

# Thyspunt still the preferred site for nuclear-1 - EIA Report

Thyspunt is still the preferred site to build a nuclear power station. This is the conclusion in the copious 702-page environmental impact EIA Report Version 2 for the Esikwini Nuclear Power Station and Associated Infrastructure (Nuclear-1).

In the Report it states more than once that not only is Thyspunt the preferred site but that it is recommended by the DEA (with conditions) for Nuclear-1. "Eskom must ensure that the required mitigation measures are effectively implemented. It is important to remember that none of the specialist assessments identified fatal flaws at any of the remaining sites, and both the proposed sites remain viable sites for nuclear power station development, either for Nuclear-1, which is now proposed, or for some future power station."

"As such, the preferred site is Thyspunt which provides the greatest immediate return from a electricity supply point of view. Thyspunt will strengthen the eastern grid and help create a generation centre along the east coast. Spills are an unfortunate reality of large construction sites."

The long awaited Report which the public has anxiously been awaiting since 2011 has finally been released to the public this month. Everyone is urged to read the document. St Francis Chronicle has highlighted some salient points above and below – as it is impractical to place the whole report here. For the benefit of our readers who are unable to read the entire document, St Francis Chronicle is interested what it contains and asked us to provide some insight, these selected and important points will provide at least a very broad overview.

At the outset it needs to be said that Kouga residents (the closest to the proposed site) are divided over whether there should be a nuclear power station or not. Most of the business people are waiting eagerly for it to happen as are the unemployed, who with and need to secure jobs. These protagonists, believe the whole of Kouga will benefit as a result of the 12 000 jobs that will be created. The environmentalists, not anti-nuclear, do not wish a nuclear site to be built in Kouga, believing it should be constructed in an area like Coega instead, while anti-nuclear camps raise the standard health, pollution and safety arguments.

But whatever their beliefs or convictions, all residents are urged to attend the public meetings so they can hear all sides of the project (the pros and the cons) and can listen to experts presenting giving their viewpoints. The public will be able to ask questions at question time on this controversial topic of a possible nuclear power station. (In St Francis Chronicle, 6 & 8 pm at St Francis Library on 20 October and at See Vista community hall on 21 October)

First off and on first perusal, the Report is far more comprehensive than before and appears to have dealt with the thorny issues raised by commentators in previous reports and at meetings. The latest Report has even corrected some of the earlier Report's mistakes, such as the direction of the wind. But like most company documents, the language is fairly long-winded and there is quite a lot of duplication as well.

The Report also deals with apparent negative issues and mentions the benefits of the Thyspunt and Durbanfontein sites, that while Durbanfontein remains a viable site to a nuclear power station, it is the least favourable of the three sites for Nuclear-1. Bantamska has thus been excluded from further consideration in this EIR.

Other highlights include the following paragraphs containing statements and observations:

"Spill Disposal at sea altering surf breaks

"This potential cause is specific to the Thyspunt site and Jeffery's Bay as a popular surfing destination. The potential impact is that the site could cause a change in underwater topography with a resultant change in the surf break. Hydrodynamic modelling was used to predict the movement of the dumped spoil based on reliable ocean current data."

"The modelling indicates that the spoil will not move as far as Jeffery's Bay (a distance of 18 km from Cape St Francis) and would at most, result in increased sediment thickness in the bay between Seal Point and Cape St Francis. It is considered highly unlikely that spoil disposal would change the Jeffery's Bay surf breaks and that livelihoods based on the surfing appeal of Jeffery's Bay would be impacted."

#### Reducing Squid Populations

Concerns have been raised about the possible impacts on squid at the Thyspunt site. The EC squid industry generates approximately R100-million in revenue annually. The effects of a potential decline in catches for labour and supplies would be serious. The industry at Port St Francis consists largely of small, medium and micro enterprises which depend entirely on squid fishing and would not be able to divert their vessels so as to capture trawl and other revenue streams. The concerns about impacts on the squid industry as a result of the proposed NPS stem from the planned disposal of spoil at sea, the discharge of cooling water and brine into the sea.

Over the last 20 years the annual catch has ranged between 2 000 – 14 000 tons in the Eastern Cape with an average of 7 000 tons. Port St Francis-based companies average about 1 000 tons pa with squid being the most valuable fishing industry in the area and almost the entire catch being exported to the EU. Information supplied by the South African Squid Management Industrial Association (SASIMA) indicates that between 1999 and 2005 the average catch was 12 250 tons per annum. Eastern Cape catch originated in the area between 10 nautical miles (18.52 km) east and west of the proposed Thyspunt nuclear power station site. The required security exclusion zone of 1 km width would potentially account for as much as 1.8% of the total average catch of 7 000 tons per annum (some 127 tons per annum). The concentration of squid, however, shifts according to month and weather conditions, and the catch fluctuates from year to year depending on sea temperature and wind conditions.

"As detailed in section 10.15.3 the brine will be released into the sea and will be diluted by the cooling water before being discharged into the marine environment but there will be pockets of water that is relatively warmer than the surrounding water at the discharge point of the effluent pipeline. The specialised assessment indicated that the squid would simply avoid areas where the water temperature is elevated above their thermal tolerance range. The disposal of spoil at the Thyspunt site will have an impact on the breeding grounds through changing the benthic habitat, in particular egg beds but these will be small and certainly well less than 1% of the area over which this species spawns, meaning a very limited impact on the overall squid stock."

The offshore disposal of spoil would result in turbidity which would drive adults away from the areas of turbidity, but this would be a temporary effect occurring only during the construction phase and with a recovery once the offshore spoil disposal ceases. On this basis a reduction in livelihoods as a result of reduced catches of squid as a result of the construction and operation of the proposed NPS is considered to be unlikely but possible.



#### Increased Business Opportunities

The construction and operation of the proposed NPS will create a significant number of business opportunities for local companies / service providers and small medium micro enterprises (SMMEs). The use of local suppliers and service providers can also be promoted through local procurement and pro-active targeting of local business development to ensure that local economic development is maintained. The likelihood that increased business opportunities will positively affect the livelihoods of the surrounding community is highly likely.

#### New Job Opportunities

The construction and operation of the proposed NPS will create a significant number of business opportunities for local companies / service providers and small medium micro enterprises (SMMEs). "The majority of the population currently receives an income lower than R7 680 per year. Other possible impacts in the 'simplified' chapter or overview of the Report include:

"Informal Settlements due to Nuclear-1"

The influx of job seekers to the site during the construction phase, including those from areas outside the local area, has the potential to result in the establishment of informal settlements which will enter the area with the hope of securing employment. When they do not secure employment, the potential exists that they will contribute to problems experienced with informal settlement, pressure on existing resources, services and infrastructure.

Due to Eskom's procurement and supply management policy, 25 % of the labour force will be local residents (as far as possible).

#### Additional Vehicular Traffic

Due to the construction phase, additional vehicular traffic will be experienced. Based on the various road upgrades and travel times proposed for the Thyspunt site this cause is likely to contribute significantly to traffic levels of the surrounding community.

#### Highlights from the Strategic overview...

"The proposed NPS was planned for Thyspunt for at least since the 1980s so people moving into the area would have known that a NPS was always a possibility. The environmental impact of the proposed development may not have been clear. It simply cannot be argued that the idea of an NPS at Thyspunt was a 'bolt from the blue' and completely unexpected as Eskom has owned the property before the 1980s and ownership has ensured no development in the direct and indirect footprint (buffer zone) of the Thyspunt site. The argument that the NPS cannot go ahead simply because of the environmental surprises that have developed in the area on the doorstep of the proposed site is ludicrous and disingenuous."

"The sheer size of the project and its associated footprint which extends well beyond the direct proposed site in the form of roads, other infrastructure and large-scale transmission lines means potentially significant transformation of land and habitat."

"The Thyspunt site is biologically more diverse than the Durbanfontein site and there are more threatened species of fauna at Thyspunt and the Langebaanvlakte wetland is of special importance. The site proposed for the NPS at Thyspunt is more sensitive than that at Durbanfontein and decision-makers are encouraged to recognise this sensitivity in their decision-making deliberations."

The large buffer areas required for the NPS again provides an opportunity to confine to protect this important ecological area. The planned layout of the power station has been modified to ensure that the key sensitivities in the site area are avoided. The most significant disruption will occur during the construction phase.

There will be a greater return in benefits at Thyspunt. The construction project will result in

a substantial injection of spending and employment opportunities and a resultant stimulation of the local economy."

"Many stakeholders would argue that they do not want such economic development in the area and that they would actively oppose any area but that is not the case. Many other stakeholders in the area live in poverty or at least very low levels of income with few if any prospects for changing their lot. The proposed NPS will introduce not just direct economic benefits but large-scale knock on benefits as well."

"It would be hard to see that the proposed project would not result in a general level of improvement in human well-being for a large percentage of potentially affected stakeholders pretty much all in lower income brackets."

"Public sentiment is one of deep concern regarding potential adverse health effects of the proposed NPS both at the level of a large scale accidental release with immediate possible health effects and the long-term effects of low level illness risk. What makes the risk tolerable is the very low likelihood of it ever occurring due to the defence in depth principles that underpin the design and operation of a modern NPS. These defence in depth principles see high levels of redundancy in control and cooling systems supplemented by multiple levels of containment."

"The defence in depth principles serve to ensure that radioactive releases from the power station are kept well below background levels of radioactivity under all circumstances and as such mortality or morbidity as a result of radiation exposure is minimised."

"Non-radiological external risks of mortality and morbidity on the NPS would derive from motor vehicle accidents, potential increases in HIV/AIDS due to the presence of a large labour force and increased opportunities crime that could be violent. These various effects are inevitably associated with large-scale construction projects and the extent of the effects similarly constrained to the broader project area."

Additional infrastructure would be established

that would see additional medical facilities and

improved water supply and sanitation being brought to the area.

Additional infrastructure would simply offset the

additional pressure on such services brought about by an increased number of people but there would be definite carry over benefits for people who have always lived in the area."

"Concerns have also been raised about the marine environment at both possible sites as a result of interaction of the project with the marine environment through water abstraction for cooling and drinking water purposes and discharge of heated cooling water and brine. These activities will pose the risk of contaminated storm water being discharged from the site into the marine environment and excess spoil is also planned to be disposed in the sea."

"In all cases there will be controls that limit the risk of significant change to the marine environment."

"A reduction in the quality of the marine environment is deemed to be a low residual risk. Strict controls will be required not just to reduce the risk of spills but to ensure that there is rapid clean-up of the spoil should it occur so as to prevent downstream risks of contamination."

#### Executive Summary highlights

"The legislative requirements for nuclear facilities in South Africa are extensive. In the case of a nuclear power station, two key authorisations are needed from two regulatory authorities namely the Department of Environmental Affairs (DEA) and the National Nuclear Regulator (NNR). These authorisations, and a number of others, are needed prior to the commencement of construction activities."

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