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Your Ref: Email 12 June 2011

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Dear Ms Taylor

RESPONSE TO MS JUDITH TAYLOR – EARTHLIFE AFRICA JOHANNESBURG – BRANCH CO-ORDINATOR

YOUR REF: COMMENTS ON REVISED DRAFT ENVIRONMENTAL IMPACT REPORT (DEA REF NO: 12/12/20/944)

COMMENT 1:

Has the impact on the environment of mining and beneficiation of uranium been costed into this EIA?

If not, why not as the impacts are huge as proved by ongoing cases in the USA?

RESPONSE 1:

The current Environmental Impact Assessment in terms of the authorisation of the Nuclear-1 Power Station is a project specific tool. The scope of the Nuclear-1 EIA is therefore restricted to a specific power station on a specific site or sites within a defined geographical area. As such the Nuclear-1 EIA process does not take into account the potential impacts that take place throughout the life-cycle of nuclear energy generation. The cost of different technologies is assessed in the Integrated Resource Plan issued by the Department of Energy in 2010. The cost of fuel is factored into the price per MWh.

COMMENT 2:

Is the EIA looking at health impacts internationally of nuclear power plants and the risks to not only human health but food and water security?

If not, why not?

RESPONSE 2:

Your comments are noted. As per our Response

- Human Health Risk specialist study focused on normal operation, not a worst case scenario..



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- Furthermore the specialist used the source terms available for the considered designs and served as a basis for air dispersion modelling to estimate air concentrations and deposition rates in the vicinity of the proposed NPS. Source terms for liquid effluent for the designs formed the basis for the assessment of the ocean pathway of exposure. The basis for assessment was the PPE (the Plant Parameter Envelope). The PPE presents discharge figures that are representative of Gen 3 reactor designs currently considered. The approach was applied for site assessment in the absence of final selection of a specific reactor technology. The resultant health risk impact assessment is therefore valid for the reactor designs currently under consideration. The premise of the PPE approach is that any combinations of reactors within the PPE will not exceed the dose limits and dose constraints of the NNR.

COMMENT 3:

Is the EIA looking at the destruction of existing jobs and export revenue in the various sites being considered?

RESPONSE 3:

The Economic Impact Assessment (Appendix E 17 of the Revised Draft EIR) assesses the net economic impact, including both the creation of new jobs and potential impacts on existing jobs.

COMMENT 4:

Will these workers whose livelihoods are destroyed and the companies put out of business be compensated?

If not, why not?

RESPONSE 4:

Impacts on existing businesses will not be compensated. The Economic Impact Assessment (and associated assessments such as the Marine Ecology Assessment and the Tourism Impact Assessment – respectively Appendices E15 and E22 of the revised Draft EIR) found that the negative economic impact on existing businesses would be insignificant. Although there may be a negative impact on tourism at Thyspunt in the short-term, the long-term net impact on tourism after the construction phase was predicted to be neutral at Thyspunt. Although a minimal negative impact on squid fishing is predicted at Thyspunt, this can be compensated by the fishing vessels moving further to fishing grounds, as the area that would be directly impacted through exclusion of fishing vessels is between 2.86 % (worst-case scenario) and 2.53 % (least-case scenario) for the local fishery and between 0.42 % (worst-case scenario) and 0.37 % (least-case scenario) for the fishery as a whole.

COMMENT 5:

As nuclear power plants produce 0.05 jobs per megawatt, has the project been costed against truly sustainable power solutions that produce up to 10 jobs per megawatt?

If not, why not?

RESPONSE 5:

Please provide a scientifically valid source for your claim of the number of jobs produced per MW.

The scope of the Nuclear-1 EIA is restricted to a specific power station on a specific site or sites within a defined geographical area. Government has, through the consultative Integrated Resource Plan process, taken a decision on the mix of generation technologies required to supply South Africa's future electricity needs for the next two decades.

COMMENT 6:

What funds are to be placed aside for remediation and closure of the plant in 25 years time?

Will they be sufficient and on what model do you based (sic) that?

RESPONSE 6:

Eskom sets aside a percentage of the operational income for the power station for the storage of High Level Waste and for decommissioning.

Section 3.3.3.4 of the Economic Impact Assessment Report (Appendix E17 of the Revised Draft EIR) states that it is customary in international practice to use a figure of 15% to estimate the cost of decommissioning a nuclear power station. If this is applied to the estimated nuclear power station cost, a decommissioning cost of between R17.5 and R20 billion in 2009 prices is projected.

COMMENT 7:

How is the highly toxic waste to be stored and marked with symbols that can be read 100 000 years ahead?

If you cannot answer the above question, how can you ethically conduct this EIA?

RESPONSE 7:

Low-Level and Intermediate Level Waste (LLW and ILW) for nuclear power stations are stored in purpose-designed containers, which are stored under conditions that do not permit the release of nuclear waste. Please refer to Appendix E29 for further information in this regard.

COMMENT 8:

What provisions are included in the design of the proposed plant to protect against rising sea levels due to climate change, which may well inundate it?

RESPONSE 8:

The Nuclear-1 EIA included Coastal Engineering Reports and 1:100 year flood line assessments for all three sites (respectively Appendices E16 and E9 of the Revised Draft EIR), which examine the potential impact of sea level rise and extreme weather events, including meteo-tsunami events. The

nuclear island and power supplies to the cooling system of the nuclear power station will accordingly be located at an altitude above the level where inundation of the critical systems is impossible.

COMMENT 9:

What is the design of the proposed plant and its specification?

RESPONSE 9:

The generic design of the proposed power station is based on an “envelope” of different commercially available Generation III Pressurised Water Reactor nuclear power station designs and is provided in the Consistent Dataset (Appendix C of the Revised Draft EIR).

COMMENT 10:

How do you justify, ethically and morally, conducting an EIA, when you do not know what plant is proposed?

RESPONSE 10:

To answer this question it may be appropriate to explain the envelope of criteria in colloquial terms, as has been done in public meetings during the Nuclear-1 EIA process. If the envelope of criteria is compared to the specifications for buying a vehicle, this envelope may contain requirements with respect to top speed, fuel efficiency, type of tyres and wheels, fuel tank size, CO₂ emission limits, cruise control, numbers and positions of airbags and a number of other safety systems such as ABS and EBD. The only thing that isn't specified is the brand of vehicle. Providing such a list of criteria would ensure that only a luxury vehicle with certain characteristics could qualify, but that a base model (entry-level vehicle) would not qualify. Similarly, if a vendor proposes a power station design that fails to comply with the criteria established in the Consistent Dataset, that design would not qualify for consideration.

In this respect, it is common practice in EIA processes, especially for installation of industrial plants, to consider the performance of the systems and type of technology proposed to be installed, without referring to specific suppliers or manufacturers of this technology, of which there may be a range available in the market. As long as the inputs and outputs of the proposed technology are known, it is not necessary to know the brand name of the technology.

Yours faithfully
for GIBB (Pty) Ltd



The Nuclear-1 EIA Team