

05 August 2015

Our Ref: J27035/ J31314
Your Ref: Email received 07 August 2011

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Dear Liz McDaid

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

ESKOM ENVIRONMENTAL IMPACT ASSESSMENT (DEA REF. NO.: 12/12/20/944) FOR A PROPOSED NUCLEAR POWER STATION AND ASSOCIATED INFRASTRUCTURE – REVISED DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT:

Comment 1:

Submission

We refer to our submission into the draft EIR and the Arcus Gibb response (your reference J27035). Our submission referred to the failure of the consultants to consider alternatives, particularly renewable energy. The EIR has discussed coal as an alternative to nuclear but has failed to provide a similar analysis for solar, wind or other renewable options. In this way it fails to assess the alternatives.

The box below is an extract from Arcus Gibb response to the Green Connection's submission regarding renewable energy and base load.

Your comment (2)

Consideration of alternatives:

The need and desirability report claims that renewable energy cannot supply base-load. However, no references are provided to justify this. If this is an opinion of one of the consultants, then such a consultant would obviously need to be considered an expert in renewable energy. We believe that this statement must be removed from the report or corrected to reflect that there are a number of renewable options for meeting the energy needs of the country.

Response (2)

The statements provided in the report are based on

We submit that "" Is not in any way an adequate response to our issue raised. Despite attempts to gain clarity from the consultants, no further information was provided.

Response 1:

The environmental application for Nuclear-1 is for a nuclear power station, as has been the case with other power stations such as the gas-fired power stations that have been constructed at Mossel Bay and Atlantis and the Medupi and Kusile coal fired power stations currently under construction. In all these previous instances, the scope of the EIA was restricted to a specific power generating technology, on a specific site or sites within a defined geographical area. It cannot reasonably be expected that each application for a power station must revisit strategic government decisions that have been taken on the mix of generation technologies that are necessary to meet South Africa's electricity needs. This is especially the case in the instance of the Nuclear-1 application, where the government has, through a consultative process, already taken a decision on the mix of generation technologies required to supply South Africa's future electricity needs for the next two decades. The conclusion of the IRP process is that nuclear technology must form a part of the mix generation technologies.

Comment 2:

No public meeting was held in the nearby vicinity (despite such a meeting having been held in the first round of consultation) and the restrictive public participation process prevented us from getting clarity. Our submission referred to the admission by Eskom that there was no commercial generation 3 reactor in commercial operation and therefore it would be impossible to assess.

Arcus Gibb has responded to say that chapter 9 of the EIR draft addresses all the gaps in knowledge that apply.

However, the section 9.2 of the revised EIR fails to address the generation 3 issue.

Response 2:

It is unclear to which site your comment applies with respect to the holding of a public meeting. As you may be aware, there are various avenues available through the public participation process for questions and comments to be raised, including public meetings, key stakeholder workshops, the release of Draft Reports on the Eskom and GIBB websites, the provision of hardcopy reports at public venues and the inclusion of the executive summaries of the Revised Draft EIR reports in letters to stakeholders. Lastly, there is a dedicated Nuclear-1 email address for public participation issues. Thus, there are a variety of avenues that could be used to engage with GIBB.

It is indeed so that there are no Generation III nuclear power stations in operation. However, four plants are currently under construction in China with more units committed for the future. Furthermore, nuclear power station technology and Pressurised Water Reactor (PWR) technology (the technology on which Nuclear-1 is proposed to be based on) has been in use for several decades and the environmental impacts of operations of this technology are known, both internationally and with respect to the operation of Koeberg Nuclear Power Station in South Africa over more than 20 years.

The key difference between Generation II and Generation III power stations is the addition of passive cooling systems in Generation III power stations to ensure continuing operation of the cooling systems, allowing safe shutdown of the reactors in the event of loss of power. However, the remainder of the nuclear technology still operates on the same principles as in previous generation nuclear power stations. It is, therefore, feasible to predict the environmental impacts of a Generation III power station. Please see Appendix E31 and E33 of the Revised Draft EIR (Version 2) for a more detailed discussion.

Comment 3:

In addition, the report contains the following paragraph:

It is assumed that the NNR will accept Eskom's proposal, adopted from the European Utility Requirements (EUR) for new reactor designs, for emergency planning zones (EPZs) of 800 m and 3 km for the Proactive Action Zone (PAZ) and the Urgent Protective Zone (UPZ), respectively. Should this not be the case, a re-assessment of the impacts in relevant specialist studies and in the EIR may need to be undertaken.

It has been pointed out that the EUR proposal is based on an industry proposal to the national regulator. It is submitted that the consultant proposes that the regulator adopt an industry proposal that we understand has no legal standing anywhere in the world.

Firstly, the report fails to state (in any way that we can find) that the European utility requirements have no legal status. We submit that this cannot be viewed in any way than an attempt to mislead the public.

Given that EUR proposal has no legal standing, the EIA should have assessed the impacts of legally applicable emergency planning zones. By its own admission, Arcus Gibb have failed to fully consider the impacts as they state that they may have to redo some of the specialist studies if the EPZs exceed the industry wish list!

Response 3:

Section 3.20.2 of the Revised Draft EIR deals with emergency planning zones. It is stated clearly in this section that the EUR standards "*were initiated by a group of power utilities from six European countries*". There has never been any suggestion that the EUR standards carry any legal status. It is also stated clearly as an assumption in Chapter 9 of the Revised Draft EIR (Version 1) that the NNR will accept the EUR recommendations. Should this not be the case, then a key assumption of the EIA process would be invalid and a re-assessment would be required.

As also stated in the Revised Draft EIR, it is an assumption that the NNR will accept the EUR's Emergency Planning Zone (EPZ) recommendations during the nuclear licensing process. Initial indications provided by the NNR are that it is likely that the EPZ will be reduced. 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 ...*".

Lastly, the basis for adopting the EUR by Eskom is that the EUR aims at ensuring that the design that adopted has minimal impact on the man and environment. This has been developed by utilities who will, in any case, have their design studied and endorsed by the relevant regulatory body. If the final design does not conform to the assertions made, the design will not be accepted and might have to be modified accordingly until it conforms to these requirements. Thus, the key emphasis of this requirement is to minimise the impact on man and environment. Eskom has chosen the EUR as this specification is sound and robust. It also allows for alignment with the international nuclear community. The Emergency Plan boundary allow for minimal restrictions around the site, while also providing for safer designs.

COMMENT FORM THE INDEPENDENT NUCLEAR SPECIALIST

Ultimately the emergency planning assumptions and plan basis will form part of the safety case to be considered by the NNR as part of the licensing process as such applicant's basis is being established however this must be independently verified as part of that process.

Comment 4:

We submit that this demonstrates lack of objectivity by the consultants. Further, the fact that the consultants failed to acknowledge that the standards discussed above were not legal standards shows that they did not have competency in their stated field of expertise.

Further, the study is fatally flawed in that it fails to fully assess the impacts of the proposed activity by its own admission as raised above.

We would therefore submit that the EIR is fatally flawed and that the report should be withdrawn and further investigations carried out in order to produce a report that complies with the legal provisions of PAJA and NEMA.

We support the submissions of LRC, Greenpeace and KAA.

Response 4:

Your comment is noted.

Yours faithfully
for GIBB (Pty) Ltd

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

The Nuclear-1 EIA Team