIR Version 2 for the Radiological Impact Assessment report.

As indicated in the EIR, the assessment of the impacts of the proposed power station is based on a Consistent Dataset (Appendix C of the Revised Draft EIR), which represents a worst case scenario of potential inputs and outputs from a number of different Generation III nuclear power stations operating under normal conditions. This dataset has been based on the commercially available nuclear power station designs currently available.

Planning for nuclear emergencies is within the scope of the NNR's nuclear licensing process and falls outside the scope of this EIA process.

#### **Comment 7:**

#### **5.5 Previous City comments and responses in the revised draft EIR**

City of Cape Town comments have been submitted to the Nuclear-1EIA at each stage of the process, with high level political input.

The June 2010 report to the Planning and Environment Portfolio Committee (PEPCO) and the Mayoral Committee highlighted the fact that the City's comment was not included in the draft EIR and many of the strategic issues identified by the City at the Scoping stage had been omitted from the assessment. The report together with the resolution of PEPCO, which was adopted by the Mayoral Committee, was submitted as the City's comment in June 2010.

The responses from the Environmental Assessment Practitioner are summarised in section 5.6 below. Arcus Gibb report that the City's comments were addressed in the Issues and Response Report. That report extends to some 966 pages.

The June 2010 resolution of the Mayoral Committee is attached to this report (Annexure A), together with the responses from the EIA consultants to the issues raised by PEPCO (Annexure B) and the Mayoral Committee (Annexure C). These responses were located in an Annexure to the revised draft EIR and were not submitted directly to the City.

In commenting on the Scoping Report in 2007 at the commencement of the Nuclear-1 EIA, the City requested that it be considered a "Key stakeholder" in the EIA process. The Issues and Response Report for the scoping stage stated that "It has been confirmed that the City of Cape Town is a key stakeholder...". The City also raised issues of spatial planning, land use management and the availability of land for housing, amongst other issues, during the Scoping phase of the EIA. None of these issues has been satisfactorily addressed in the 2010 draft EIR or the 2011 revised draft EIR. Further detail of the relevant comments from City service units is included in Section 7 of this report.

A summary of the issues previously identified by the City, and the response from the EIA consultants, is shown in Section 5.6 of this report. Comments from relevant service departments are included in section 5.6.

### **5.6 Summary of responses from the EIA consultant, Arcus Gibb to City comments on the 2010 draft EIR**

The key issues raised by the City in its previous comment, and the responses contained in the Annexures, are briefly summarised below:

<b><i>City comment (2010 draft EIR)</i></b>	<b><i>Response from Arcus Gibb in the revised draft EIR (Annexures B and C of this report)</i></b>
<b>The City's previous comments were not included in the 2010 draft EIR</b>	It is not a requirement of the (EIA) regulations or the accompanying guidelines that copies of the actual comments must be included. GIBB includes all written comments received verbatim in the Issues and response Reports that accompany the Environmental Impact report. As such the response to the City of Cape Town is attached in the Issues and Response Report as was received during the Scoping Phase.
<b>The decision evaluation criteria be amended to include impact on population, emergency planning and disaster risk management costs</b>	Population and emergency planning (are) not considered as decision factors of high significance (for the EIA). Since the probability of a disaster was assessed as low, the increase in the costs related to disaster management was not considered significant. Eskom and the local authority are to agree on the apportionment of these costs.
<b>Impact on the future spatial expansion of Cape Town along the west Coast growth corridor in terms of exclusion and emergency</b>	The impact on spatial planning does not form part of the scope of the current application and was therefore not assessed as part of the draft EIR. Emergency planning zones for new generation reactors are significantly smaller

<b>planning zones</b>	than those for older reactors.
<b>Impact of housing, facilities and transport for construction workers</b>	The scope of the current EIA application for nuclear power does not include these developments. It is Eskom's preference to use existing accommodation. However, where necessary an employee village will be established close to existing towns to cater for the greater part of the 7000 to 8000 construction works. The employee village for construction workers would be the subject of a separate EIA.
<b>Storage of nuclear waste at Koeberg</b>	A nuclear waste management study has been included in the revised draft EIR. This matter is the responsibility of the National Nuclear Regulator (NNR) and the newly established National Radioactive Waste Disposal Institute.
<b>Responsibility for insurance for surrounding residents / business in the case of an incident at Koeberg</b>	Eskom is required by the NNR Act to make financial provision through insurance obtained from international nuclear insurance pools. The amount of insurance is stipulated by the Minister of Energy and is currently R2.4 billion.
<b>Impact on biodiversity</b>	The City's comments on biodiversity have not been addressed by Gibb and no new information is included in the revised draft Nuclear-1 EIR.

**Response 7:**

Your comments are noted.

Please note that, GIBB's response to the long submission submitted by the City of Cape Town was responded to and recorded in the Revised Draft EIR (revision 1). The City of Cape Town was invited to public meetings held during the RDEIR version 1. A Focus group meeting will be held with the City during the review of the DEIR Version 2.

Please refer to Appendix E for the biodiversity assessments conducted for the project.

In terms of housing infrastructure, no specific details are available at this stage, however it is Eskom's intention that staff required for the project be housed in current available or upcoming accommodation.

With regards to the impact on spatial planning of the EPZ's, please refer to Appendix E34 of the RDEIR Version 2, for the Town Planning assessment report.

**Comment 8:**

**5.7 The way forward**

Following the comment period on the revised draft EIR, a final EIR would be produced and would include an Issues and Response Report which must, according to the 2010 NEMA EIA regulations, respond to all the comment received. When the final EIR is submitted to the decision-maker, the

Department of Environment Affairs, the EIA consultant must include all the written submissions received.

The final EIR will include a recommendation of the preferred site from the Environmental Assessment Practitioner, Arcus Gibb. Thyspunt has been identified as the preferred site in the revised draft EIR (section 5.4 above). However, each of the three alternative sites was found to be potentially suitable and could be approved by the Department of Environment Affairs. An appeal period will follow the announcement of the EIA decision.

The City of Cape Town could submit an appeal against the EIA decision if it chooses to do so. An appeal could potentially address the EIA process and stakeholder participation, the EIA assessment and technical information, or the reasons for the EIA decision. A decision on whether or not to appeal would be needed once the outcome of the EIA application is known. However, the City must also consider that, even if Nuclear-1 is sited elsewhere, the Duynefontein (Koeberg) site has been found by the Nuclear-1 EIA to be potentially suitable for the development of additional nuclear facilities.

It is therefore recommended that the Executive Mayor submit this report and the previous PEPCO and Mayoral Committee reports and resolutions as the City's comment on the revised draft EIR, and request that they be addressed in the final EIR and communicated to the competent environmental authority, the Department of Environmental Affairs.

It is further recommended that the Executive Mayor express the City's concern that the strategic issues raised by the City have been either overlooked or inadequately investigated in the Nuclear-1 EIA, with the result that the EIA process may be substantially flawed and subject to an appeal.

#### **Response 8:**

Your recommendations are noted. Please refer to Appendix D of the RDEIR version 2, for a record of comments received and responses sent.

#### **Comment 9:**

## **6. RECOMMENDATIONS**

It is recommended that the Economic, Environment and Spatial Planning Portfolio Committee:

- 6.1 Endorse this report and the comments from relevant service units for consideration by the Mayoral Committee as the City's comment on the Nuclear-1 draft Environmental Impact Report, to be submitted to the Department of Environment Affairs and the National Nuclear Regulator.

### **6. AANBEVELINGS**

Daar word aanbeveel dat die portefeuljekomitee oor ekonomiese, omgewings- en ruimtelike beplanning:

- 6.1 Hierdie verslag en kommentaar van verskeie dienseenhede steun vir oorweging deur die burgemeesterskomitee as die Stad se kommentaar oor die konsep-omgewingsimpakverslag oor Nuclear-1, wat aan die departement omgewingsake en die nasionale energiereguleerder voorgelê moet word.

### **6. IZINDULULO**

Kundululwe ukuba iKomiti yeMicimbi yeSebe lezoQoqosho, okusiNgqongileyo noCwangciso lwamaBala:

- 6.1 Mayiqinisekise le ngxelo yaye mayivakalise izimvo zayo zamacandelo ohlukeneyo onikezelo ngeenkono ukuze ziqwalaselwe yiKomiti yesiGqeba sikaSodolophu/i-MAYCO njengezimvo zesiXeko kuyilo lweNgxelo yeNukleri- 1 neMpembelelo kokusiNgqongileyo, ukuze zingeniswe kwiSebe leMicimbiyokusiNgqongileyo neZiphatha-mandla zeNukleri kuZwelonke.

**Response 9:**

Your recommendations are noted.

**Comment 10:**

Delegated: for Decision by the Executive Mayor:

It is recommended that the Executive Mayor:

- 6.2 Submit this report and the previous 2010 Planning and Environment Portfolio Committee (PEPCO) and Mayoral Committee resolutions as the City's comment on the revised draft Environmental Impact report (EIR) for the Nuclear-1 project, and request that these be addressed in the final Environmental Impact Report (EIR) and communicated to the Department of Environmental Affairs.
- 6.3 Express the City's concern that the strategic issues raised by the City of Cape Town have been either overlooked or inadequately investigated in the Nuclear-1 Environmental Impact Assessment (EIA), with the result that the EIA process may be substantially flawed and subject to an appeal.
- 6.4 Note that the City disagrees with the conclusion of the Nuclear-1 EIA that Duynfontein (Koeberg) is a potentially suitable site, since the Nuclear-1 EIA has not provided sufficient information on population, health and spatial planning implications to support such a conclusion.

**IZINDULULO**

Zigungazisiwe: isiGqibo sesikaSodolophu wesiGqeba ecebisana ne-MAYCO:

Kundululwe ukuba uSodolophu wesiGqeba ecebisana ne-MAYCO:

- 6.2 Makangenise le ngxelo kunye nezisombululo zangaphambili zango-2010 zeKomiti yeMicimbi yezoCwangciso nokusiNgqongileyo (PEPCO) neKomiti yoLawulo lukaSodolophu njengoluvo lwesiXeko kwingxelo eluyilo ehlaziyiweyo engeMpembelelo yokusiNgqongileyo (EIR) ngokujoliswe kwiprojekthi engeNyukleri-1, kwakhona enze isicelo sokuba olu luvo kufuneka luphendulwe kwiNgxelo yokugqibela engeMpembelelo yokusiNgqongileyo (EIR) kwaye lugqithiselwe kwiSebe leMicimbi yokusiNgqongileyo.
- 6.3 Makavakalise inkxalabo yesiXeko yokuba imibandela engesicwangciso-buchule ethe yaphakanyiswa sisiXeko saseKapa iye ayathathelwa ingqalelo okanye iye ayaphandwa ngokufanelekileyo kuVavanyo engeMpembelelo yokusiNgqongileyo

engeNuykleri-1 (EIA), oko ke kunganesiphumo sokuba kwenzeke umonakalo kwinkqubo ye-EIA kwakhona ixhomekeke kwisibheni.

- 6.4 Aqaphele ukuba isiXeko asivumelani nesigqibo esingaNyukleri-1 EIA sokuba i-Duynfontein (Koeberg) sisiza esinokukulungela oku, njengoko iNyukleri-1 EIA ingakhange ize nengcaciso eyaneleyo ngokumalunga nemiphumela yenani labantu, yezempilo neyozocwangciso lwamabala ukuxhasa isigqibo esilolo hlobo.

## **AANBEVELINGS**

Gedelegeer: vir besluitneming deur die uitvoerende burgemeester in oorlegpleging met die burgemeesterskomitee:

Daar word aanbeveel dat die uitvoerende burgemeester:

6.1 Hierdie verslag en die vorige 2010-resolusies van die portefeuljekomitee oor beplanning en die omgewing (PEPCO) en die burgemeesterskomitee as die Stad se kommentaar oor die hersiene konsep-omgewingsimpakverslag oor Nuclear-1 voorlê, en versoek dat dit saam met die finale omgewingsimpakverslag oorweeg word en aan die departement omgewingsake voorgelê moet word

6.2 Die Stad se kommer uitspreek dat die strategiese kwessies wat deur die Stad Kaapstad geopper is, in die omgewingsimpakbepaling van Nuclear-1 òf deur die vingers gesien is òf ontoereikend ondersoek is, met die gevolg dat die omgewingsimpakbepaling-proses wesenlike foute kan bevat en aan 'n appèl onderworpe kan wees

Kennis neem dat die Stad nie met die gevolgtrekking van die Nuclear-1-omgewingsimpakbepalingsbesluit saamstem dat Duynfontein (Koeberg) potensieel 'n geskikte terrein is nie, aangesien die Nuclear-1-omgewingsimpakbepaling nie genoeg inligting oor die implikasies vir die bevolking, gesondheid en ruimtelike beplanning verskaf het om so 'n gevolgtrekking te staaf nie.

### **Response 10:**

Your comments are noted.

### **Comment 11:**

## **7. DISCUSSION**

### **7.1. Constitutional and Policy Implications**

In terms of the Constitution of the Republic of South Africa, and the National Environmental Management Act 107 of 1998, the Department of Environmental Affairs (DEA) is responsible for assessing the impacts of the proposed Nuclear-1 power station on the environment. However, the National Nuclear regulator (NNR) is mandated by the National Nuclear Regulator Act to provide for the protection of persons, property and the environment against nuclear damage through the establishment of safety standards and regulatory practices.

### **Response 11:**

Your comment is noted.

**Comment 12:**

**7.2. Environmental implications**

Does your report have any environmental implications	No:	Yes:
--	-----	------

Does your report result in any of the following: (indicate with a cross (x) where applicable)			
Loss of or negative impact on natural space and/or natural vegetation, rivers, vleis or wetlands?	x	Loss of or negative impact on the City's heritage, cultural and scenic resources?	x
An increase in waste production, or concentration, pollution or water usage?	x	Development or any construction within 500m of the coastline?	x
Does your activity comply with the National Environmental Management Act?		Yes	
Does your report complement and contribute to meeting the City's IMEP Environmental Agenda 2009-2014 environmental targets?			No

The NEMA EIA Regulations state that an Interested and Affected party, such as the City, "is entitled to comment, in writing, on all written submissions made to the competent authority... and to bring to the attention of the competent authority any issues which (it) believes may be of significance to the consideration of the application for environmental authorisation". The City's comment on the Nuclear-1EIA therefore precedes any consideration of subsequent applications, for which the City may be the decision-maker, and does not bind the City to any future position or decision on such applications.

**Response 12:**

Your comment is noted.

**Comment 13:**

**7.3. Legal Implications**

The proposed Eskom Nuclear Power Station requires three key approvals, in addition to the overall approval of Cabinet to proceed with the project. The three authorizations required are:

- An authorisation under the Environmental Impact Assessment (EIA) regulations in terms of the National Environmental Management Act 107 of 1998 and Environmental Conservation Act 83 of 1989.
- A nuclear installation license from the National Nuclear Regulator (NNR) in terms of the National Nuclear Regulator Act 47 of 1999.

- Rezoning of the proposed site at Koeberg from rural to an appropriate zoning to allow electricity generation in terms of the Land Use Planning Ordinance (LUPO) 15 of 1985.

The EIA process is the first of these legal requirements to be addressed and must include a comprehensive assessment of the impacts and benefits of the proposal to society as a whole, in order to decide whether or not to proceed.

The Department of Environment Affairs and the National Nuclear Regulator have signed an agreement limiting the scope of the EIA decision in terms of nuclear radiation issues and safety, which are the mandate of the NNR. In terms of that agreement, the issues of radiological safety and emergency planning zones will be determined by the NNR, once the EIA decision has been made.

In terms of the National Environmental Management Act (NEMA), the EIA is required to address the full range of social, economic and environmental costs and benefits to society and to address the national environmental management principles contained in section 2 of NEMA. In that regard, the City would highlight the following principles and their possible implications for the City's comment on the Nuclear-1 EIA:

<i>National Environmental Management Principles</i>	<i>City comments on the Nuclear-1 EIA</i>
<p>Environmental Management must place people and their needs at the forefront of its concern... (Section 2(2) of NEMA)</p> <p>Development must be socially, environmentally and economically sustainable (section 2(3) of NEMA).</p>	<p>Impacts on population, spatial planning, health and emergency services have not been considered in the evaluation of alternatives or selection of the preferred alternative.</p>
<p>Environmental management must be integrated, acknowledging that all elements of the environment are linked and interrelated and it must take into account the effects of decisions on all aspects of the environment and all people in the environment by pursuing the selection of the best practicable environmental option (Section 4(b) of NEMA)</p>	<p>Relevant site section considerations have not been integrated with the Nuclear-1 EIA, including population and spatial planning, emergency services and related infrastructure, workers' housing during construction, the alignment of transmission lines and health monitoring. Separate rather than integrated decisions will be made for the Nuclear-1 EIA, the transmission line EIA, the workers' housing EIA and by the National Nuclear Regulator in terms of the safety assessment.</p>

**Response 13:**

With regards to your comment that Cabinet approval of the project is required, please note that the Integrated Resource Plan (IRP) 2010, which outlines strategic government policy with regards to the supply of electricity, requires the development of 9,600 MW of nuclear power generation to be included in the mix of generation technologies over the next 20 years. Cabinet has accepted the IRP 2010 and therefore nuclear generation is in principle accepted by Cabinet. The commercial process for appointment of a vendor for the supply of the nuclear generation technology will be led by government through the National Nuclear Energy Executive Coordination Committee (NNEECC) established by the DoE and chaired by the deputy president

**Eskom** to respond to the claim that Duynefontein needs to be rezoned through LUPO to allow for a nuclear power station – GIBB can recall that Eskom was busy with this process All land at Duynefontein is zoned “Rural” (according to Eskom information supplied to GIBB in 2009). However, note that the City of Cape Town says in comment 29 that the zoning of Duynefontein was changed to “Noxious Industry, General Industry and Commercial”. [The nuclear-1 site will have to go through a rezoning process once an environmental authorisation is received. This is done by the local municipality and in the Duynefontein case it is going to be the City of Cape Town.](#)

Your comments on compliance with the NEMA principles are noted. As indicated in responses above, the exclusion of issues of radiological safety from the Nuclear-1 EIA process is based on the DEA-NNR co-operative governance agreement. GIBB, as the Environmental Assessment Practitioner, has no mandate or authority to question the validity of this agreement.

**Comment 14:**

**7.4. Staff Implications**

Does your report impact on staff resources, budget, grading, remuneration, allowances, designation, job description, location or your organisational structure?

No: ?

Yes:?

**Response 14:**

Your comment is noted.

**Comment 15:**

**7.5. Risk Implications**

This report and its recommendations do not expose the City to any risk.

**Response 15:**

Your comment is noted.

**Comment 16:**

**7.6. Other Services Consulted**

The revised draft EIR for Nuclear-1 was made available to City staff via the “EIA Forum” site on Share Point:

<http://cityapps.capetown.gov.za/sites/EIAForum>

All the relevant services who have commented previous were invited to submit comment. In many cases, staff responded that there were no new comments and the previous comments (June 2010) remained valid. This includes, for example, comments on biodiversity (Dr Pat Holmes, Biodiversity Management Branch). Previous comments are not repeated here but would be included in the City's comment on the revised draft EIR according to recommendation 6.1 to the Executive Mayor.

Comments on the revised draft EIR were received from the following:

Spatial Planning and Urban Design	Peter Grey
City Health	Ian Gildenhuis
Environmental Resource Management	Keith Wiseman
Biodiversity Management Branch	Pat Holmes
Disaster Risk Management	Greg Pillay
Planning and Building Development	Colin Lovember

#### **Response 16:**

Your comment is noted.

#### **Comment 17:**

##### **7.6.1 Impact of nuclear development at Koeberg on urban growth management and the future spatial growth of Cape Town**

*Comments from Spatial Planning and Urban Design – Peter Grey*

#### **Cape Town Spatial development Framework (CTSDF)**

Under direction from the Planning and Environment Portfolio Committee (PEPCO), a policy statement was introduced into the City's draft Spatial Development Framework (SDF): *'...in the medium to long term, the City would like to remove the development impediments imposed by Koeberg Nuclear Power Station (KNPS), and will therefore not support proposals to upgrade KNPS's generative capacity, or, the construction of new nuclear installations'*.

The inclusion of this policy statement was based primarily on concerns relating to (1) safety in the event of a nuclear disaster, (2) the potential sterilisation of development opportunities on the West Coast Growth corridor (3) the abrogation for any responsibility relating to disaster management and infrastructure required to implement the KNEP by the nuclear operator.

Eskom objected to the draft policy statement and a meeting was then coordinated to discuss the policy wording (refer attached minutes). Based on the outcome of a meeting with Eskom, a compromise statement was introduced into the SDF. The suggested final wording of the policy statement is as follows:

*P26.5 For any new nuclear power station being developed within the city's administrative boundary, the exclusion zone(s) should be ≤ 5km*

If the assumptions of the Nuclear-1 1 EIA are incorrect with regard to the 800m and 3km emergency planning zones, Eskom would have to apply to amend the CTSDF (once approved as a 4(6) policy document i.t.o. LUPO) as part of a future land use approval process. This provides a further level of 'restriction' to the growth limiting the potential of the proposed new nuclear power station.

### **Response 17:**

Your comment is noted. Management of the Emergency Planning Zones (EPZs) of the current KNPS falls outside the scope of the Nuclear-1 EIA process. Your comments regarding the assumptions in the Nuclear-1 EIA about the size of the Nuclear-1 EPZs are also noted.

### **Comment 18:**

#### **Future development of the West Coast Corridor**

With specific relevance to Duynfontein, population restrictions which may be imposed by the proposed Nuclear-1 on development surrounding the proposed N1 site may sterilise the long term development potential of the West Coast Corridor for future development and housing purposes at planned requisite densities / distribution (following decommissioning of Koeberg Nuclear Power Station, KNPS). The long term spatial expansion of Cape Town in a northerly direction up the West Coast Corridor has been identified as a desirable location for future development because of the following reasons:

- The spatial expansion of Cape Town is generally restricted by topographical features, environmental sensitivities and agricultural land use constraints. There is an increasing shortage of available developable land. However, the West Coast is physically suitable for development with few natural constraints (with the exception of critical biodiversity areas) and no high yield agricultural soil.
- Land available for development on the West coast is strategically located within direct proximity to the economic, civic and social opportunities of Cape Town CBD.
- In the long term, the potential was identified to integrate Atlantis, a dormitory apartheid settlement of > 60 000 people into Cape Town's urban fabric.

The City is currently assessing its long term growth options along the West Coast corridor. The provisional findings of this multidisciplinary study indicate that approximately 9500 ha within 16km from the proposed Nuclear-1 site is suitable for urban development purposes. At a gross density of 25 du/ha, this could provide 237 500 housing opportunities. At an average of 3.8 people per household, the potential exists to accommodate a total population of 902 500. The planned population distribution and density could be significantly reduced to ensure compliance with the KNPS emergency plan – or, there may be a significant cost implication in order to provide infrastructure over-and-above the normal provision.

### **Response 18:**

Your comments are noted. The implications of the KNPS's EPZs for spatial planning falls outside the ambit of this EIA process, as the EIA is focused on the proposed Nuclear-1 power station.

As stated in previous responses to the City of Cape Town (and as acknowledged in your Comment 19 above), the proposed Nuclear-1 power station will have smaller emergency planning zones (EPZs) than the KNPS. This assumption is supported by statements by the NNR. For instance, in a presentation to the Parliamentary Select Committee on Economic Development on 1 June 2010, the Chief Executive Officer of the NNR stated the following: "*One major outcome of these new designs is that the emergency planning zones, specifically the Urgent Planning Zone, which is the zone within which evacuation of the public has to be catered for, would in all likelihood be reduced from 16 km in*

*the case of Koeberg, to a much smaller radius which could fall within the property owned by the holder ...”*

Should the existing EPZs of the KNPS continue to exist, the EPZs for Nuclear-1 would, therefore, have no impact on spatial planning or expansion of the city of Cape Town along the West Coast Corridor.

However, with the above in mind, please refer to Appendix E34 for the Town Planning Assessment which considers the impacts of the EPZ's on spatial planning to an extent.

#### **Comment 19:**

##### **Spatial Planning comments on the Social Impact Assessment specialist study**

It is our view that the Social Impact Assessment (SIA) remains an inadequate assessment of the potential social impacts of the Nuclear-1 proposal. The Nuclear-1 facility is used by the applicant to motivate support for the West Coast Growth Corridor (hence the positive impact). We disagree with the identification of the new nuclear power station as solely a positive 'motivational' benefit. The negative social impacts which could result from a potential nuclear incident are not given adequate consideration. The analysis of the Duynefontein site in section 3.15 of the specialist study is a cut and paste exercise from the draft Blaauwberg District Plan (2010) which bears no relevance to the potential sterilisation of land and the potentially negative social impacts that could arise in the event of a nuclear incident. In the application of a 16km exclusion zone, the categorisation of a 'medium' impact is regarded as inappropriate and misleading for the Duynefontein site.

The reduced exclusion zone assumptions in the Nuclear-1 EIA have diminished the relative importance of the consideration of land use restrictions and the implications for the future development surrounding the proposed N1 Nuclear sites. For example, based on the above assumption, the Social Impact Assessment (SIA) allocates a 'medium' rating to the impact of the proposed Nuclear-1 on future development. This categorisation of impact ('medium') is applied to each of the identified sites. As a result, the process of site selection undertaken in the EIR failed to comparatively consider the real implications of population restrictions which may be imposed by the proposed N1 NPS. It is contended that had these implications been properly investigated, the process of site selection would show that the proposed siting of a new Nuclear installation at Duynefontein would have a far greater negative impact on the receiving environment, possibly influencing the recommendation of Duynefontein as a site suitable for accommodating the long term cumulative impacts associated with the construction and operation of a new Nuclear Power Station.

#### **Response 19:**

Nuclear incidents do have the potential to cause negative social impacts. It is also true that a nuclear incident have the potential to cause negative impacts on a number of related fields e.g. agriculture, economy, tourism etc. The negative social impacts that can be expected will depend on the nature and scale of any nuclear incident and will therefore vary from incident to incident.

Point 3.16 of the Social Impact Assessment clearly recognises the risks associated with nuclear incidents. In summary the SIA stated clearly the following:

“From the above it is clear that a nuclear accident will definitely impact negatively on health and safety, and the way people live their lives. The degree of an accident may not be the same as Chernobyl, but the consequences may be similar. Due to the fact that Chernobyl did happen, individuals, families and communities are influenced by the possibility that it can happen again.”

One of the optimisation measures suggested by the SIA regarding future development stated clearly: “More detailed Spatial Development Plans should be developed as soon as the location has been finalised.”

From the SIA a “medium” rating is the correct rating for each of the sites. It is logic that there will be more future development around the Duynefontein site than the Bantamsklip site, with or without Nuclear1.

The exclusion zone assumption is applicable to all three alternative sites, which implies that the 800 m Proactive Action Zone (PAZ) will lie completely within the Eskom-owned property at all three of the sites. Furthermore. The 3 km Urgent Protective Zone (UPZ) would not affect existing residential areas at either the Thyspunt or Bantamsklip sites. At Duynefontein, the only existing residential area that would be affected by a 3 km UPZ is the Duynefontein residential area and as stated before, the Emergency Planning Zones of Nuclear-1 are far smaller than those of the existing KNPS. There is, therefore, no motivation for Nuclear-1 creating any additional restrictions on urban expansion apart from the restrictions that are already imposed by the Emergency Planning Zones of the KNPS.

#### **Comment 20:**

##### **Conclusions**

The Spatial Planning and Urban Design Department does not support the conclusion of the Nuclear-1 EIA that the Duynefontein site is suitable for the construction, operation and decommissioning of a new Nuclear installation. Sufficient information on the possible future outcomes of the proposed Nuclear-1 nuclear reactor has not been made available. Serious potential impacts have been omitted from the EIA and disregarded from the site selection decision making criteria. The revised draft EIR fails to address the key issues pertaining to:

- (1) Potential impacts of the N1 Nuclear installation on current and future land uses
- (2) The assumptions regarding future NNR regulations on development surrounding nuclear power stations
- (3) Ignoring international safety guidelines relating to densely populated urban areas established by the International Atomic Energy Agency (IAEA)
- (4) the responsibility for costs of emergency and other infrastructure required to plan and implement the Koeberg Nuclear Evacuation Plan

The Spatial Planning and Urban Design department recommends that remote sites located sufficiently far away from areas of high population distribution and density should be reintroduced as alternatives to the N1-EIA process

#### **Response 20:**

Your comments are noted. Kindly refer to our responses above related to the 1<sup>st</sup> two issues.

For point 3, please refer to our response 6.

#### **Comment 21:**

##### **7.6.2 Health issues**

*Comments from City Health, Specialised Environmental Health Services: Ian Gildenhuys*

The City Health Directorates, Specialised Environmental Health Section would like to offer the following comment on the Revised EIA report for Nuclear 1:

All comments are applicable for the Duynfontein site under consideration, adjacent to the existing Koeberg Nuclear Generator.

**Response 21:**

Your comment is noted.

**Comment 22:**

**General Comment:**

As an Interested and affected Party, the City of Cape Town has submitted numerous comments on the various EIA's for expansion to the Duynfontein Site.

It is noted that in a number of responses to issues raised in the public participation process, reference is made to a co-operative agreement between the National Nuclear Regulator (NNR) and the Department of Environmental Affairs in relation to addressing health issues and the licensing of the proposed Nuclear-1 power station in terms of the NNR Act.

We believe this separation of issues creates an environment which does not lend itself to transparency nor does it allow for a fully integrated process. The result is that issues that have a bearing on the Environmental Authorisation are excluded from the process and left to the licensing process administered by the NNR, which has a less onerous/prescriptive consultative process.

As the City of Cape Town, we would consider ourselves as more than just an interested and affected party, as a significant portion of the burden for ensuring public safety in the event of a nuclear disaster would rest on the City and its Citizens.

City Health thus recommends that the following issues be addressed in the EIR:

**Response 22:**

Please refer to Response 6 regarding the separation between the NNR's nuclear licensing process and the EIA process.

**Comment 23:**

**Air Quality Study**

Whilst we concur with the Specialist Air Quality Study regarding air quality impacts during the day to day operations would be minimal, the question is raised about what the impacts would be during a catastrophic nuclear event? In this regard it is noted that this vital issue has been placed at the door of the NNR for consideration during licensing. City Health feels that this is simply not good enough.

In this regard we thus feel that the Air Quality Study should be expanded to include radiation plume dispersion and deposition modeling for a worst case scenario catastrophic nuclear event and taking cognisance of prevailing seasonal climatology.

In terms of mitigation measures for day to day operations during the construction and operational phase, we require an air quality management plan to be developed for the site to the satisfaction of City Health's Specialised Environmental Health Unit.

The air quality management plan must address ambient air quality monitoring during the construction and operation phase as well as identify mitigation measures for the control of atmospheric emissions of fugitive dusts and other identified emissions.

**Response 23:**

Your comments are noted.

Air quality management in terms of monitoring will be addressed in detail in the NNR's licensing process. Furthermore it is common practice in EIA processes for a generic Environmental Management Plan to be submitted with an Environmental Impact Report, but for site-specific tailoring of such plans to be conducted after an authorisation has been issued.

Emergency response planning falls within the ambit of the NNR's nuclear licensing process. However, Design Basis Accidents (DBAs) have been assessed on a high level in the Air Quality Assessment (Appendix E10 of the Revised Draft EIR) on the basis of prevailing meteorological conditions.

**Comment 24:**

**Ambient Radiation Monitoring**

An ambient radiation monitoring network must be established at all of the main compass points where land based monitoring would be able to be undertaken of Nuclear 1, in the 5 – 20 Km zone surrounding the site. A further point should be established on Robben Island. Such Radiation Monitors must be funded by Eskom and must be linked to the City's Disaster Risk Management Centre. The monitoring network must be maintained by Eskom and replaced as and when equipment becomes obsolete. All costs in connection with the monitoring network are to be borne by Eskom. The technical specification of the monitors must in accordance with internationally recognised standards for such equipment. In this regard it should be noted that the National Nuclear Regulator (NNR) has previously denied a request from the City to impose a similar condition on ESKOM for the original Koeberg Nuclear Power Station as part of a licensing condition, in favour of two mobile monitors.

The recent Fukushima Incident in Japan has highlighted the valuable role that fixed monitors played in early warning and monitoring the radiation plume dispersion and deposition. We should implement the lessons learnt from this incident so as to better protect the Citizens of Cape Town.

**Response 24:**

Radiation monitoring must be undertaken in terms of the requirements of the NNR license, as radiological safety is within their legal mandate.

**Comment 25:**

**Community Based Epidemiological monitoring for radiation**

City Health is concerned about the absence of a Community based epidemiological health impact study in the Nuclear-1 EIA. City Health feels strongly that such a study should form part of the EIA process and should be carried out on an ongoing and periodic basis with the aid of a competent

specialist Epidemiologist. This especially in the light of the fact that National Government has included nuclear power in its energy supply mix for the foreseeable future and that in all likelihood further Nuclear Power Stations will be developed at this site.

#### **Response 25**

A scoping report and an environmental scan was performed for an epidemiology study in the vicinity of the KNPS as part of the PBMR EIA process for the Duynefontein Site and concluded that the data available insufficient to draw meaningful conclusions on cancer or cancer risks.

#### **Comment 26:**

##### **Noise Management:**

A comprehensive Noise Management Plan must be developed to the satisfaction of City Health's Senior Mechanical Engineer, taking into consideration all noise sources and the appropriate mitigation and control measures in accordance with the Noise Control Regulations PN 627.

#### **Response 26:**

Your comment is noted. Such a plan will be drawn up according to the requirements of the applicable noise control legislation in consultation with the City of Cape Town, should authorisation be granted for the Duynefontein Site.

#### **Comment 27:**

##### **7.6.3 Town Planning Comments**

*Comments from Colin Lovember, Planning and Building Development Management, Blaauwberg District*

Both the existing site for Koeberg Nuclear Power Station (Cape Farm 34 Duynefontein) and the abutting Cape Farm 33 Kleine Springfontein are located within the jurisdiction of the Atlantis and Environs Guide Plan deemed to be an Urban Structure Plan (A&ESP 1981) in 1996 and thus has statutory status; where the recommendation of the A&ESP designates the future land use as "Nuclear Installation". Furthermore, the development proposal is consistent with the underlying spatial framework that requires no formal amendment of the Structure Plan for the area and is compliant with Western Cape Provincial Spatial Development Framework (WCPSDF).

One of the provisions of the guide plan is a restriction on further development unless such development is truly "*place-bound*". *Place-bound* development is defined as "*any development which forms an integral part of or support to the process of the generation of electricity through the use of nuclear energy as carried out by Eskom on the site of Koeberg Nuclear Power Station.*"

The earlier rezoning applications to (i) regularise the zoning of the existing Koeberg Nuclear Facility was approved by the Koeberg Subcouncil (No.7) 15 June 2009 and (ii) to allow the development of an administrative complex and training centre for the nuclear power station was approved by SPELUM on the 13 April 2011. The zonings allocated are Noxious Industry, General Industry and Commercial.

The construction of a new nuclear facility (and/or an additional reactor) will require a formal rezoning application in terms of LUPO (1985) following a successful EIA, where the City is the decision maker in the rezoning process. Public participation in accordance the Notification Policy for Land Use

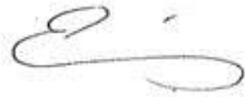
Development Applications would include notification of IAAP, Civics and Ward Councillors by means of registered notification and press adverts for the rezoning.

**Response 27:**

It is noted that Comment 29 raises objection to the proposed development of Nuclear-1 at the Duynfontein site and notes that the existing spatial planning policies and structure plans, which are compliant with the Western Cape Spatial Development Framework, provide specifically for the development of “place-bound” activities relating to the generation of electricity. In terms of these spatial development policies, an activity such as Nuclear-1 would be entirely compatible with Cape Town’s land use planning legislation.

The rezoning of Koeberg Power Station and support buildings have been completed. The entire Duynfontein site was not rezoned, only the footprints of the existing buildings. The balance of the open space on the farm Duynfontein and Kleine Springfontein is zoned rural. All of Kleine Springfontein is a designated nature reserve.

Yours faithfully  
for GIBB (Pty) Ltd

A handwritten signature in black ink, appearing to be a stylized 'S' or similar character.

Nuclear-1 EIA Manager