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05 August 2015

Our Ref: J27035  
Your Ref: Email received 06 August 2011

Email: [sudent@lantic.net](mailto:sudent@lantic.net)

Dear Denton Francis

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

My comments on the above, and the meeting held on 31 May 2011 are as follows: -

**Comment 1:**

If Eskom feel that the Eastern Cape must have a nuclear power station, have the vast stretches of coastline that were excluded because they were in, or too close to the Ciskei / Transkei been re-evaluated for possible suitable sites? If not, why not? I know nothing about the required geology for nuclear power station but from a practical point of view, I can think of two areas that should be looked at. The first is 20 kilometres north east of the Sunday's River. A new access road would be required which would join the N2 near Kinkelbos. The railway line from Port Elizabeth to Alexandria (not in use) passes within about 5 kilometres of this stretch of coast. The second is between Coega and the Sundays River. This would be the cheaper option and much closer to the required labour force and to where the power is required. I am sure that there are other areas nearer East London that could also be considered.

**Response 1:**

Thank you for your comments and suggestions. The motivation for the construction of the Nuclear-1 Power Station (as per Chapter 4 of the Revised Draft EIR Version1) is not based on a feeling but the very real fact that South Africa is experiencing an electricity baseload-capacity deficit and as such Eskom needs to increase its generation capacity to improve the reserve margin back to within acceptable limits. An additional complexity is that demand for electricity in South Africa varies spatially (geographic) and temporally (with time) and areas of high electricity demand (such as the Eastern Cape) are not correlated with current power generation centres. Thus although the choice of the original five and later three sites are based on the Nuclear Site Investigation Programme (NSIP) study undertaken by independent consultants during the 1980s, the outcome of the NSIP is still applicable to the complexities described above.

The NSIP aimed at identifying the most suitable sites for location of nuclear power stations in South Africa and included a wide range of specialist studies, such as engineering, social science, geology, ecology and town planning. The primary objective was to identify sites along the coastline of South

Africa, suitable for the construction and operation of future nuclear power stations. It cannot reasonably be expected from the Environmental Impact Assessment (EIA) process to duplicate the work of the NSIP, as the EIA process is seen as an Integrated Environmental Management tool used to assess the specific significance of the impact of the proposed development of the Nuclear-1 Power Station on the Duynfontein, Bantamsklip and Thyspunt sites. The site selection process and the assessment of alternative sites therefore 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.)

**Comment 2:**

If Japan was unable to prevent a nuclear catastrophe, how on earth will Eskom? Their record / performance at Koeberg is far from perfect.

**Response 2:**

Thank you for your comment. It is well known that the main cause of the disaster at the Fukushima Plant was caused by a tsunami triggered by a magnitude 9 earthquake centred offshore of the city of Sendai on the eastern coast of Honshu island. It is acknowledged that the incident at Fukushima as a result of this natural disaster has highlighted many important safety factors in terms of the future of nuclear energy and is indeed a stark reminder of the unpredictability of the natural environment. However it is also well known that South Africa is located on a vastly more stable tectonic environment than that of Japan which is situated close to a major subduction zone within the Pacific Ocean.

Also please note that site safety issues are considered in the Emergency Response and Site Control Reports, Radiological Assessment and Beyond Design Accident Report (Appendix E26, E27, E32 & E33 of the Revised Draft EIR Version 2) on a high level and will also be dealt with in detail within the NNR process, which includes nuclear safety and ensuring appropriate designs are implemented.

**Comment 3:**

The proposed route for the "heavy load" road traffic (R330) just boggles the mind. Saffery Street in Humansdorp runs through a residential area. Will the owners of property in this area be compensated? The north end of the street is lined on both sides with beautiful trees that will have to be cut back to accommodate the large trucks and their loads, and living conditions for residents in Saffery Street will be unbearable. The bridge over the Sand River has washed away twice since the meeting, where we were told that no upgrades to the road were envisaged. It appears that the St Francis Bay area has now had at least 4 "one thousand year floods" since November 2007. The route through St Francis Bay goes through the middle of a residential area, with the Links residential / golf

estate on one side and the original St Francis Bay on the other. If Thyspunt "happens", and this is the approved route, then people will, as a result, be killed in road accidents on this road. Those responsible for approving this route must then be held accountable. Hilton Thorpe's proposal that the chosen route from the N2 should not pass within 1 kilometre of a built-up or urban area is far too accommodating. A distance of at least 10 kilometres would be more appropriate. The minutes of the meeting indicate that once again an attempt will be made to find an alternative route.

The proposed route for "light traffic" is currently a gravel road. No mention was made of this road being tarred. If it is not, then all the traffic will obviously use the proposed "heavy traffic" tarred route through St Francis Bay.

### **Response 3:**

Your comments are noted. Similar concerns from the public around Humansdorp area up to St Francis have been raised and acknowledged regarding the use of Saffery Road. As such the Transport Specialist study was 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 attached. All three alternatives are proposed new roads that run along existing land boundaries between farmland.

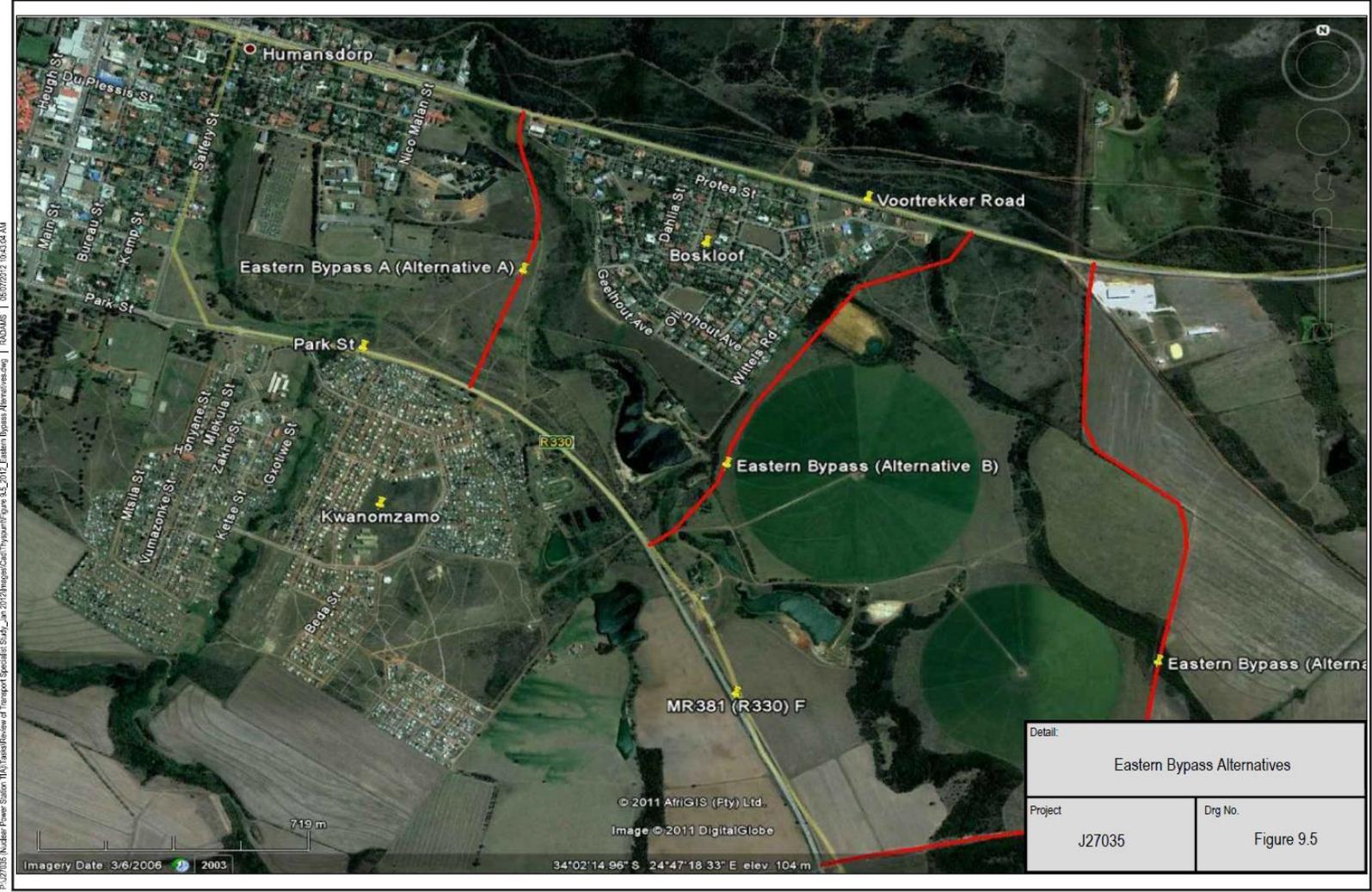
Alternative A directly links between Voortrekker Road (MR389) and Park Street (MR381) and is 850m in length. The beginning of Alternative A crosses the Boskloof Valley and the rest of the route will be constructed on Municipality land.

Alternative B connects between Voortrekker Road (MR389) and Park Street (MR381) along the east of the Boskloof area, and crosses privately owned farmlands and is 1.3km in length. The topography 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 light vehicle traffic 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. DR1762, which links the R330 and Oyster Bay Road is now proposed to be surfaced to provide improved east-west connectivity.



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**Comment 4:**

The study on wind directions at the Thyspunt site was conducted over a period of less than 2 years. In the case of Cape St Francis it was 4 years. The results are, therefore, absolutely meaningless and scientists should know better. Weather patterns for a seven year period could even be misleading, and a period of at least 14 years would be more appropriate.

**Response 4:**

Your comments are noted. However the team of independent specialists appointed to describe the receiving environment, assess the significance of impacts related to the proposed development and propose mitigation measures are respected recognised professionals in their respective fields of study who have all signed a Declaration of Independence in terms of the work they have performed as part of this EIA. As such the findings of their studies, methodology employed and limitations listed are accepted as scientifically sound. Please provide GIBB with scientifically verified data on which the above statement is based in order to present to the specialist for comment.

**Comment 5**

Most of the 7700 workforce and their families will be brought in from other areas. We know that the current infrastructure cannot handle this influx, not to mention the additional ones that will not get jobs.

What will happen to this workforce after they are no longer required? The Kouga area will be saddled with many thousands of jobless people and we all know what this will lead to.

**Response 5:**

Your comments are noted. The concern raised regarding local infrastructure is very relevant. Eskom will be required to engage with the local authorities prior to construction to determine and document responsibilities for this. The Social Impact Assessment is also clear about the additional pressure placed on social and community services to address growth in population numbers. Clear mitigation measures are recommended to address these inadequate services and facilities. Different role players must take responsibility for the challenges including Eskom as stated in the report.

It is recognised that the nature of employment within the construction sector is often not permanent and that there is generally an influx of job seekers into areas with active construction opportunities. Eskom however intends, subject to project approval, proceeding with a study to determine the current level of skills of the unemployed in the area to plan for training of these people. As far as possible Eskom intends to use as much local labour as possible - this will be achieved by working with local communities and the voters roll. The Social Impact Assessment further recommends:

- Introducing training initiatives aimed at up-skilling, particularly unskilled and semiskilled workers, during construction;
- Absorbing as many workers into the operational phase of the project as is feasible;
- Transferring as many workers as possible to other related projects available. Eskom's declared policy is to transfer construction workers from Nuclear-1 to Nuclear 2 as the construction phases are likely to overlap. Such transfers might not always be possible, depending on the location of Nuclear 2, but should nevertheless be maximised wherever possible in order to mitigate the perceived adverse impacts of unemployment once the construction phase of Nuclear-1 is completed; and

- Introducing community self-help projects as part of the corporate social investment programme.

#### **Comment 6:**

With regard to the Arcus Gibb representatives, they certainly did not come across as "honest brokers" and deserved more flack than they got. From the minutes of the meeting it is clear that many of the so-called "specialists" they appointed for the EIA did not know what they were talking about. It is hard to believe that they were, or are going to be paid for their input, and one would have to be forgiven for thinking that they were all paid to say what Eskom had told them to say. At a meeting held in St Francis Bay this past week a senior Eskom official made a statement to the effect that "development is going ahead no matter what". If this is the case, then why has money been wasted on an EIA. Irresponsible and idiotic statements like this makes one wonder why the public have been given an opportunity to comment and / or object. Whether our input even gets looked at is debateable, as two errors in the attendance register that I brought to your attention in an e-mail dated 5 July 2011 have not as yet been corrected.

The bottom line is that "Thyspunt" must NOT happen. Only someone with no social conscience could condone and agree with what Eskom are trying to impose on the whole Kouga area.

I trust that in the end good sense will prevail and that the Thyspunt site will be abandoned in favour of a more suitable site, of which there must be quite a few along our coast. First prize would, however, be the use of renewable energy sources instead of nuclear power. Eskom have proved beyond doubt that they have not got the required expertise in nuclear power when one considers the billions of Rand they wasted on trying to develop the Pebble Bed Modular Reactor. South Africa cannot afford this continual waste of money.

#### **Response 6:**

Your comments are noted. As is always the case, perceptions, as those mentioned above, are difficult to address. However, as per our Response 4, the team of independent specialists appointed to describe the receiving environment, assess the significance of impacts related to the proposed development and propose mitigation measures are respected recognised professionals in their respective fields of study. They have all signed a Declaration of Independence for the work they have performed as part of this EIA. It cannot be expected from any organisation or individual to work without fair compensation. The author is advised that some of the statements above border on slander and have no place in a rational scientific debate.

The development of the Nuclear-1 Power Station at the Duynefontein, Bantamsklip or Thyspunt sites is not a foregone conclusion and the decision in terms of the Environmental Authorisation falls within the ambit of the Competent Authority (the Department of Environmental Affairs), with input from a number of commenting authorities. The choice between the use of renewable energy vs. nuclear energy is addressed by the Integrated Resource Plan 2010, which is related to strategic government decisions outside the ambit of the Nuclear-1 EIA.

Lastly GIBB has investigated its records and only received one correspondence from yourself via e-mail dated 05 July 2011, the contents of which has been captured in this document. No other mail referring to the errors in the attendance register was received on 05 July 2011. As such please forward to GIBB for a response.

Yours faithfully  
for GIBB (Pty) Ltd

A handwritten signature in black ink, consisting of a large, stylized 'G' followed by a smaller 'B' and a trailing flourish.

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Nuclear-1 EIA Team