

5 August 2015

Our Ref: J31314

Your Ref: Email received 26 July 2011

Mr Jayson Webster
PO Box 741
St Francis Bay
6312

Email: jaysonwebster@hotmail.com

Dear Mr Webster

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

Comment 1:

My details are Mr. Jason Webster PO Box 741 St Francis Bay 6312 I attended the meeting at The Links 31 May 2011 and I would like to state that I am deeply unhappy with the revised EIA report.

My objections are as follow:

The access road you are planning on using Saffery Road is totally unsuitable this is a residential area, firstly have these property owners been informed that you are planning on sending +- 950 trucks per day through their residential area. This road is already in a terrible state full of potholes and is a very narrow road so how can it be possible for trucks to use this as access. The road does not even have a shoulder or pavement on. There will be a huge pedestrian risk and there are three schools along your planned access route namely St Francis College, Sea Vista Primary and Humansdorp Secondary I fear for the safety of these children. Also the Sandriver Bridge is consistently being flooded and it has washed away twice in the last month leaving us stranded with no evacuation route to leave the village in any event of an accident at the proposed plant.

Response 1:

Your comments are noted. Similar concerns from the public around Humansdorp area up to St. Francis have been raised and acknowledged. As such the Transport Assessment has been revised to consider other alternative routes. The revised report recommends that the main street through Humansdorp and Saffrey Street be bypassed. New transport roads for abnormal load vehicles were therefore considered and three alternate bypasses were investigated, as shown in the figure below. All three alternatives are proposed new roads that run along existing land boundaries between farmland. Furthermore, please note that bypass roads to the east and west of Humansdorp are also now proposed to be constructed to reduce the traffic impact on central Humansdorp.

Alternative A directly links between Voortrekker Road (MR389) and Park Street (MR381) and is 850 m in length. The beginning of Alternative A crosses the Boskloof Valley and the rest of the route will be constructed on Municipal land.

Alternative B is connects between Voortrekker Road (MR389) and Park Street (MR381) along the east of the Boskloof area, and crosses privately owned farmlands and is 1.3 km in length. The topography



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of Alternative B is considered acceptable, except for the section of the route where it crosses the Boskloof Stream at a deep vertical alignment. Additional cost will be required for the construction of a bridge to cross the stream at an acceptable grade.

Alternative C is located the furthest east from Humansdorp and is the longest of all three alternatives (2.7 km). This route also crosses privately owned farmlands. Similar to Alternative B, Alternative C crosses two relatively deep valleys, which will require additional cost for the construction of bridge structures to achieve acceptable grade crossings.

Alternative A is therefore considered as the most viable option as it is the shortest and most economical route to construct, and it has a good alignment for the transportation of abnormal loads. Once the route is constructed, it will also alleviate the traffic congestion in Humansdorp.

The revised Transport specialist study further acknowledges that the Thyspunt site requires significant transport infrastructure upgrades. The R330 is now proposed to be used for passenger vehicle traffic (cars and buses) and abnormal load transport, and sections will require upgrading for this purpose. The Oyster Bay Road is now proposed to be upgraded to a surfaced road to be used during the construction and operations phases for staff access, light vehicle traffic, heavy vehicle traffic and as an emergency evacuation route for areas such as Oyster Bay. The DR1762, which links the R330 and the Oyster Bay Road, is now proposed to be surfaced to provide improved east-west connectivity.

Lastly the revised Transportation Assessment notes that a 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 culverts 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 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. As of October 2013, redesign of the Sand River bridge to a higher design standard was in progress.

Comment 2:

Also we heard during the meeting that you are planning on moving hazardous nuclear waste through this route this is totally unacceptable and irresponsible and you cannot move nuclear waste past countless schools and the Humansdorp Hospital all the way to George where the Consultant said it would be dumped. This is very dangerous for all people living from St Francis to George.

Response 2:

Your comments are noted. Please refer to our Response 1. Also the independent Waste Assessment undertaken by Mr J van Blerk of Aquisim Consulting (Pty) Ltd, as appended to the Revised Draft EIR (Appendix 27), clarifies that the transport of radioactive waste, both domestically and internationally, is subject to the national and international model regulations for the safe transport of radioactive materials. National and international model transport regulations are generally based on the IAEA Regulations for the Safe Transport of Radioactive Material (IAEA, 2009). The means (road, rail, or air) for the transport of radioactive waste should be considered at an early stage and its transport should

comply with the appropriate regulations. The preparation of waste packages for the transport of radioactive waste should be carried out in accordance with written, approved operating procedures. Generally, waste will therefore be handled similarly to the successful handling of operational waste generated at the Koeberg Nuclear Power Station to date. Transport is undertaken with a normal heavy delivery vehicle and the containment is such that, even if a container were to be lost along the route due to an accident or other eventuality, there would be no risk to the public.

The consultant did not state that the waste will be “dumped” at George. As has been stated in countless public meetings and in the Environmental Impact Assessments Reports Low and Medium Level Waste will be transported to Vaalputs in the Northern Cape for long-term storage. The long-term safety of the facility, which complies with international best practices for the disposal of low and intermediate level waste, has been demonstrated for a national inventory of radioactive waste. The inventory derived for this purpose, included waste of the proposed Nuclear-1 Nuclear Power Station. Vaalputs has more than enough capacity to dispose of the solid waste estimated to be generated by Nuclear-1. High Level Waste will be stored on site for the lifespan of the plant and until a suitable repository has been developed.

Comment 3:

The proposed site is also being planned on being turned into a World Heritage Site; we need to preserve this site it is of importance to all South Africans and especially the Khoi San people we need to respect their heritage.

Response 3:

Your comments are noted. However, there are no formal plans to turn Thyspunt into a World Heritage Site. The only reference to a World Heritage Site is the opinion expressed in the heritage Impact Assessment (Appendix E20 of the Revised Draft EIR of 2011) that the Thyspunt site has qualities that may qualify it as a World Heritage Site. Further trial excavations of archaeological sites at Thyspunt were authorised by the South African Heritage Resource Agency (SAHRA) in 2011. These trial excavations took place during the second half of 2011 and are therefore not yet reflected in the Revised Draft EIR Version 1. These trials found that there are very few archaeological sites within the proposed footprint of the power station and that these sites are of poor quality compared to the concentration of well-preserved archaeological sites along the coastline, which will be conserved through a 200 m zone along the coast that will be kept free of development.

Although some excavation will be required in the recommended footprint of the power station, the findings of the trial excavations confirm that in-situ conservation of the most valuable heritage sites (the concentration of heritage sites along the coastline) will be possible.

Although the Thyspunt site has wilderness value, the creation of a de facto nature reserve around the power station, as is the case at Koeberg Nuclear Power Station (KNPS) will ensure that the natural resources of the site, which are currently inaccessible to the public, can become a public nature conservation asset.

A statement by the Minister of Arts and Culture against development at Thyspunt was made prior to any formal application by Eskom for excavation of the heritage sites at Thyspunt. SAHRA can only make a formal declaration on the issue of the heritage value of the Thyspunt site once all the relevant facts, including the results of the trial excavations, have been placed at its disposal. The details of the

results will be made available for public comment and review as part of the Revised Draft EIR Version 2.

Comment 4:

I believe that the site should be revised as it was chosen over 30 years ago when there was very low human population, this has changed now and we have a fast growing town.

Response 4:

Your comments regarding the site selection process are noted. Whilst the limitations of the Nuclear Site Investigation Programme (NSIP) that was undertaken during the last two decades of the 20th century have been acknowledged, seismic and geological factors that were used in the identification of the sites have not changed since the NSIP. Furthermore, the distribution of the main population centres in the Eastern Cape and Western Cape that act as load centres (centres of electricity demand) have also not changed.

Project planning for large construction projects typically includes a pre-feasibility and feasibility assessment prior to detail planning and environmental impact assessment. Considering that the NSIP was focused on initial identification of potential nuclear power station sites, it should be regarded as an initial feasibility or even pre-feasibility study. Given this focus of the NSIP, it is reasonable that it would not have addressed associated infrastructure, environmental impacts, emergency planning and economic considerations. As indicated above, the socio-economic realities today have not changed to such an extent that the major load centres in the Eastern and Western Cape (Port Elizabeth and the Cape Metropole) have changed, and the location of power station sites in each of these regions therefore remains as valid today as it was when the NSIP was undertaken.

Comment 5:

The proposed site is also prone to earth tremors and earthquakes there was a 4.3 magnitude earthquake on 14 May 2011 and reached the Thyspunt site, this needs to be taken into serious (sic)

Response 5:

Your comments are noted. However, the site is hardly prone to earth tremors which would imply a repetitive occurrence of seismic activity in the area over a prolonged period of time. Areas such as Japan or Turkey or areas located on the San Andreas Fault in California are areas of high tectonic activity and are prone to earth tremors.

An earth tremor of 4.3 on the Richter Scale is actually an incident of relatively low significance. The Richter Scale is a logarithmic scale, meaning that every increase of 1 unit on the scale implies an amplitude 10 times greater than the previous value. Therefore, an earthquake measuring 5 on the Richter Scale has an amplitude 10 times greater than an earthquake measuring 4 on the Richter Scale. Standard designs for nuclear power stations cater for 0.3g Peak Ground Acceleration, which is approximately equivalent to an earthquake of magnitude 7 on the Richter Scale.

Comment 6:

No nuclear energy is safe what compensation is Eskom going to give us as property owners should something go wrong at the Power Station how properties will be devalued.

Response 6:

Your comments are noted. Eskom as the owner of the Power station is a contributor to the Nuclear Liability fund estimated at 2.4 Billion. This Rand value changes regularly as the insurance is held in US\$ denomination. The costs of the economic impacts of a nuclear power station incident are determined by the NNR Act. Section 29 of the National Nuclear Regulatory Act, 1999 requires Eskom to make financial provision for insurance purposes. Any shortfall will be covered by the government

Comment 7:

There will be negative effects on the groundwater supply and the soil in the surrounding areas this will contaminate our milk, drinking water, vegetable production and negatively affect our strong dairy farming community.

Destruction of a very sensitive Dune system, natural wetlands countless bird and animal species habitat, this is totally unacceptable and needs to be preserved for the future of all South African citizens.

Response 7:

Your comments are noted and similar concerns have been addressed in responses to Interested and Affected Parties (I&APs) in the Draft Environmental Impact Assessment and the Revised Draft Environmental Impact Assessment Version 1. The Nuclear-1 team of specialists (including the independent Agriculture, Groundwater, Botany and Wetland specialists) have assessed the entire spectrum of impacts of the construction and operation of the proposed Nuclear-1 Power Station on not only the Thyspunt site but also the Bantamsklip and Duynefontein sites. Whilst the specialists identified a multitude of impacts and proposed mitigation measures no fatal flaws, from an environmental perspective, were identified.

There is no factual basis for your claim that milk, drinking water and food products would be contaminated. In the event that any form of contamination of groundwater does occur (nuclear or non-nuclear), groundwater flow on the Thyspunt property is towards the coast. Thus, contamination would not spread to inland areas. Furthermore, dose limits for radioactive releases from nuclear power stations set by the National Nuclear Regulator in South Africa are very low compared to international standards. Doses imposed by Koeberg Nuclear Power Station (KNPS) have been consistently below these regulated levels and have been at or below natural background radiation levels at the KNPS throughout its operational life span.

In terms of preserving the site for future generations it should be noted that highly significant potential offsets are possible at Thyspunt if undeveloped land is declared a nature reserve. On the other hand, if Eskom were to dispose of the land and land use were to change to, for example, residential or resort at the coast, and agriculture on the inland portion, massive negative impacts could potentially occur. It is apparent from existing developments on site, and the spread of new holiday residences from the Cape St. Francis side, that the trend is decidedly towards creeping development sprawl into this

important nature area. The inland portion is already used for agriculture, but further degradation of natural habitats is certainly possible. Eskom ownership, must, therefore, be viewed as an important positive factor for nature conservation.

Comment 8:

Excess sand removal and being pumped to sea is going to affect the sensitive squid breeding ground which is directly in front of the proposed power station, this is going to negatively affect the squid population and cause job losses and a huge loss of income to the town. Also the consultant mentioned during the meeting that sand will also be pumped into Cape St. Francis beach this will disrupt the sensitive marine eco system there and impact the surf break. A no fish zone is being planned and this is their major fishing area, also contaminated fish will negatively affect our exports. Change in sea water temperature will not allow the squid to breed there anymore.

Response 8:

Your comments are noted. The Marine Impact Assessment states that when considering the discarding of spoil, disruption to the marine environment is significant with high consequence and significance. When mitigated by disposing spoil offshore (and by using only a medium pumping rate and undertaking the activity during winter at Thyspunt), the impact is minimised. The impacts associated with the disposal of spoil on chokka squid at Thyspunt will have limited impact on the overall squid stock, with 13.43% of catches by the inshore jig fishery being potentially displaced as adult squid move to other spawning grounds (based on a worst case scenario assessment).

No proposal for pumping sand to St. Francis Beach exists in the Nuclear-1 proposal. Such pumping has been suggested as a potential solution to the eroding beach at St. Francis, but is not proposed by Eskom or GIBB.

In terms of the release of warm water used for cooling purposes a tunnelled design of the release system will mitigate potential negative impacts, through multiple points of release. This aids dissipation of excess heat, by releasing cooling water above the sea bottom to minimise effects on the benthic environment and by utilising a very high flow rate at the point of release to maximise mixing with cool surrounding water. While chokka squid at the Thyspunt site are expected to avoid water temperatures elevated above their thermal tolerance range, the area predicted to be affected represents less than one percent of their coastal spawning ground.

Comment 9:

A planned 3 km evacuation zone is totally unacceptable and the whole village needs to be included in the evacuation zone.

Response 9:

Please note that it is unclear which village you are referring to for inclusion in the evacuation zone.

The proposed emergency zones are based on European Utility Requirements (EUR) standards. However the application of the EUR requirements to Nuclear-1 is assumed and if this assumption proves to be incorrect, the environmental impacts may need to be reassessed.

Comment 10:

You are planning on storing High Radiation Nuclear Waste on the site of the power station, this is not safe as nuclear energy has a life span of 200 000 years to degrade, what are your plans of keeping this from the ocean and the groundwater and soil.

Response 10:

Your comments regarding the impacts of radioactive waste disposal are noted. These impacts have been assessed in the Waste Assessment (Appendix E29 of the Revised Draft EIR) and in Chapter 9 of the Revised Draft EIR. The impacts of on-site storage of HLW may indeed be regarded as significant if no mitigation is applied. However, the on-site storage of HLW is subject to very strict controls that is monitored by the NNR. After the application of these mitigation measures, and based on the experience with the application of these measures at Koeberg (where long-term storage of HLW has not resulted in any health impacts), the impacts of this activity are assessed to be of low significance.

Comment 11:

Lastly the negative social impacts this is going to have on the population and the future generations.

Response 11:

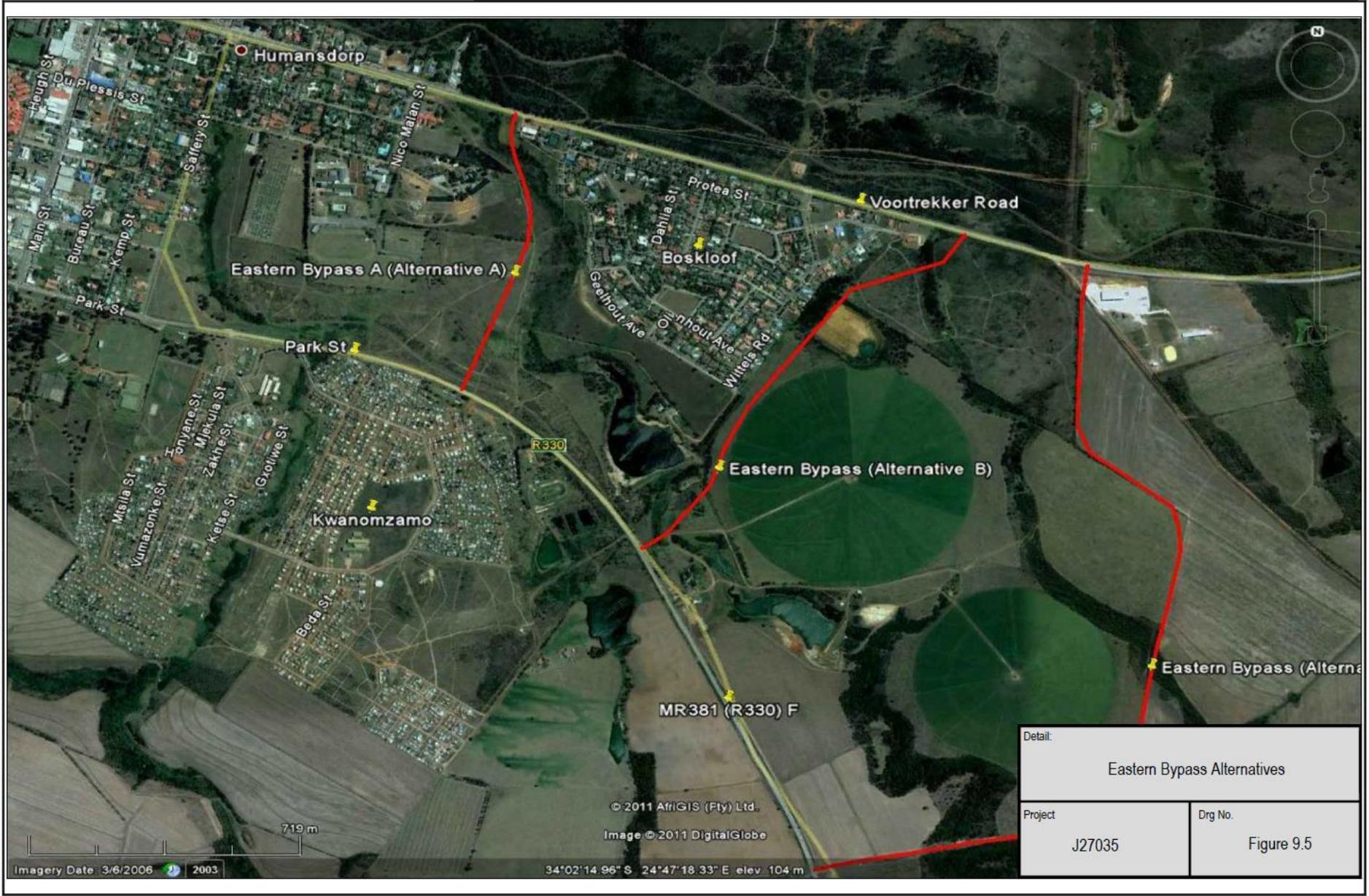
Your comments are noted and we request that you present us with a detailed list of negative social impacts so that your concerns may be adequately captured.

Yours faithfully



For GIBB (Pty) Ltd
The Nuclear-1 EIA Team

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