

Our Ref: J27035



21 December 2010

Johannesburg

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Attention:
St Francis Bay Residents' Association, on behalf of the Thyspunt Alliance

Dear Sir

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

Your correspondence to Ms. Bongzi Shinga of Acer (Africa) entitled "Comment on the Economic Impact Assessment Report, Thyspunt NPS" 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 have been noted.

Responses to your comments / questions have been provided by the Economic Specialists and are as follows:

Your Comment (1)

EXECUTIVE SUMMARY:

The executive summary concludes that "Duinefontein would be far more able to absorb the effects of a Nuclear Power Station...."

This fact is ignored in the rest of the report.

Response 1

Response from the independent economic specialist:

We are of the opinion that the specific sentence is quoted out of context. The specific phrase actually indicates that we considered all possible impacts, of which absorption is just one aspect.

Your Comment (2)

INTRODUCTION – PROJECT DESCRIPTION:

This states that demand in the Western Cape exceeds supply by 3000 MW. By the time an NPS would be completed, this figure would have risen to at least 4000 MW. This is the complete output of the Nuclear 1 in question. It would make sense to construct the next NPS there. Here again, this fact is not mentioned again in this report.



Response 2

Response from the independent economic specialist:

A number of issues were considered before rating the sites, of which electricity demand is only one contributing factor.

The Eskom Gird Planning Report (Appendix E28) indicates that there is an even greater need to the supply of power in the Eastern Cape, although there is also a need in the Western Cape. There is currently very little generation capacity in the Eastern Cape.

Your Comment (3)

ASSUMPTIONS: It is glibly assumed that roads and bridges to the sites of NPS's will be able to carry the required (abnormal) loads. No allowance has been made in the cost model (table 3.24) for construction/alteration/re-enforcing of these. Except for the case of Duynefonteien, this could amount to significant sums that would make a major difference to the costing model. Furthermore there is a major backlog in road construction in the Eastern Cape.

Response 3

Response from the independent economic specialist:

The report mentioned the challenges of transporting abnormal loads from port to site. The question of access roads and costs is addressed in section 3.2.1.2.11. The values quoted in table 3.11 were the only extra costs presented to the Economic Specialist by Eskom's road and road transport consultants. The different distances and the associated costs are presented in table 3.5.

Your Comment (4)

DESCRIPTION OF AFFECTED ENVIRONMENT

FISHING.

It appears that Eskom has advised that the exclusion zone will be 1km by 1km in size, and that certain fishing boats may at times be allowed inside this area.

This is not a decision for Eskom to make since it is a matter of National Security or the Nuclear Regulator.

Squid Fishing.

The report glibly states that only the 1km x 1km exclusion zone will be affected and that this will reduce squid catches by 1,8%.

The report takes no notice of the fact that 2 underground pipelines some 1-2km long and 2-3m thick will be constructed and that warmed, chlorinated water will be discharged.,

The most important omission of this report is the fact that it take no notice of the fact that 6,37 cu meters of sand/spoil will be discharged into the sea, probably at a depth of 50m and a distance of 1-2 km offshore.

It should be noted that 6,37 million cu meters of banked sand/spoil becomes 7,3 million cu meters of loose sand/spoil when removed. This second figure is the actual volume we are dealing with. Due to inshore ocean currents flowing from West to East (predominant) and also currents flowing from East to West (certain times of the year) this will spread about some 10 - 12 km in both directions. This would cover an area 2km wide, stretching from Cape St Francis to West of Oyster Bay. It is highly likely that this spread of spoil will

destroy the squid breeding grounds of the area mentioned above. Currently, according to SASMIA figures, around 33-38% of squid caught by boats operating in the area are caught in this location (between Cape St Francis and Oyster Bay, up to 2km offshore). The above is the subject of a separate SASMIA study and report.

According to figures published in this Economic I A R , an average of 7000 tons of squid are caught in the Eastern Cape per annum, and sold at an average price of Euro 7-00 per kilo. At current exchange rates this amounts to R480 million per year. A loss of 33% would amount to some R160 million per year. At the key focus group meeting held at St Francis Bay on 25th May, it was stated by the Marine “expert” that, should the squid leave this area or stop breeding there for the duration of the construction period, they are quite likely to take at least another 10 years to return, if at all.

The loss to the industry and economy of the area could thus amount to some R3,2 billion, over 20 years. If calculated to a Present Value at 8%, this would amount to R1,6 billion. NOWHERE IN THE ECONOMIC IAR IS THIS MENTIONED, nor is this allowed for in the PV cost matrix, (see table 3.24). The squid industry employs some 4000 people. A loss of 33% of squid income would probably result in the laying off of some 1300 people. No mention is made of this in any of the specialist reports, including the social impact report.

FURTHERMORE, under the above scenario, squid operators would be forced to work further afield. (further away from their base at Port St Francis). This would necessitate a change to larger boats. The size of boats that can use Port St Francis is limited by harbour size and (especially) the depth of the harbour entrance. A tendency towards bigger boats would result in more squid boats operating out of Port Elizabeth or even Mossel Bay. This would result in a complete and permanent collapse of the local/Port St Francis based squid industry. As mentioned above, this industry employs some 4000 people and produces a revenue of close to R500 million per annum. This would amount R25billion over the construction period and life of the NPS. If an 8% Present Value factor is applied, over 50 years this would amount to R6,1billion.

SOUTH AFRICAN SQUID is one of the more sought after varieties of squid in the world, in a very competitive market. Should our squid be caught in the vicinity of a NPS, this fact is likely to be used by competitors against our product. Marketing very much depends on perception. Even though completely unjustified, our squid industry may suffer as a result of this. The report states in this connection that...” negative market perceptions appear to be mitigable with production and distribution of scientific evidence...” Marketing IS mainly perception and the author of the above statement obviously has little knowledge about marketing. This kind of statement reflects a strong bias in favour of Eskom’s priority of erecting the NPS at Thyspunt. Specialist reports are supposed to be impartial.....this is clearly not the case here.

THE REPORT states “.....the industry is not universally popular in the area. It receives continuing criticism that the lights....destroy a sense of place of local inhabitants....” This is of such a minor scale compared with the effects of building a 4000 MW NPS, service roads etc. on a sense of place that one has to wonder seriously about the objectivity of this report.

Response 4

The exclusion zone was advised by Eskom after they had discussed the issue with the security authorities. It is indicated as an assumption in the EIR that a 1km offshore exclusion zone will be applied.

The findings of the revised Marine Impact Assessment (revised after the key Stakeholder Meeting held in May 2010 and a request from SASMIA to supply what data they have regarding the location of the chokka squid spawning areas) have been taken into account in the current (September 2010) revision of the Economic Impact Assessment. The Marine Impact Assessment bases its recommendations for the offshore disposal of spoil on the findings of the oceanographic modelling that has been performed to predict how far the spoil would spread if disposed at a number of alternative locations and depths offshore. The Marine Impact Assessment recommends disposal at depths and distances offshore to avoid the chokka spawning areas, which do not extend to beyond 50 m depth. The SASMIA study and report you refer to, despite

several attempts to procure this directly from SASMIA, as well as through the Marine and Coastal Management section of the Department of Environmental Affairs, have been fruitless.

The economic specialist are well aware of the importance of the squid industry, and have interviewed representatives of the industry. With regard to marketing perceptions, scientific evidence can be effectively marshalled to dispel perceptions based on ignorance of facts. The economic specialists stand by our comments relating to mitigation. Despite Koeberg Nuclear Power Station's presence 27 km north of Cape Town, this has never had any impact on the domestic or international perception of marine products caught off this stretch of coast. Neither has its presence has any impact on agricultural products, including organically certified wine, produced within sight of this nuclear power station.

According to field interviews, lights from the boats have destroyed the sense of place around St. Francis. By contrast, the visual specialist study shows that any intrusive impacts could be mitigated, unlike the impact of the lights from ships.

Your Comment (5)

IMPACT IDENTIFICATION AND ASSESSMENT

TOURISM IMPACT.

The impact of the Eastern access road on tourism has not been assessed, since this road was conceived of and added at a later stage. It is estimated that this road will have a major negative impact on tourism in the area.

Table 3.13 shows a negative impact on tourism of 7.86% for years 1-6 only. Firstly, what happens after year 6 assuming a 10 year construction period? Secondly, it would take a genius or an idiot to imagine that he or she can predict the effect of construction of a NPS on tourism to the second decimal of a percentage point. OR....is this window dressing?

Table 3.20 shows 0% tourism impact on Thyspunt for years 7 – 20.

However the text below it states that the effect on tourism during the operational phase (assume years 10 to 20?) will be negative. Which is it? Negative by how much?

We shall assume a negative effect on tourism of 30% over a 10 year construction period until presented with clear evidence to the contrary. Using the figure of R77,45 million pa as per table 3.13, and applying a loss of 30%, the amount of R23m would be lost annually. This is roughly R17mil pa higher than the figure of R6,11m shown in figure 3.13. This amounts to R170m over the construction period. If a PV @ 8% is applied, this amounts to R114m over 10 years of construction period.

Response 5

Response from the independent economic specialist:

It is necessary to emphasise that a model is used allocating different weights to different factors, which eventually culminate to a percentage. As far as the 6 year initial period is concerned it must be accepted that the business section of tourism will experience a boom period. The Lephalale/Ellisras area, where the Medupi coal-fired power station is under construction, serves as an example; the model accepts that other forms of tourism will suffer and makes provision for that. Experience around Koeberg Nuclear Power Station indicates that in the long-term, tourism is not negatively affected by a nuclear power station.

The 30% impact used above is applied without explaining how it is arrived at. It is merely an assumption.

Your Comment (6)

SURFING – PERMANENT RESIDENTS, HOLIDAY HOMES, SURF INDUSTRY AND TOURISM:

The area from Cape St. Francis to Jeffrey’s Bay is considered the "Mecca" of African surfing. Cape St. Francis is popular as a family surfing destination. "Bruce’s, the surf break at St Francis Bay is considered to be the surf break that put the Kouga area on the world surfing map in the 1960’s. "Supers" at Jeffrey’s Bay is considered the best right hand point break in the world. These surf breaks bring thousands of surfers and surfing holiday home owners to the Kouga area every year. The annual Billabong contest is one of the major world contests. It draws huge crowds every year. Furthermore surfing is counter cyclical in tourism terms.....it draws surfers in the winter months, when normal tourism is slow. Surfing has spawned many local businesses, including some 40 surf shops, surf related clothing shops and surfboard manufacturers, and one major factory/distributor (Billabong).

YET THE DRAFT EIA REPORT DOES NOT MENTION SURFING AND THE EFFECT THAT THE THYSPUNT NPS MAY HAVE ON THE SURFING TOURISM AND INDUSTRY!

Specific reference is made here to the fact that 6,37million cubic meters (7,3million loose cu meters) of sand/spoil is to be deposited in the sea, and may be transported to the surf breaks by ocean currents. The oceanographic specialist report should have made a specific study of the impact of sand /spoil on the surf breaks, as should the economic specialist report.
THIS IS A MAJOR OMISSION.

Response 6

Response from the independent economic specialist:

The surfing industry in Jeffrey’s Bay was interviewed, and the importance was noted. However, the nuclear power station will not be visible from Jeffrey’s Bay nor, according to information from other specialist reports, would there be any effect on surf breaks, waves, etc. at Jeffreys Bay. The contention is speculative, stating "may be transported". There is no indication that this would happen.

Response from the Environmental Assessment Practitioner:

An addendum report to the Oceanographic Impact Assessment (not included in the Draft EIR but included in the Revised Draft EIR), indicates that the sand would not be transported as far as Jeffreys Bay, Depending on the depth of disposal of spoil minor impacts may be felt at Bruce’s Beauties close to Seal Point.

Your Comment (7)

AGRICULTURE IMPACT

Table 3.21 shows a negative impact of R19m.

The Agricultural Impact Specialist report of the Draft EIA incorporates a GAIN of "10 to 15%" in agricultural output due to a larger market created by the influx of people into the area (construction workers and families). This was re-iterated at the key stakeholders meeting held at St Francis Bay on 25th May 2010. This is, however incorrect. With the exception of one small dairy farm, all milk produced in the area is sold to national distribution/processing companies. Dairy farms are running to full capacity. According to local farmers questioned, local market growth will have no positive impact on production or sales.

A major flaw in the Agricultural Impact Assessment is the fact that it does not incorporate the impact assessment of transmission lines. This has been done as a separate study and is not incorporated in this Draft EIR. It is felt that farming land lost to transmission lines will be a major factor.

Table 3.21 shows an annual turnover of R927m and a negative impact of 12.5%. The table, however shows the 12,5% negative impact applied only to the 16km radius figure, to arrive at an annual negative impact of

R19m. The 12,5% negative impact should have been applied to the 30km radius, resulting in a loss of R115m per annum. This figure should be increased by, say 50% to allow for impact of transmission lines. Total loss of say R170m per annum. Over a 10 year construction period this would amount to R1,7 billion. Taken over the construction period as well as over the operational period and brought to Present Value at 8% say, this loss would be some R2,1 billion. While the above figures are not accurate due to lack of information they provide "ball park" estimates that show that the negative impact of R19m pa in figure 3.21 is very far off the mark.

Response 7

Response from the independent economic specialist:

With the inflow of so many people the local market must increase considerably. The second question that needs to be answered is: Why would the construction of a nuclear power station affect agricultural production negatively? France generates nearly 70% of its power by nuclear generated and there is no information to indicate that it affects this that country's agricultural production negatively. Nuclear power stations in the Rhone Valley in France are situated adjacent to areas of intensive agricultural production. For example, Tricastin Power Plant is one of the largest nuclear sites in the world, and is almost surrounded by intensive agriculture.

Your Comment (8)

COMPARISON OF THE THREE SITES.

Table 3.24 shows a Reactor Constant Cost of R101,902 billion. In figure 3.3 the Reactor Standard Cost of R150,275 billion is shown. In figure 3.35 a Reactor Constant Cost of R160,275 billion is shown. Which is it? While these figures do not affect comparative studies of the three sites, it would be interesting to have realistic all in figures, albeit at constant 2008 prices.

Using the figures shown in Table 3.24, the following should be added to the Thyspunt figures, as per the various headings above.

Response 8

Response from the independent economic specialist:

Table 3.3 presents the correct values:

- Reactor Construction Costs – R170 billion
- Correction Value - R19.725 billion
- Reactor Standard cost - R150.275 billion

The so-called correction value is site-specific and differs from site to site; the R150.275 billion is constant per site.

Table 3.24 refers to the Discounted Present Value (PV) after it is inserted in the Cost Effectiveness Model as spend annually.

Table 3.35 has an editing mistake and should be R150.275 billion.

Your Comment (9)

ASSUMPTIONS

ROADS AND BRIDGES: In the Case of Thyspunt an allowance of say R500m should be made. If the Van Stadens Pass bridge has to be re-built this figure could be much higher. The figure for Duynefontein will be negligible by comparison. We cannot comment on the figure for Bantamsklip without in depth studies.

Response 9

Response from the independent economic specialist:
Please refer to Response 3 above.

Your Comment (10)

FISHING

SQUID: The negative impact on the squid industry in the Thyspunt area, at Present Values could be anywhere between R1,6 and R6,1 billion. This would depend on the level of destruction of this industry and to some extent on negative market perceptions. This would not apply to either Duynefontein or Bantamsklip.

Response 10

Response from the independent economic specialist:
Please refer to Response 4 above.

Your Comment (11)

TOURISM

The impact would amount to at least R114million (At Present Value, calculated at 8%) over the construction period. Tourism would not be impacted at Duynefontein and positive at Bantamsklip (according to this report).

Response 11

Response from the independent economic specialist:
We take note of your comment. Without substantiation we cannot effectively respond to it. Please see the Response 5 above.

Your Comment (12)

AGRICULTURE

The impact could be much more severe than shown in the Draft EIA report, more than likely around R2,1billion (Present Value at 8%) over the life of the NPS.

Response 12

Response from the independent economic specialist:
We take note of your comment. Without substantiation we cannot effectively respond to it. Please see the Response 7 above.

Your Comment (13)

The Present Value Matrix in figure 3.24 must therefore be altered to incorporate the following losses for the area / additional costs for the Thyspunt NPS:

Roads and Bridges additional cost	R500m
Squid Fishing loss	R1,6 billion to R6,1billion
Tourism loss	R114m
Agriculture loss	R2,1 billion.
TOTAL	R4,3 billion to R8,8 billion.

CONCLUSION FROM COST COMPARISON MATRIX:

Adding the above figures the conclusion is that the NPS would result in extra costs and severe economic/income losses in the Thyspunt/Kouga area. These are unaccounted for in the Economic Impact assessment Report of the Draft EIA study.

These would amount to between R4,3 billion and R8,8 billion at Present Values.

As a result the Thyspunt NPS does not compare favourably with the Duynefontein option and would be on a par, cost/loss wise with the Bantamsklip option.

Due to the probable complete destruction of the Squid industry as well as other factors mentioned above, (and the huge sociological impact thereof) the Thyspunt NPS option should not be pursued.

Response 13

Response from the independent economic specialist:

We disagree with your assumptions and stand by our figures.

Your Comment (14)

FURTHER FACTORS TO BE TAKEN INTO ACCOUNT:

The local Kouga Municipality is stretched beyond its limits of effective operation. Roads are badly maintained. Sewage spills are frequent. Current rubbish dumps are operated un-hygenically and illegally. There is a severe water shortage and water restrictions have been in force since December 2009. These are likely to continue well into 2011. The Kouga municipality would not be able to cope with the influx of staff and their dependents during the construction phase (In the vicinity of 25.000 people in all, if families and dependents are included).

The report mentions, in table 3.34, the positive impact of:

Additional number of educators...2842

Additional number of hospital beds.....612

Additional number of doctors.....64

These are wonderful theoretical figures when confronted with a municipality that can barely cope. Who is going to establish schools to house the 2842 educators? Where do they come from, given that the area has a severe shortage of teachers? The same applies to the 612 extra hospital beds and 64 doctors. (What about nurses, without whom hospitals cannot operate?) There is a huge backlog of hospitals, beds and doctors in the Eastern Cape as it is. People queue for days to be attended at the Livingstone hospital in Port Elizabeth. Yet magically the NPS will provide the above? Are we to assume that Eskom will construct and establish schools and hospitals? If so, there is no sign of a cost allowance made for these hospitals and schools and training of teachers etc. in any of the cost matrixes.

Cost of transmission lines: In calculations in the Draft EIA report, 400kV transmission lines for Thyspunt are said to cost R10,6m per km. The figure for the same 400kV transmission lines for Duynefontein are said to be R26,8m per km. How can identical transmission lines cost 2,5 times more for the Duynefontein option? These figures appear to be skewed in favour of the Thyspunt option.

Insurance: Most home insurance policies in South Africa specifically exclude nuclear accidents/disasters. Who will insure residents in the Kouga area against a nuclear disaster? Will Eskom do so? NOWHERE IN THIS REPORT IS THIS FACT MENTIONED.

Response 14

Response from the independent economic specialist:

If we accept that the local municipality is not performing at present. However, we cannot assume that in future will the same situation would apply. It is accepted that the relevant provincial and central government authorities will render support to the local authority. Local authorities have a limited mandate and are not responsible for schools, teachers, hospitals, doctors or police. As already stated, major development projects take place all over the country and there is no reason to assume that they should not also occur in the Kouga area?

The costs of transmission lines are higher at Duynefontein because a complete realignment would be required together with the reconstruction of a major sub-station.

With regard to insurance, we were unable to establish that it had ever been a major point of contention in the Cape Town area. Moreover, the chances of an incident occurring are negligible, given the advances in technology used in the Generation III nuclear power stations worldwide, and it is extremely difficult to put a value on insuring against such a low risk.

Your Comment (15)

The above clearly demonstrates that the economic report is badly flawed with factual errors, omissions, and incomprehensible conclusions. The report is not un-biased. The integrity and objectivity of this report must be queried.

Response 15

Response from the independent economic specialist:

We disagree with the general statement that the report is badly flawed with factual errors. The assumptions used by the Mr. Tilders are to our mind untested and are made to strengthen his case of being against a nuclear power station at Thyspunt.

In arriving at our final recommendation we approached the study as objectively as possible without any predetermined ideas. In the final instance the difference after evaluating all the factors, between the Thyspunt and Duynefontein sites, was very small. A qualitative evaluation of the possible influence of climate change supported the final recommendation in order of preference as follows:

1. Thyspunt
2. Duynefontein
3. Bantamsklip

Should you have any queries with respect to the above please do not hesitate to contact Arcus GIBB.

Yours faithfully
For Arcus GIBB (Pty) Ltd



Jaana-Maria Ball
Nuclear-1 EIA Manager