

Our Ref: J27035

20 March 2011

Attention: Cormac Cullinan of Cullinan and Associates Inc.
on behalf of: The Thyspunt Alliance and its members

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Dear Sir

ESKOM ENVIRONMENTAL IMPACT ASSESSMENT (EIA:12/12/20/944) FOR A PROPOSED NUCLEAR POWER STATION AND ASSOCIATED INFRASTRUCTURE: COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

Your correspondence to Ms. Ms Bongji Shinga of ACER (Africa) refers.

Arcus GIBB (GIBB) acknowledges receipt of the above-mentioned letter. We thank you for your valuable comments and your participation in the Eskom Nuclear Power Station (NPS) Environmental Impact Assessment (EIA) process to date. Your questions and comments concerning the Nuclear-1 have been noted.

Responses to your comments / questions are as follows:

Your comment (1)

I oppose the proposed activity regardless of the proposed location but particularly at Thyspunt. There are safer and cheaper ways using renewable sources of energy of making electricity that should rather be adopted, particularly for base load requirements.

The Preamble to NEMA states, "*WHEREAS many inhabitants of South Africa live in an environment that is harmful to their health and wellbeing;*

everyone has the right to an environment that is not harmful to his or her health or wellbeing;

the State must respect, protect, promote and fulfil the social, economic and environmental rights of everyone and strive to meet the basic needs of previously disadvantaged communities;

inequality in the distribution of wealth and resources, and the resultant poverty, are among the important causes as well as the results of environmentally harmful practices;

sustainable development requires the integration of social, economic and environmental factors in the planning, implementation and evaluation of decisions to ensure that development serves present and future generations;

everyone has the right to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that prevent pollution and ecological degradation;

promote conservation; and secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development;”

It is my contention that the Report is not in compliance with the requirements of NEMA. The Preamble to NEMA says, “...*inequality in the distribution of wealth and resources, and the resultant poverty, are among the important causes as well as the results of environmentally harmful practices;*” It should be clear to any independent person that a nuclear programme is directly opposed to the principles of NEMA. It will reinforce and strengthen the present inequality in the distribution of wealth and resources, and should be opposed as a harmful environmental practice.

Response (1)

Your comment is noted. In terms of alternatives to meeting the present energy demand, given the state of present technology, renewable energy sources are not yet in a position to replace base-load power stations. However, nuclear power is a relatively clean source if compared to other base-load alternatives. The Integrated Resource Plan which is currently in draft speaks to some of these aspects in detail and has included an extensive public participation process. The draft IRP 2 will be released in the near future for further comment. This provides a view independent of this EIA on the role of different technologies.

An independent review has been completed on the Draft Environmental Impact Report a copy of which will be provided in the Revised Draft Impact Report which will be released for public comment in the near future.

Your comment (2)

The Report should and has not investigated the alternatives available for the generation of base load electricity but before this issue can be addressed the validity of the assumptions of future electricity demand needs to be evaluated and has not. Energy intensive industries rather than domestic consumption are the largest users of electricity and this is in violation of Clause 2 (1) a of NEMA which states, “*The principles set out in this section apply throughout the Republic to the actions of all organs of state that may significantly affect the environment and shall apply alongside all other appropriate and relevant considerations, including the State’s responsibility to respect, protect, promote and fulfil the social and economic rights in Chapter 2 of the Constitution and in particular the basic needs of categories of persons disadvantaged by unfair discrimination*”

Once the future demand has been correctly estimated, the question of alternatives in accordance with the principles of NEMA should be provided. It is my contention that the safety, environmental impact and cost of the nuclear option will exclude it from consideration.

Professor Richard Cowling says, “...*that an urgent debate on the alternative energy sources should be launched and completed before any decisions were taken on what approach to adopt.....A reactor at*

Thuyaspunt would also have unacceptably high environmental impacts and would exacerbate the already poor service delivery in the area..... Having recognized the need to move away from coal-fired power because of its contribution to global warming, Eskom had come to a point where its lack of research into alternative supplies had been exposed and that the nuclear option had been foisted on us without any debate. We need to reduce our reliance on fuel and make other major moves to reduce our overall carbon footprint. With the problems with coal, there is a great opportunity to do something different. We need to seize that opportunity.” Reference 1.

Another authority, Walt Patterson says, *“Britain has never built a nuclear power station on schedule, or within budget, or that worked to its original specifications –not once. Despite the common impression to the contrary, Britain has never had a ban or moratorium on nuclear power. Any who want to build a nuclear station can. They just have to find somewhere to put it and someone to pay for it. No-one wants to, for entirely sensible reasons.....All told, if we really had to rely on nuclear power to save us from climate change, we would be doomed. Fortunately, of course, we do not. The portfolio of more attractive opportunities both for using and for supplying energy is abundant, and expanding rapidly. People say ‘If not nuclear power, what?’ The answer should be obvious: if not nuclear power, not nuclear power. If governments do not arbitrarily divert vast amounts of money, resources and time into a nuclear black hole, other more promising options will eagerly seize them. In the January edition of Nuclear Engineering International, Amory Lovins of the Rocky Mountain Institute argues that small-scale low-carbon and no-carbon generation and cogeneration already produce more electricity than nuclear power worldwide, and that the lead is increasing rapidly. Improving performance of end-use technologies –buildings, lighting, motors, refrigeration, electronics – gives even faster and more certain payoff.” Reference 2*

Response (2)

Your comment is noted. The current and future demand for power and the measures to address the demand as well as the exact need and mix of renewable energy vs. nuclear energy will only be exactly established with the completion of the Integrated Resource Plan 2 (IRP2).

The EIA is a project specific tool used to assess the specific impact of listed activities upon a particular environment and whilst it should aim to place the application in context through the description of the need and desirability and the assessment of cumulative impacts of the planned activity. It cannot aim to address matters which fall within the sphere of strategic national policy making.

Eskom have and continues to research and develop appropriate technologies in collaboration with NGO's and Government Departments such as Saneri. Eskom has deployed technologies appropriate to the needs of the country such as Open Cycle Gas Turbines, two new coal fired power stations and a pumped storage scheme. Eskom continues to implement it own and participate in energy efficiency programmes. Finally, Eskom hope to start the construction of a wind energy facility and a Solar Thermal Demonstration project in the near future subject to financing, business case and NERSA licensing approval.

Your comment (3)

EIGHT REASONS WHY THE REQUESTED ROD SHOULD NOT BE APPROVED

Reasons why the ROD should not be approved are as follows;

SA needs an energy plan as the White Paper on Energy said in 1998 but this is still not in place. Some selected quotations from The White Paper are given below;

- the government's approach should be, "....**transparent**; to build public confidence; to **clarify** organisational roles; to **communicate** policy effectively; and to **integrate** policy processes."
- the government will, "promote access to affordable energy services for disadvantaged households, small businesses, small farms and community services."
-it will, "....pursue energy security by encouraging a diversity of both supply sources and primary energy carriers."
-also, "....provide focused support for the development, demonstration and applications of renewable energy."
- "Government will ensure that decisions to construct new nuclear power stations are taken within the context of an integrated energy policy planning process with due consideration give to all relevant legislation, and the process subject to structured participation and consultation with all stakeholders."

The current IRP2010 process of the Department of Energy may fill this gap but this remains to be seen.

Response (3)

Your comments are noted.

Your comment (4)

The identification of the sites on an out of date study done in the 1980's is flawed and this process needs to be redone. Included in the scope of this study should be the identification of areas of coast line that should be excluded from a potential nuclear power station site for reasons of unacceptably high environmental impacts. It is fairly certain that Thyspunt will be excluded in this event.

The elimination of the two sites in the Northern Cape was premature and short sighted and the actioning of item 2.2 above will ensure that they are reconsidered.

Response (4)

The five sites selected in the NSIP project were reevaluated during the scoping phase and were found to be feasible alternatives to take forward in an EIA process. The three sites taken into the EIA process were recommended after a lengthy and detailed scoping phase and approved by the Department of Environmental Affairs.

Environmental aspects were considered during the original NSIP process.

Your comment (5)

The absence of an application to the NNR and the issues that are consequently ignored in the Report affecting the public safety with regards to radiation dangers effectively prevents the DEA to make an informed decision on the application.

Response (5)

Your comments are noted. Decisions regarding public safety and radiation dangers are legislated to fall within the ambit of the NNR. In recognition of the dual but distinct responsibility with respect to the assessment of radiation issues, a co-operative agreement concluded between the DEA and the NNR was gazetted on 18 July 2008. One of the main purposes of this agreement is to “*prevent unnecessary and unavoidable duplication of effort*” between the NNR and DEA. The NNR authorisation process applies specifically to issues of nuclear and radiation safety related to the siting, design, construction, operation and decommissioning of nuclear installations. Furthermore, the Director General of the DEA issued a statement in January 2009 to further clarify the purpose of the agreement. The statement indicates that nuclear safety, radiation and radiology “*are better placed within the regulatory process of the NNRA and that consideration of the same issues in an EIA process will result in unnecessary and avoidable duplication.*”

Your comment (6)

The separation of the power station and transmission line Reports is acceptable provided that they are both completed so that the impact they have on each other can be assessed. An ROD accepting the construction of a power station without taking into account the impact of the transmission lines is flawed.

Response (6)

Every effort is being made to complete the Tx and Nuclear 1 EIA's as close to each other as possible. The Thyspunt Tx EIA scoping phase is finalized, currently in the Impact Assessment phase and planned submission of FEIR to DEA by Mach 2011. The Koeberg-2 /Duynefontein also the scoping phase is finalized, currently in the Impact Assessment phase and planned submission of FEIR to DEA by Nov 2010. The Bantamsklip Tx EIA scoping phase is yet to be completed however, there is some preliminary information available on the potential environmental impacts.

Your comment (7)

The matter of finance and insurance needs to be addressed. The Report gives a cost estimate of R200 billion and makes no mention of insurance. How is this going to be financed and if no insurance company is prepared to cover a nuclear power station why should the government (i.e. the tax payers) intervene? Eskom needs to inform us what they are charging the large industrial consumers such as the mines and the aluminum smelters for electricity.

Response (7)

Your comment is noted. Eskom makes the financial provision (3rd party insurance) through insurance obtained from the international nuclear insurance pools.

Your comment (8)

The statement that only coal or nuclear are proven base load technologies is simply not true. NEMA requires that alternatives are investigated and the Report's brief comment on renewable energy sources is inadequate. To provide only one reference to support this statement this is what Dr Haskell says, "..... rather than being an 'advocate' for any type of energy, I am interested solely in seeing that the climate change problem that we face right now is solved with the least possible damage to the world. If it should turn out that nuclear power is indeed that solution, then I would advocate for nuclear power ardently. But the facts as I see them are that nuclear power, due to its environmental footprint, its contribution to weapons proliferation, its cost, its excessive use of water, and the time it will take to build up what we would need to meet the needs of the planet, is simply not the best way to go, and will end up replacing one intractable problem with another, perhaps even more intractable. Other more environmentally friendly means are available to us now that can do what we need to do in a timely

manner without excessive costs, and are consistent with the need to work toward a sustainable society-one not built on growth forever." Reference 3

Response (8)

NEMA requires the assessment of reasonable and feasible alternatives. The current application has assessed not only site alternatives and layout alternatives per site but also alternatives in terms of access points to the sites amongst others. (See response 1).

Your comment (8)

UNSUITABILITY OF THE THYSPUNT SITE

Both the Dune Geomorphology and the Freshwater Ecology studies point out the sensitive and unique nature of the Thyspunt site and the high and unacceptable impacts of the proposed activity on the site. The Spatial Development Framework for the area identifies the site as one, "with the highest priority for conservation." If a nuclear power station is found to be needed a review of the most suitable coastal site or sites should be done as has been mentioned in 2.2 above.

Response (8)

Although the sensitive nature of the Thyspunt site has been identified through not only the specialist studies conducted as part of the EIA process but also through the Public Participation Process (PPP) the most important argument in favour of Thyspunt with regards to biophysical impacts is the conservation benefits that would be realised through access control and active management of the site in the event of a nuclear power station being constructed there. This benefit would not be realised at Duynfontein, as the Koeberg Private Nature Reserve already includes the Duynfontein site. In addition the Thyspunt site has a considerably lower seismic risk profile, as well as being more favourably located in terms of Eskom's requirements for integration with the transmission system. The Thyspunt site is therefore recommended for authorisation in terms of this application. It is acknowledged that the Thyspunt site would experience environmental impacts of higher significance (particularly biophysical impacts) than Duynfontein. However, the conservation of the remainder of the site through access control and responsible long-term conservation management are significant positive impacts associated with this site. Mitigation of identified potential negative impacts recommended by the specialists and in this EIR must be ensured.

Your comment (9)

CONCLUSION

I conclude with the following quote from EF Schumacher: "*No degree of prosperity could justify the accumulation of large amounts of highly toxic substances which nobody knows how to make 'safe' and which remain an incalculable danger to the whole of creation for historical or even geological ages. To do such a thing is a transgression against life itself, a transgression infinitely more serious than any crime ever perpetrated by man. The idea that a civilisation could sustain itself on the basis of such a transgression is an ethical, spiritual, and metaphysical monstrosity. It means conducting the economic affairs of man as if people really did not matter at all.*"

Response (9)

Your comment is noted.

Should you have any queries with respect to the above please do not hesitate to contact Arcus GIBB.

Yours faithfully
For Arcus GIBB (Pty) Ltd

A handwritten signature in black ink, reading "JMBall". The signature is written in a cursive style with a large, looped 'J' and 'B'.

Jaana-Maria Ball
Nuclear-1 EIA Manager