

COMMENT ON THE ECONOMIC IMPACT ASSESSMENT REPORT, THYSPUNT NPS, 2nd Draft EIA Report.

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In the report below it will be shown that the Economic Impact Assessment forming part of the Draft Environmental Impact Report, as applied to the Thyspunt Nuclear Site:

- 1) Is not comprehensive, ie important facts are omitted,**
- 2) Includes factual errors,**
- 3) Is biased in favour or what appears to be a pre-determination to favour the Thyspunt site for erecting Nuclear 1.**

For easy reference comments below are raised in roughly the same sequence and under the same headings as they appear in the Economic Assessment Report.

A) 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. This clearly indicates bias in favour of the other sites, in this case Thyspunt.

B) INTRODUCTION – PROJECT DESCRIPTION:

This states that demand in the Western Cape exceeds supply by 3000MW. By the time an NPS would be completed, this figure would have risen to at least 4000MW. 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, indicating bias, seemingly in favour of the Thyspunt option.

C) ASSUMPTIONS: The Draft EIA reads: “Another limitation is that detailed information is not yet available on the capacity of the roads and bridges to carry the abnormal loads which will be involved in the transportation of imported equipment for the nuclear power station, as Level 1 assessments have been concluded thus far. Some of these loads might weigh up to 750 tons.” 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-inforcing of these. Except for the case of Duynfonteien, 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. Again, as above, this results in a bias in favour of the Thyspunt alternative.

D) 2. DESCRIPTION OF AFFECTED ENVIRONMENT

2.1.4.FISHING.

It appears that Eskom has advised that the exclusion zone will be the length of the site 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, and is based on “Eskom successfully applying for access to be granted....” The decision to allow fishing inside the exclusion zone would fall under National Security or under the National Nuclear Regulator.

2.1.4 Continued....Squid Fishing.

The report glibly states that only an area the length of the site 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 will be constructed and that warmed, chlorinated water will be discharged, and the effect of this on squid catches.

The most important omission of this, Second Draft EIA report is the fact that it takes no notice of the fact that 6,37 million cu meters of sand/spoil will be discharged into the sea, probably at a depth of 50 - 80m and a distance of 1-5 km offshore. This is, despite the matter being discussed at length at meetings and highlighted in comments on the First Draft EIA. South African Squid Management Industrial Association (SASMIA) in fact drew attention to this major omission repeatedly since publication of the first Draft EIA.

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 2 - 3km wide, stretching from East of 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 5km offshore). The above is the subject of a separate SASMIA study and report, and was discussed at length in a meeting of specialists recently held in Cape Town.

According to figures published in this Economic Impact Assessment Report, an average of 7000 tons of squid are caught in the Eastern Cape per annum. This is sold at an average price of about Euro 7-00. 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 above breeding ground would thus be barren for a MINIMUM of 20 years.

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. The vast majority of job losses would occur in the Kouga/ St Francis/Humansdorp area. No mention is made of this in any of the specialist reports, including the social impact report. It is unbelievable that a report dealing with the effect of building the NPS at Thyspunt can simply ignore the effect of 6,3m cubic meters of spoil pumped into the premier squid breeding ground of South Africa and the huge effect this would have on the local squid industry. This is despite the fact that the consultants’ attention were repeatedly drawn to this fact since publication of the first Draft EIA Report. THIS IS A MAJOR OMISSION.

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 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. It is estimated that the local industry employs some 2000 people in all and produces a revenue of close to R250 million per annum. This would amount R12,5 billion over the construction period and life of the NPS. If an 8% Present Value factor is applied, this would amount to R3,05billion. This would be the loss to the local squid industry and would result in some 2000 unemployed in the area. Here again the Second Draft EIA report makes no mention of this likelihood.....ANOTHER MAJOR OMISSION OF THE REPORT.

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 and advertising. Firstly, who is to pay for such advertising campaigns? We do not notice an undertaking from Eskom in this regard, nor a summary of budgeted costs. The report totally underestimates market perception, especially since the Fukushima disaster and the German halting construction of new, and decommissioning of old nuclear power stations. Here again we have bias towards an outcome seemingly preferred by Eskom.

As per the above, the report identifies the exclusion zone and negative perceptions regarding squid caught near an NPS as the MAJOR concerns in the squid industry. This is completely wrong! The major concern is in fact the effect of pumping 6,3million cubic meters of spoil into the squid breeding ground, and this is not covered in the report. A MAJOR OMISSION.

E) 3. IMPACT IDENTIFICATION AND ASSESSMENT

3.2.1.2.11 ACCESS ROADS.

The report reads: "In the case of Thyspunt an additional feeder road for heavy vehicles via Cape St Francis was included at a later stage and is now incorporated in the model. " The estimated cost to upgrade road is R539,39m". This figure underestimates the costs of building and maintaining roads through moving dune fields and wetlands, which are, at the time of writing are largely flooded. Furthermore the figure does not seem to allow for removal and re-building of flyover bridges to allow very big loads through. A route through Humansdorp has been identified for use, being Saffery Road. This is totally unacceptable for various reasons.....a new bypass road will have to be built, bypassing Humansdorp. We believe the road and access costs have been underestimated by at least R800m. WE BELIEVE THIS CONSTITUTES A MAJOR FACTUAL ERROR IN THIS REPORT.

PIPELINES FOR INTAKE, OUTLET OF WARM/CHLORINATED WATER, SPOIL DISPERSEMENT DURING CONSTRUCTION PERIOD, AND ASSOCIATED TUNNELLING.

We are told by the consultants that the above pipelines may now stretch up to 5km offshore in order to reduce environmental impact, and not limited to 1 or 2 km, as previously stated. Yet this is not allowed for in the report. Laying of these undersea (and underground, below ocean floor) pipelines should be the matter for a complete feasibility and costing study, as well as an EIA. THIS MATTER IS COMPLETELY IGNORED IN THE REPORT. While costing estimates cannot be made without in depth studies we believe a cost of at least R1 billion at PV prices should be allowed. According to a study instigated by the Thyspunt Alliance, the cooling water intake pipeline and associated tunnelling would cost some R477 million. (The study can be made available on request). The proposed pipeline for disposal of spoil is apparently going to be much longer and end up in deeper water. It will also involve a number of pumping stations along the way, since pumping spoil over a 5km distance from one pumping station would be impossible. We believe that the above figure of R1 billion in additional costs to be conservative – it could be much higher. THIS IS ANOTHER OMISSION IN THE REPORT.

3.2.1.2.13 TOURISM IMPACT.

GENERAL TOURISM

The impact of the Eastern access road and use of the R330 road from Humansdorp to Cape St Francis on tourism has not been assessed, since this access 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, how can anyone calculate with certainty the effect of a NPS on tourism to within two decimal points of a percent. This seems to be a ridiculous figure.

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

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. The loss of tourism will be the death knell to many establishments in the St Francis Bay and Cape St Francis areas, with resulting job losses etc. This does not include SURF TOURISM, which is dealt with below.

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. 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), as well as many B+B establishments.

YET THE DRAFT EIA REPORT MERELY STATES THAT THE SURF BREAK AT CAPE ST FRANCIS “MAY BE AFFECTED”

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. As far as we are aware, no in depth study including any form of modelling was conducted.

THIS IS A MAJOR OMISSION.

A further omission is the fact that no attention is paid to the possible cancellation of the annual Billabong/ Association of surfing professionals surf contest held. This contest is held at Jeffrey's Bay every year in July and is one of the big 11 contests on the world surfing calendar. It attracts some 10.000 persons per day, for an average 10days, giving a major boost to the local economy. The media value of this event is estimated to be worth R20m each year. Money spent in the area over the 10 day period is estimated at some R30m, which can be doubled due to the “knock on effect. A total of R60m. This amounts to R600m over the 10 year construction period. Using a PV factor of 8%, this amounts to a present value of R400m. Should the surf break be affected by the spoil pumped into the sea at the NPS building site, this will be lost. Contestants and organisers of the event have signed a number of petitions to stop the construction of the NPS at Thyspunt. They have also indicated that, should the construction go ahead, they would boycott Jeffrey's Bay and move the event elsewhere, outside of South Africa. This would be a huge loss for local businesses, yet no mention of this fact is made in the report. In a survey conducted by the Thyspunt Alliance, a number of managers stated that without the annual Billabong contest, they would “close shop”. This includes the Billabong distribution and factory center, employing some 270 people. **THIS IS ANOTHER MAJOR OMISSION.**

THE TOTAL LOSS TO TOURISM AS A RESULT OF CONSTRUCTING THE NPS AT THYSPUNT COULD THUS AMOUNT TO SOME R514m IN PRESENT VALUE TERMS. THIS IS VERY DIFFERENT FROM THE FIGURE OF R6,11m pa REFERED TO IN TABLE 3.13 OF THE REPORT.

3.2.1.3.8 AGRICULTURE IMPACT

Table 3.21 shows a POSITIVE 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, and again, at a later meeting. 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. Diversifying into alternative crops/farming product is not possible due to climatic and soil conditions. This has been confirmed by a number of leading farmers in the area. Apparently no proper on the spot research was undertaken by the party drawing up the Agricultural specialist report. This is a major omission and **IS A MAJOR FLAW IN THE 2nd DRAFT EIA REPORT.**

A FURTHER 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, agriculture section. 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 an impact of 12.5%. We believe that a NEGATIVE impact of 12,5% should be applied to an area of 30km radius, resulting in a loss of R115m per annum. This figure would allow for the effect of transmission lines, which have not been allowed for in this report. Over a 10 year construction period this would amount to R1,15 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 R1,42 billion. While the above figures are not accurate due to lack of information they provide “ball park” estimates which show that the positive impact of R19m (or R18,7m as per text) pa, in figure 3.21 is very far off the mark. We are again dealing with MORE ERRORS, RESULTING IN A BIAS TOWARDS THE THYSPUNT SITE.

F) 3.2.2 COMPARISON OF THE THREE SITES.

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

C: ASSUMPTIONS

ROADS AND BRIDGES: In the Case of Thyspunt a further allowance of R800m. should be made. If the Van Stadens Pass bridge has to be re-inforced, 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.

PIPELINES/TUNNELLING

As per the above, at least a further allowance of R1 billion should be made.

D) FISHING

SQUID: The negative impact on the squid industry in the Thyspunt area, at Present Values could be anywhere between R1,6 and R3,05 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.

E) TOURISM

The impact would amount to at least R514million (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).

E)(continued) 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.

The Present Value Matrix in figure 3.24 does not show a true reflection. One cannot combine costs of construction and adverse economic effects (expressed purely in monetary terms) on surrounding areas in one matrix. Effects on surroundings invariably have major social and other implications, knock on effects etc.

We believe that the THYSPUNT NPS project costs have been underestimated by at least the following in Present Value figures:

Roads and Bridges additional cost.....R800m
Pipeline/Tunnelling Costs.....R1,0 billion
TOTAL.....R1,8 billion

We believe that effects on the economic environment have been underestimated by at least the following in Present Value figures:

Squid Fishing loss.....R1,6 billion to R3,05billion
Tourism loss.....R514m
Agriculture loss.....R1,42 billion.
TOTAL.....R3,53 billion to 4,984 billion
TOTAL.....SAY.....R3,5 billion to R5,0 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.

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.

FURTHER FACTORS TO BE TAKEN INTO ACCOUNT:

THE SCORING SYSTEM IN THE REPORT IS SEVERELY FLAWED.

Transmission lines are subject to a separate report, but are included in the scoring process. They are then AGAIN included in the Economic report, thereby being considered twice.

The 4-3-2 weighting applied is highly questionable and should have been replaced by a more appropriate weighting, possibly 3-2-1.

If the Eskom participants attending the scoring workshop also voted or had any input, the integrity of this whole EIA process is compromised. WE HEREWITH DEMAND CONFIRMATION, IN WRITING, FROM THE COMSULTANTS TO THE EFFECT THAT THE EIA PROCESS HAS NOT BEEN COMPROMISED IN THIS FASHION.

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 unhygienically and illegally. There has been a severe water shortage and water restrictions have been in force since December 2009. These are likely to continue. 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 3.30, the “positive impact of the NPS”.

This states that, with the additional taxes flowing from the NPS, the following can be paid for:

Additional number of educators...2842

Additional number of hospital beds.....612

Additional number of doctors.....64

Additional construction of 2968 houses.

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.

THIS SECTION OF THE REPORT SEEMS TO HAVE BEEN INCLUDED AS A SALES GIMMICK TO CONVINCING THE LOCAL MUNICIPALITY TO SUPPORT ESKOM'S PLANS FOR THE NPS AT THYSPUNT. THESE FIGURES HAVE NO RELEVANCE.

INSURANCE: 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.

The above clearly demonstrates that the economic report is badly flawed with factual errors, omissions, and arguable conclusions. The report is not un-biased, given that it is based on figures largely supplied by the contractor, Eskom. The objectivity of this report must be queried.