

5 August 2015

Our Ref: J27035 / J31314
Your Ref: Email dated 08 July 2011

Interested and Affected Party

Email: zuri@isat.co.za

Dear Zuretha Roos



Tshwane

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

Comment 1:

We have taken note of the revised Draft EIR. However, right now, it may be in the interest of GIBB to note that the same scenario which has played out many times now has happened again.

Take note that what I'm reporting here happens every few years and not that it can be forecast but it is a feature of local weather patterns. We have had a week of on and off rain resulting in very heavy downpours and lots of damage.

At the moment the entire St Francis area is cut off from the outside world. We cannot get out of the area towards Humansdorp. The notorious Sand River (which often looks more like a desert than a river, and may therefore fool outside observers) came down in flood and washed away its bridge. It has also broken our water pipeline to the Churchill Dam.

This flood scenario is one of the dangers to your nuclear power station -- water damage. A bridge may wash away as has happened before, and in the case of a small nuclear accident there would be no way the residents of the area can evacuate. There is but one road out of these towns.

Let me explain further, and I ask your bosses to take careful note of this, no matter how "insignificant" my information might sound to them.

My family and I have lived in the area -- in the Langkloof -- for far more than a century. And this is the pattern: there are periodic droughts. You experienced one such drought while doing your EIR. * It is also a known fact that droughts in this part of the Eastern Cape (Kouga) are always broken by a flood.

(Currently, housing for your workers are planned for the southern side of the Sand River Dune System. Use your imagination as to what will happen to such a settlement when (not if ... when) such a flood hits again).

Response 1:

Your comments are noted and GIBB and the Nuclear-1 Specialist Team welcome local knowledge. The Dune Geomorphology Assessment (Appendix E2 of the Revised Draft EIR Version 1) describes the river and its floods and the effects on infrastructure are further dealt with extensively in the Geomorphology Debris Flow Addendum Report (Appendix E30 of the Revised Draft EIR Version 1).

The Addendum Report describes the November 2007 flood that damaged the R330 as a 1:200 year event. The main erosional damage resulted from erosion of sediments by floodwaters flowing down



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the steep V-drain along the R330. Damage was also caused by the deposition of sediment in the area from the R330 along Lyme Road into the adjacent part of the St. Francis Bay Golf Course.

Extensive damage to the R330 was also recorded related to the flood of November 1996, when the wing walls on either side of the culvert were damaged and there was some erosion of the tarred surface by water flowing over the road. The road was still wide enough to accommodate two directions of traffic flow.

The Traffic and Transportation Report (Appendix E25 of the Revised Draft EIR Version 2) further reports that the section of R330 across Sand River was destroyed by flood and debris flow in July 2011. The box culvert was severely damaged and inhibited traffic flow between Humansdorp and St. Francis Bay while it was being repaired for a few days. Bridges and culvert are generally designed for 1:100 year floods. The flood experienced in 2011 was, however, considered to be a flood with much greater scale than designed for. Construction and operation of Nuclear-1 may be affected should the flood occur again during the construction and operations phase of the proposed nuclear plant. It is, therefore, suggested that a Stormwater Assessment Plan should be undertaken by the local authority for the flooding situations of Sand River at the R300 crossing. Design specification of the bridge should be reviewed and mitigation measures, such as embankment protection, should be implemented. Should this site be approved it would also be necessary for Eskom to evaluate the risk and to engage with the relevant authorities to ensure that appropriate infrastructure is in place.

Comment 2:

Hopefully you are also aware that a couple of months back there was an earth tremor, presumably along the Plettenbergbay Fault which seems to run to within a few kilometres of Thyspunt.

Also be aware that the faults in this area (including the Cape St Francis Fault) have not been properly surveyed, seeing that in This South Africa we do not seem have a Geological Survey Department any longer. Such a tremor might be nothing or could be a precursor of a worse quake.

No-one can predict what could happen, taking into account the various global catastrophes over the last years.

Response 2:

Thank you for the information provided.. Please note that the mandate of the “Geological Survey Department” now fall under the auspices of the Council for Geoscience. The Geological survey will be done as part of the nuclear safety submission to the NNR National Nuclear Regulator.

Comment 3:

We keep saying -- move the entire plan to the Coega area.

Response 3:

Your comments are noted however the site selection process and the assessment of alternative sites do not include the consideration of Coega as an alternative site and does not fall within the scope of the current EIA process. When the Environmental Application for Nuclear-1 was submitted in 2007 GIBB was informed by the IDZ that there was no space available on the Coega site for the development of a Nuclear Power Station.

Furthermore the presence of the Coega fault, which runs across the southern part of the Algoa basin before extending into Algoa Bay near the Coega harbour, means that the Coega IDZ should be considered carefully before proceeding with geological investigations for nuclear siting. In terms of the NNR requirements it is necessary to develop a comprehensive geological data base for the Coega IDZ prior to considering the site for a nuclear power plant, these studies are estimated to take up to 5-6 years. The currently available geological data indicates that the Coega fault, which represents the easternmost component of a fault line with known Holocene (i.e. the last 11,700 years) reactivation,

should be considered to pose a risk with regard to future seismicity. It would therefore be appropriate to include Coega IDZ into the next site screening process which will be initiated for future nuclear sites but for this EIA Coega cannot be regarded as a feasible and reasonable site.

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