Our Ref: J27035

08 August 2009

Johannesburg

1410 Eglin Road
Sunninghill 2191
PO Box 2700
Rivonia 2128

Tel : +27 11 519 4600
Fax : +27 11 807 5670
Web : www.gibb.co.za

Attention: Ingela Richardson

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

Your correspondence to Ms. Bongi Shinga of ACER (Africa) dated 24 June 2009 and entitled *"RE: NO TO NUCLEAR REACTOR AT THYSPUNT"* refers.

Arcus 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 EIA process have been noted.

Responses to your comments / questions are as follows:

Your comment (1)

Nuclear waste and used fuel is highly radioactive. There is no way to "dispose" of it. It is stored on site at Koeberg or buried underground at Vaalputs. It remains toxic to all life for thousands of years.

Response (1)

Your comment is noted. The disposal of non radioactive waste will be discussed in the Environmental Impact Report as well as the Environmental Management Plan (EMP). With respect to the various streams of radioactive waste, it must be noted that handling of radioactive waste falls under the jurisdiction of the Minister of Minerals and Energy in terms of the Nuclear Energy Act, and is also subject to a licensing process from the NNR. In light of this, the EIR will include a preliminary discussion of radioactive waste, as well as the amount of waste (both radioactive and non-radioactive) that will be expected from the proposed NPS. Waste disposal and transportation will be further addressed in the EIR (as requested in DEAT letter date 19 November 2008). Further the accountabilities of Eskom, DOM and the NNR with regard to the management of radioactive waste will be discussed.

Your comment (2)

Nuclear energy is well known as the most expensive form of energy on the planet. The people of South Africa are being asked to pay ever higher electricity bills to cover nuclear expansion. As economists pointed out years ago, it is simply not possible for South Africans to pay these overwhelming bills. Increases in costs of electricity mean increases in costs of food production. South Africans who are already unemployed and starving will not be able to survive.

Response (2)
Your comment is noted.

Your comment (3)

Who wants to live next to a nuclear reactor? This will negatively impact property values and negatively impact farmers who will not be able to market produce as organic - nor will the tourism industry be able to promote its beaches as pristine when a massive nuclear reactor with a cooling tunnel that reaches far into the ocean - devastates marine life.

Response (3)

Your comment is noted. A number of specialist studies will be undertaken during the detailed Impact Assessment Phase to assess the potential impacts of the proposed nuclear power station (NPS) on the environment. A few relevant examples are described below:

The Marine Biology specialist study will assess the potential impacts of the nuclear power station (NPS) on marine species as well as assess the potential impacts of the thermal plume, record the baseline and predict future changes, identify potential impacts of organisms that may affect the cooling water supply and identify mitigation measures.

The Tourism specialist study will assess the impact of the proposed NPS on sea usage and the tourism industry adjacent to the proposed sites.

The Agricultural specialist study will assess the impacts of the proposed NPS and associated infrastructure including the desalinisation plant, and waste emanating from the desalinisation plant on agricultural activities and the development of the relevant mitigation measures.

For further information on the Terms of Reference for the Specialist Studies, please refer to the Revised Plan of Study for EIA available on the following website: http://projects.gibb.co.za/.

Your comment (4)

South Africans have also not been told how the government plans to transport nuclear fuel from Pelindaba in Pretoria to these nuclear reactors or transport the waste. In many countries around the world, there have been accidents and spills with this kind of waste. Due to the nature of nuclear materials, "accidents" affect an entire city. South Africa's health and emergency services would not be able to cope with this.

Response (4)

Your comment is noted. It should be noted that this EIA pertains to the proposed development of a PWR Nuclear power stations. The fuel you refer to being transported from Pelindaba relates to the PBMR and as such you are encouraged to review the relevant documentation on the following website; www.eskom.co.za/eia

The Transport Specialist Study will determine the following with regards to road and rail transport: Hazardous materials and products regularly manufactured, stored, used or transported to/from site and within eight km of the site. Statistical data shall be provided in terms of the amounts involved, modes of transportation, frequency of shipment and maximum quantity of hazardous material likely to be processed, stored, or transported at any given time. The applicable toxicity limit for each hazardous product and/or material will be provided.

Your comment (5)

Uranium mining waste and nuclear waste has damaged fisheries, agriculture, tourism and people's health around the world. Uranium miners in the US got cancers at a much higher rate than anyone else. And in Canada, primary cancers are listed as an "occupational hazard" of uranium mining.

Response (5)

Your comment is noted. Please note that this EIA process is specifically focused on the actual development (construction, operation and decommission) of the NPS. The environmental impacts associated with other components of the life cycle such as the mining of uranium do not form part of the scope of this EIA process and will have to be addressed as part of the EIA undertaken within the ambit of the Mineral and Petroleum Resources Development Act, 2002 (Act No. 28 of 2002) and the NEMA, as part of the application for a mining right to develop (construct, operate and decommission) uranium mine/s.

Your comment (6)

Alternative energy sources that are cheaper, healthier and easier to put into use – include solar, thermal, wind, ocean and water power, and have been discussed in detail in the Final Scoping Report for the Nuclear-1 EIA.

Response (6)

Your comment is noted. Chapter 8 of the Final Scoping Report for the Nuclear-1 EIA discusses alternative forms of power generation. Eskom is in the process of exploring a number of different ways in which to generate electricity and is investing in further development of renewable technologies. Figure 66 on Page 8-3 illustrates the Project Funnel, which reflects where the different projects (and associated technologies) are in the development process (i.e. the stage of the development of these technologies). Only certain electricity generation technologies are commercially available, although not necessarily financially viable in South Africa based on the availability of resources (fuel) and geographical constraints. The limited range of viable technologies is listed in Table 17 on Page 8-5. The Final Scoping Report is available on the following website: http://projects.gibb.co.za/.

Your comment (7)

The attached Eskom report showing corridors for transmission lines show how large an area will be affected. The attached Burnie paper on French reprocessing shows that there is no such thing as "recycling" nuclear materials.

Who says nuclear power is clean?

Magnus Linklater

http://www.timesonline.co.uk/tol/comment/columnists/magnus_linklater/article593023.ece

Three massive claims are being made for Britain building a new generation of nuclear stations: first, it is the only way that Britain can meet its ambitious targets for reducing carbon emissions; secondly, it is the only reliable option available if we are to fill the “energy gap” left by declining sources of fossil fuels; thirdly, it is the best way of ensuring that our energy comes from “secure” sources, rather than unstable oil-rich oligarchies.

These claims are at best specious, at worst untrue. Take carbon emission. There is a blithe notion that nuclear power is “clean” — it emits no CO^2 and therefore does not contribute to global warming.

This argument has been systematically taken apart over the past five years by two independent experts, Jan Willem Storm van Leeuwen and Philip Bartlett Smith, one a chemist and energy specialist, the other a nuclear physicist, who between them have a lifetime ’s experience in the nuclear industry. What they have done is look at the entire life cycle of a nuclear power station, from the mining of the uranium to the storage of the resulting nuclear waste. Their conclusions make grim reading for any nuclear advocate.

They say that at the present rate of use, worldwide supplies of rich uranium ore will soon become exhausted, perhaps within the next decade. Nuclear power stations of the future will have to rely on second-grade ore, which requires huge amounts of conventional energy to refine it. For each tonne of poor-quality uranium, some 5,000 tonnes of granite that contains it will have to be mined, milled and then disposed of. This could rise to 10,000 tonnes if the quality deteriorates further. At some point, and it could happen soon, the nuclear industry will be emitting as much carbon dioxide from mining and treating its ore as it saves from the “clean” power it produces thanks to nuclear fission.

At this stage, according to an article in Prospect magazine by the energy writer David Fleming, “nuclear power production would go into energy deficit. It would be putting more energy into the process than it could extract from it. Its contribution to meeting the world’s energy needs would become negative.” The so-called “reliability” of nuclear power, which its proponents enthuse over, would therefore rest on the growing use of fossil fuels rather than their replacement.

Worse, the number of nuclear plants needed to meet the world’s needs would be colossal. At present, about 440 nuclear reactors supply about 2 per cent of demand. The Massachusetts Institute of Technology calculates that 1,000 more would be needed to raise this even to 10 per cent of need. At this point, the search for new sources of ore would become critical.

These arguments have to be met before other, more searching questions are answered about where we intend to store waste, what we are going to do to prevent radioactive leaks, and how we should protect nuclear plants against terrorism.

The truth is that this form of energy is, in the end, no more safe, reliable or clean than the others. A wind turbine, unlike a nuclear reactor, can be removed once it has come to the end of its natural life. A wave machine can simply be towed away.

Nuclear is not trouble-free, and the more you look at it, the more enticing the other choices become.

FROM THE PELINDABA WORKING GROUP

NNR CAN'T COPE WITH NUCLEAR IN SA

The Parliamentary Monitoring Group last night released the minutes of the 21 November briefing by the NNR to the Minerals & Energy Portfolio Committee.

The NNR is admitting it is completely understaffed and overwhelmed by the prospect of handling the government’s proposed nuclear energy plan and unsure who or where to source expertise. Already understaffed and ill-qualified, they cannot hold onto staff, find new staff and are being forced to grapple with filling staff quotas of disabled or female personnel.

The NNR has come under great scrutiny for many years for its allegiance to the nuclear industry, falling as it does under Minerals and Energy and not Environmental Affairs. More recently because of its inept and denialist handling of the far-reaching radioactive pollution of the West Rand’s water supplies from 120 years of mining despite repeated warnings over decades.(Already genetically deformed children are being found there and toxicity of the water supply is now spreading throughout the Cradle World Heritage Site). Even this massive disaster is being minimised in the report which goes on to list some of the other problems the NNR faces.

1. The NNR describes how it suspended the licensing process in 2006 of the PBMR after discovering improprieties in the ESKOM and the PBMR Company "in respect of Manufacturing of Components Important to Safety by PBMR".
2. Although this report indicates the NNR is still waiting for the safety report of the intended nuclear fuel plant at Pelindaba, Necsa is on record as admitting it has begun "experimenting" and manufacturing these nuclear pebbles destined for the PBMR (which license has also been suspended).
3. How it had worked with Necsa for sometime now to address security issues of concern (i.e. despite their concerted efforts there was a massive breach of security at Pelindaba where a specific computer and the ops room control panel were targeted). Obviously they failed. Necsa's briefing to Parliament went a long way also to discuss how it was dealing with security issues and also went on to mention it does not have sufficient funding for maintenance.
4. 53 "contaminated sites" are mentioned in the report but there exists no details and certainly no public knowledge of these.
5. The NNR is "discontinuing" the proposed rehabilitation of four sites in the Karoo left "contaminated …with radiological hazard to members of public and to future generations" since the late 1970s and early 1980s because the DME has issued uranium prospecting permits to new companies.
6. They only now declared for the first time research they're doing into nuclear insurances and third party liabilities – these barely exist currently.
7. Several mines have been closed for nuking workers and not compliance (their figures are shameful in that while they claim a reduction of nuked worker figures, they fail to mention that the years during which they show a decline, uranium mining had virtually stopped.
8. The impounding of a uranium carrying ship that docked without authorisation in Durban
9. Alarming statistics of radioactive waste piling up at Pelindaba & Koeberg (where it is also being poured into the Atlantic Ocean. Similar details are conspicuously missing from their report on Pelindaba where Necsa is known to pour radioactive waste into the Crocodile River).
10. Inadequate compliance with maintenance procedures and "operating technical specifications" at Koeberg.
11. Incompetency and "sufficiency" of Eskom's workforce to work safely.
12. Nuclear "incidents & accidents" are not detailed and reported as "satisfactory".
13. Mention is made of "suspected loss of a small quantity" of Highly Enriched Uranium at a building at Pelindaba where activities were suspended and a reactor was forced to shut down "until conditions for return to power were met".

How can anyone justify a nuclear and uranium mining future in this country under these circumstances?

This committee meeting is available at:
National Nuclear Regulator Annual Report 2006/07: briefing 21 Nov 2007

Dominique Gilbert
PELINDABA WORKING GROUP
member of the national
COALITION AGAINST NUCLEAR ENERGY
Tel: 012-205-1125
http://www.cane.org.za/

Response (7)

Your comment and the above insert are noted. Thank you for the information.

In conclusion, the project team would like to assure you that Interested and Affected Parties comments are important to us and that your continued involvement in this process as an I&AP is valued. Your comments/ questions will be captured in the draft EIR that will be released to the public for review and comment.

Please do not hesitate to contact us at any stage should you require any additional information regarding this proposed project.

We thank you for providing us the opportunity to respond to these questions and look forward to your ongoing involvement in the project.

Yours sincerely
For and on behalf of Arcus GIBB (Pty) Ltd

Jaana-Maria Ball
EIA Project Manager