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15 November 2011

ARCUS GIBB (PTY) LTD

**THE APPOINTED ENVIRONMENTAL ASSESSMENT PRACTITIONER
ATTENTION: MS JAANA-MARIA BALL**

PER E-MAIL: nuclear1@gibb.co.za
Cc: MS JAANA MARIA-BALL : jball@gibb.co.za

AND TO:

**THE DEPUTY DIRECTOR GENERAL
THE DEPARTMENT OF WATER AND ENVIROMENTAL AFFAIRS
ATTENTION: MS JOANNE YAWITCH
PER E-MAIL: jyawitch@environment.gov.za**

Dear Sir/Madam

RE: REVISED DRAFT ENVIRONMENTAL ASSESSMENT REPORT FOR ESKOM HOLDINGS LIMITED'S PROPOSED NUCLEAR POWER STATION (NUCLEAR 1) AND ASSOCIATED INFRASTRUCTURE AT THE THYSPUNT SITE

1. INTRODUCTION

We refer to the above matter and again confirm that we act on behalf of the South African Squid Management Industry Association ("SASMIA" or "our client") who has instructed us to make written representations on their behalf. We confirm that we previously made representations on our client's behalf in our detailed letter dated the 30 June 2010.

Our previous letter summarised our client's main objects, membership profile and official status as a recognised body in terms of the Marine Living Resources Act ("MLRA").

A reply to our written representations was received from yourselves in an e-mail dated the 28 April 2011 to which was attached a 40 page letter dated 20 July 2010. The said letter, although prepared on the 20 July 2010, was only e-mailed to us on the 28 April 2011 with no explanation for such delay.

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We are instructed that a revised draft environmental impact report ("EIR") was made available for review and comment apparently from the 9 May 2011 until the 7 August 2011. As the 7 August 2011 is a Sunday we are assuming that the deadline is naturally extended to Monday the 8 August 2011 as was advised by yourselves to the Thyspunt Alliance (of which our client is a member).

Our client has again mandated us to make further representations on certain aspects of the purported consultation process and the said revised EIR read together with the response of the environmental assessment practitioner ("EAP") dated 20 July 2010. With regard to the revised EIR, due to time constraints these representations focus predominately on the revised marine ecology report and the revised economic report.

2. SASMIA MAINTAINS ITS POSITION

Despite the content of the aforesaid response letter received from the EAP and the said revised EIR, our client maintains the stance as set out in detail our previous letter. These representations accordingly supplement our client's previous representations.

With a turnover of approximately R500million (five hundred million rand) in foreign exchange revenue per annum and with employment of 5000 (five thousand) sea and land based jobs, not to mention the support of the families of such employees, the squid fishery is of vital importance to the Eastern Cape economy. At a time when South Africa is still feeling the effects of the global recession and in particular the fishing industry is struggling due to a strong rand and a depressed export market, the threat of the construction and operation of this nuclear power plant is extreme to the squid industry.

Our client maintains the view that there has been a lack of meaningful consultation (in the true meaning of the word) and proper investigation into the effect of nuclear 1 on the squid fishery. Particularly from an environmental and economic perspective, the risks of this project to a vital fishery in the Eastern Cape have not been sufficiently assessed and reported on.

In this regard it is submitted that the issues raised in our previous comments (dated 30 June 2010) have not been adequately dealt with at all and on the contrary the responses and revisions to the EIR serve to further confirm our client's fears.

As a consequence our client is lead to believe that despite the declarations of independence by the relevant (specialists), their continued approach of claiming minimal disruption to the marine habitat and more importantly to the squid fishery without thorough investigation and consultation, shows a bias in favour of the Applicant (Eskom) who ultimately is responsible for the fees of these specialists.

3. CONSULTATION ISSUES REGARDING THE EAP'S RESPONSE TO OUR PREVIOUS REPRESENTATIONS

Relating to the issue of lack of consultation, our client notes the EAP's responses without admission.

Regarding the lack of consultation with SANBI, the response by the EAP is unacceptable as a project of this magnitude and with this potential impact on the biodiversity should have been investigated carefully with the head of SANBI in Cape Town. In the EAP's response they claim that a certain Mr Japie Buckle being the Eastern Cape provisional co-ordinator of SANBI has "participated in the EIA". Our client contests this statement and puts the EAP to the proof thereof, and in particular requires to see in writing what input Mr Japie Buckle on behalf of SANBI has in fact given.

The further excuse contained in the response that it is not always the responsibility of the EAP to identify and engage stakeholders is also unacceptable particularly as the SANBI MPA project has been well documented. It is not appropriate for SANBI and Dr Sink to merely be expected to comment as interested and affected parties in the EIA process. They should be actively consulted and their work on the MPA project investigated in order to see what impact nuclear 1 may have on it. Our client also denies the statement that the SANBI exercise is "indeed focused on offshore" (i.e. "continental shelf and beyond"). The SANBI project which ties in with the eco-system approach to fisheries of the Department of Agriculture, Forestry and Fisheries ("DAFF") looks at both offshore and inshore habitats.

Regarding the response from the appointed marine specialists Dr Tammy Robinson and Professor Charles Griffiths to the minutes of the Sea Vista meeting on the 25 May 2010, it would appear that the response of such specialists differs from what was recorded in the minutes of the meeting by the EAP. In this regard we hereby request you to confirm that the minutes of such meeting are accurate or whether in fact you have erroneously and negligently recorded what was said at such meeting. Please refer to page of 37 of our original representations.

What is also more alarming about the latest response from the marine specialists is that as at the 20 July 2010 (the date of the EAP response letter) the EAP / Griffiths apparently maintain that:

“the published scientific literature has been adequately reviewed and using the most up to date and scientifically sound information available a sound assessment of potential impact on the squid has been made.”

This statement is factually correct for a number of reasons. Firstly, if one looks at the revised marine ecology report the references have changed with the insertion of a number of research papers on squid which were not previously contained in such references. It is submitted that as at the 20 July 2010 the draft EIR had not as yet been revised to include these further squid papers and accordingly it is submitted that the statement at the time that “the published scientific literature has been adequately reviewed” is not correct. It is doubted whether between the 30 June 2010 and the 20 July 2010 these papers were reviewed.

This lack of research and consultation regarding the impact of the project on the squid resource is further uncovered by the following events. Only on the 20 June 2011 did the EAP present its EIA report for Thyspunt to the squid Scientific Working Group (“SWG”) at DAFF in order for them to comment on the specialist study findings and outcomes relevant to the squid resource. The aid memoire to this meeting which was prepared by DAFF recorded that this was the first formal meeting for the SWG to consider this matter and contrary to normal practice no documentation had been circulated to the SWG (other than an e-mail listing comments by Greg Christie on various items in the EIA report). The aid memoire further records that the terms of reference / objectives of the meeting were unclear.

Only at this meeting did the EAP concede that they were now required to obtain the expert opinion / comment from the SWG on information which their consultants had used and the conclusions which they had made. However, despite the fact that this project has been on going from at least

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2007, they requested formal comments / recommendations from the SWG already by the 7 August 2011.

Apparently a further meeting was held on 4 July 2011 between the SWG and the EAP but for some unknown reason our client was not invited to such meeting. Our client would have wanted its own expert Dr Berg to make his own contributions regarding the issues at such meeting. A further meeting was called for on the 8 July 2011 between the SWG and the EAP. Unfortunately and of grave concern to our client, two scientists who have been at the cutting edge of squid research Mike Roberts and Warwick Sauer were unable to attend the second meeting.

Of further concern to our client is that at the meeting of 4 July 2011 it would appear that the agenda for the 8 July meeting was set and unbelievably the dumping of 6,3 million cubic metres of sand into the offshore environment was taken off the table as a discussion point. This is a key issue which requires much more investigation into its impact.

In any event from the aid memoire of the meeting held on the 8 July 2011 it would appear that there is still research to be undertaken by the SWG who must then submit a report and recommendations to the EAP by the 7 August 2011.

It is submitted that this time constraint on the SWG is wholly unreasonable taking into account the length of time this project has been ongoing and the fact that the SWG should have been consulted properly years ago.

In addition and more importantly, our client as the legally recognised industrial body in the squid industry, is entitled to be consulted on the SWG's report and recommendations prior to the submission thereof to the EAP. Furthermore it is submitted that in terms of Section 80 of the MLRA, in the event of our client being unhappy with any findings or recommendations reached by the SWG, our client will be entitled to appeal such findings. Pending the outcome of such appeal process where our client will be entitled to present its own expert evidence, the recommendations or findings of the SWG cannot be taken into account in any revised EIR.

In this regard our client's rights remain fully reserved.

As such our client must reserve its rights to supplement these comments once the scientific working group recommendations / findings have been finalised.

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4. THE MARINE ECOLOGY REPORT

Firstly we deal with in summary fashion certain of the responses apparently from the appointed marine specialists to our client's previous comments contained in our letter dated the 30 June 2010.

Comments on marine specialist responses

Under general comments it is stated that "the main objective of the marine ecology report is to assess the potential impacts of the development on the marine biota and hence the squid as a species (a biological issue) and not the economic impacts on the fishery (an economic issue)." The specialists continue that "since squid occurs from Southern Namibia to approximately East London impacts which may have a significant negative impact on the fishery may have far less effect on the species." The specialist then states that his report should be read in this context and readers are referred to the economic report for details on the economic impacts.

This superficial distinction between the species and the fishery in our clients view causes a substantial flaw in the assessment of Thyspunt in the EIR. This is because the economic report relies heavily on certain aspects of the marine ecology report regarding its determinations on the economic impact the project will have on the squid sector. Therefore the down played conclusions regarding the overall effect on the species as found in the marine ecology report have fed into the economic report. This is clearly evidenced by the fact that the economic report only calculates losses based on a reduction of 1.8% of squid catchers due to the exclusion zone and the proposed dimensions of such zone. The economic report makes no provision for the potential huge losses of catches due to the dumping of spoil and the increased turbidity not to mention the temperature changes due to the outflow water.

In any event our client does not concede that the project and particularly the construction phase will have a minimal effect on the species as a whole.

Under the executive summary reference is made to the turbidity being mitigated by the reduction of pumping speed of the discarding of spoil. It is stated that by reducing the pumping speed the consequence and significant impact will go from high to medium. Our client does not concede this academic and untested conclusion. The clear fact of the matter is that over two tons per second of

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building spoil is going to be pumped out of the end of the disposal pipe and will in time cover the bottom environment. Even if a medium consequence and impact is accepted, in our view this is sufficient for the precautionary approach to apply and for the project to be abandoned at this site. We also point out that the engineering feasibility study has as not yet been proven and without this feasibility study our client cannot understand how these conclusions can be drawn in a vacuum.

The marine experts responded further to say that the squid stock is currently well managed and not under threat from over exploitation and that as squid is mobile it can move great distances both along shore and offshore to avoid adverse conditions at a particular location.

Our client submits that whilst the stock is well managed, it is well managed on an eco-system basis and should an area in which at least 30% of squid catches are made be rendered unsuitable as a squid spawning ground, it is highly likely that this will not have a severe impact on the squid stock. There is no indication or research done as to whether or how long it will take for this stock to recover. Certainly from an economic point of view if the industry loses one season of profitable fishing many businesses particularly those with bank finance and mortgage bond repayments on their vessels may be liquidated. As mentioned previously the global economic climate and the strong rand has already impacted severely on the entire fishing industry including the squid sector.

Furthermore, the statement that squid occur from Southern Namibia to approximately East London misrepresents the position. The commercial harvesting of this species is only possible in a very small area off the Eastern Cape coast with the prime grounds falling on the coast of the proposed Thyspunt site. If these prime grounds are destroyed or compromised it is not for the fishing industry simply to pick another area to fish from between East London and Southern Namibia. The industry is based in Port Elizabeth and St Francis Bay and there are no viable catching areas other than the very limited area within which the vessels currently catch. Our client also states that in its view the species of squid found in the southern Namibia area are most likely a sub species and not the same species of squid found off the Eastern Cape Coast. Furthermore the occasional occurrences of squid off East London does not accurately depict the extent of the resource in that area.

The response continues to state that "while the initial disposal site will be lost as a breeding area to squid, the areas to which sediment spreads (the new habitat referred to in the submission) are unlikely to affect these animals as they lay eggs on both sandy bottoms and rocky reefs."

This response in our clients view highlights the complete lack of understanding of the squid species. Squid are very specific as to their breeding area and this is evidenced by the fact that they do not breed throughout the region and will only breed in specific grounds where our client's members catch the species. There are specific reasons why squid attach their eggs in this region and this point appears to be ignored by the marine specialists, or for some reason they do not deem it necessary to research further. Previously industry and research has shown that there are specific breeding areas where the sub-strata lends itself to the attachment of the egg pods. The "new" bottom environment will be dissimilar and perhaps more like loose gravel which can in no way support the same biotic environment. In fact Professor Griffiths mentions this in his report.

The crux of the matter is that the main area which is to be affected is the area with the highest catch per unit effort for the squid species. Data has been submitted to Professor Griffiths to prove this.

In the response (dated 20 July 2010) under study approach a statement is made that the marine ecology report made use of all appropriate information available.

This is denied as it is only recently after SWG meetings with the EAP that the EAP have accessed published scientific literature which now appears in the references of the revised EIR.

The response actually confirms this by stating further that the current review of the marine ecology report has been "offered the welcomed opportunity to include more recent references and the opinions of South African squid experts". With respect this should have been done years ago and a proper investigation conducted rather than a "rush job" immediately prior to comments having to be submitted on this latest revised EIR. This is again evidence of improper consultation with the relevant experts in the field.

Furthermore, in the response a reference is made to the Koeberg experience. Firstly, the Koeberg power station is three times smaller than the proposed nuclear 1 and is in a completely different eco-environment. As such our client and other experts for that matter deem this comparison irrelevant.

The response concedes that no benthic surveys were done in the near shore environment with no sampling done whatsoever. It is submitted that this research was essential as the inshore will be effected by temperature changes, brine and chemicals from out flowing water whereas offshore will

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be effected through the sub tidal pipe which is proposed to extend 6 kilometres out to sea for the pumping of building spoil. Under the assumptions and limitations heading, the response states that “the impacts of spoil on the benthic environment and particularly on squid at Thyspunt have been clearly described ,and assessed in the report “

This statement is simply untrue which is confirmed by the very recent and rushed purported consultation with the squid experts within the SWG who have not as yet even submitted a report to the EAP or the marine specialists.

Regarding the comment that it is irresponsible of SASMIA to describe the impact of the spoil as “creating an undersea dessert or wasteland”, this is exactly what has happened in the area which was used as a dumping ground in the Kouga Project. It has negatively affected both the pelagic, squid and line fishery and it has been nicknamed as the “wastelands”. This was a productive area before but no longer.

Regarding the proposed mitigation of the disposal of the sediment by reducing the pump speed as proposed in “alternative 6” even on this version it is admitted that there will be a 5 to 10 centimetre covering which will be “colonised by organisms”. The response further states that “the communities supported here are however, expected to be different from original communities”. Our interpretation of this is that they admit that the existing biota will be destroyed and there is no certainty as to what will take its place and how long this will take. They have in any event not done any transect studies to prove their assumptions.

A further point is that in their response the specialists state that in this area there are “no species of special conservation status”. This is blatantly untrue as both abalone and red steenbras exist in this marine environment and both enjoy maximum protection under our existing legislation. The non-disclosure of the existence of these species in the area further undermine the credibility and impartiality of the specialists.

Regarding the spread of sedimentation to Seal Bay it is submitted that contrary to the specialist response, alternative 6 states this clearly and our client accordingly refers you to your specialist’s modelling.

In the response a reference is made to “recent communications with leading squid expert Dr W Sauer” where he allegedly indicated that “marked squid have been recorded spawning on various

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spawning grounds". Our client hereby requests a copy or record of such communications indicating exact dates and times of any meetings or telephone conversations and / or copies of e-mails.

In any event our client has never refuted that there may be multiple spawning grounds used but what is uncontested is that they only spawn where conditions are perfect for spawning and that these perfect spawning conditions only occur in limited areas. This can be deduced from the fact that squid tend to come back to exact locations for spawning and hence the industry's reliance on GPS plotters. The SWG will confirm this submission.

Under the heading the release of cooling water, the specialist quotes the experience at Koeberg as a reason for not applying the precautionary approach in this case.

As stated previously Koeberg as a comparative is totally unacceptable due to the fact that the current plant will be three times the size of Koeberg and the environment around Koeberg is totally different and in particular there are no squid spawning grounds in the surrounding Koeberg area.

In fact the revised marine ecology report states that "there is a complex interplay between a variety of factors such as dissolved oxygen, temperature, turbidity and swell size is thought to be important". It is submitted that due to this very "complexity" one is obliged environmentally and legally to adopt the precautionary approach.

The response furthermore acknowledges that the "area around Thyspunt is very important for the squid fishery". The marine specialist then continues "it needs to be remembered that it is the mandate of the marine specialist report to consider the impacts on the squid and not the fishery." This statement points to a fatal flaw in the marine ecology report. The squid resource and the fishery are inextricably linked and are managed as a whole. In fact as would have been apparent to the marine specialist had they properly consulted, the effort determination in the squid fishery is determined by the state of the resource. At this juncture one wonders whether the marine specialist has in fact perused the squid sector policy published in 2005 which sets out the main management principles for this resource.

From the industry point of view squid is targeted when it aggregates on in-shore spawning grounds and hence the fishing grounds and areas of catches correlate very closely to spawning grounds and spawning activities. Our client stresses that the spawning grounds in question being Thyspunt, Mosterts, Seal Bay and Oyster Bay have never been mapped or the extent of them studied by this

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marine ecology report. This should have been a vital focus on the marine ecology report but it has been ignored. There may well be some minor breeding occurrences which occur at certain times of the year in the far flung regions of Mossel Bay and Port Alfred but the primary and most consistent breeding area of this species is concentrated around Thyspunt. This is uncontested. The importance of this area for the fishery and therefore also for the fish stocks is made abundantly clear if one noted the percentage of catches taken 10 kilometres taken either side of the proposed outfall pipe (i.e. +/- 30 – 40%). The reason for the high abundance in this area and the consistency as to breeding and catching has not been fully analysed by this report. The risk of substantial damage to the fishery and the resource as a whole is too great for the precautionary principle not to be applied.

Our client does not accept that the impacts are “ spatially and temporally limited – not posing an important threat to the species.” This comment flies in the face of the previous assessment of the impact being of high consequence and significance which is only reduced to medium because of the pumping rate of sediment. This reduction in pumping rate so as to mitigate the high consequences has not been tested and an error on this issue has as a consequence the closing of an entire fishery supporting thousands of livelihoods in the Eastern Cape area. The bottom line is that the development is going to be under construction for 9 years (historical data suggests much longer) and during this period there will be turbidity, sedimentation, severe disturbing of bottom strata and effluent pumped into the sea. After construction and during operational phase the sedimentation issue will still exist as the dumped spoil is not going to disappear. Furthermore during the operational phase turbidity could still be an issue depending on sea conditions. The impact during the construction and operational phase is unfortunately in the most productive squid breeding and catching area in South Africa.

The marine specialist seems to be taking the view that as long as the squid species is not made extinct or endangered through this project then the project does not have a significant impact on the resource. However, the economic report assumes that this means that if the species survives that the industry will also survive. This is clearly not the case and industry will confirm that it can take just one season of record low catches to close down many businesses in the sector.

It is unacceptable that the marine specialists use logistical, time and economic restraints as excuses for not doing detailed surveys of egg beds as the marine ecology report is the basis for the economic report regarding the squid industry ,which could find itself closing should the project

impact severely on catches. The marine ecology report should not have been prevented by time and economic constraints from doing this necessary research.

Regarding our client's comments on the suitability of the peer reviewer of the marine ecology report, our client maintains its viewpoint that it is not acceptable where a report could have such wide ranging effects on social and economic conditions in a region that the reviewer is in the same department at the same university. Our client vehemently objects to this.

Revised marine ecology report

At the outset we submit that many of the comments and concerns of our client have been dealt with previously herein when dealing with the responses of the marine specialists and in addition are the same concerns set out in our previous letter dated 30 June 2010. As our client believes that its concerns and comments were not at all adequately dealt with either in the response from the marine specialists or in the revised marine ecology report, our client accordingly maintains its previous position on the marine ecology report.

In summary, our client objects to the assumptions and conclusions reached in the marine ecology report, and maintains that such report has been compiled without sufficient investigation into the effect of the proposed project on the squid stock. In particular the report has failed to take into account that 30-40% of the industry's catches occur in the area which will be impacted during the construction and operational phase of the project.

The report in essence attempts to motivate that there will be a limited impact on the overall squid stock due to the fact that squid occurs naturally over a large area from East London up to Southern Namibia but ignores the fact that the viability of the squid fishery depends on the spawning and catches of squid in the area directly impacted in the construction and operational phase of the project.

The thrust of the marine ecology report's submissions can be summarised in a statement contained in the executive summary which reads as follows:

"The temporal and spatial limitations of the impacts associated with the disposal of soil on Chokka Squid at Thyspunt will have limited impact on the overall squid stock, when taken within the context of the extensive area over which this species spawns."

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On the marine experts own version it is conceded that “when associated with the discarding of spoil, disruption to the marine environment is significant.” Their only mitigation which they feel reduces the significance of the disposal of spoil is a medium pumping rate. Even on their own version with a medium pumping rate the impact is reduced to medium consequence and medium significance. It is also conceded by the report that the impact will be at least 10 kilometres either side of the outlet pipe although our client argues that due to current and wave action this area will be further extended.

Furthermore regarding the release of warm water used for cooling purposes, it is conceded by the report that the water temperatures which are elevated above the thermal tolerance range of squid will cause the squid to avoid the area. Without any proper research the report then assumes that this affected area represents less than 1% of the coastal spawning ground. While we disagree with such percentage and put the scientists to the proof thereof, our client also states that whilst there may be other spawning grounds for squid this is the primary spawning ground which supports catches which in turn allow for a viable squid industry.

The report in terms has admitted that it focuses on the survival of the species rather than the fishery. Therefore, yes the squid species may survive notwithstanding the project but it is our client’s view that the viable squid fishery will not survive as the project will effectively wipe out the prime catching area. What follows is our clients summarised concerns and queries regarding the balance of the revised marine ecology report.

“study approach”

As stated previously the reference and reliance on Koeberg to offer insight into possible impacts is objected to as the proposed plant is three times the size of Koeberg with water intakes, outflows, spoil discharges and design intirely different. Furthermore the proposed project at Thyspunt is also in a totally different marine eco-system.

Regarding the listed marine experts which have now been inserted in the revised version of the report, our client poses a question whether such experts were actually consulted in the true meaning of the word or merely interacted with informally. Our client requests copies of all correspondence to such experts and their replies thereto together with any other documentation generated during this so called consultation process.

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Our client is of the further view that three months of field surveys between August and September 2007 spread over three different sites is wholly insufficient bearing in mind the potential impact of this project.

Furthermore in the study approach there is no mention of any offshore study done. This is another omission in the marine ecology report.

“assumptions and limitations”

Regarding the proposed exclusion zone our client has been advise that they will have to be in accordance with international norms and any promises by Eskom as to special concessions are therefore misleading and are falsely raising expectations.

There is also a reference that if disposal constraints are not met then there will be a “refinement of current models”. It would appear that already at this stage there is an expectation that the disposal of spoil at sea may not be within the constraints set. The problem with refining the current models at the stage when the constraints have not been met is that the proverbial “horse would have bolted” and the damage done to the marine environment. Accordingly the refinement of current models regarding disposal should be finalised now prior to the submission of the EIA as this could change impact ratings and significance levels.

As regards the technical feasibility study which is apparently underway regarding spoil disposal options, this needs to be finalised and scrutinised prior to any marine ecology report being completed as it may also affect the impact levels substantially.

“description of affected environment”

It would appear that the only study relied on is one by Jackson & Lipschitz of 1984 and our client poses the question whether any more recent studies have been undertaken.

“intertidal zone”

Our client comments that access has been restricted from the land so in its view no exploitation of alikreukel could have occurred.

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“benthic environment”

With regard to this environment, our client submits that there has been no mention of any recent studies done and that this is a vital zone with regard to this project. In particular the fact that there is no mention of abalone suggests that this zone has not been fully studied or investigated by the specialists.

“the open water environment”

The specialists quote a report by Dr Augustyn of 1989 regarding the occurrence of the squid species from Southern Namibia to East London. This report is 22 years old and our client poses the question whether this study has in fact been replaced and in particular by Warrick Sauers later study. Our client also states that in its view the species found up the West Coast may in fact be a sub-species of squid.

Regarding egg laying, it is not strictly accurate to say that squid lay their eggs on the bottoms of “relatively large sheltered bays”. They do lay eggs in other areas other than such bays.

Regarding the report of Roberts and Moulon our client submits that while the area from Plettenberg Bay to Port Alfred might be the extent of the catching area, the central and primary area of the industry is a much narrower defined area which centres around Thyspunt.

Our client also submits that there is no reference to any effects in the open water environment to pelagic fish. Our client raises this concern because there is a growing pilchard fishery with vessels operating out of Port St Francis. This fishery may also be severely impacted the further offshore the spoil outfall pipe is placed during the construction phase.

Furthermore, the report also omits to confirm that whales and dolphins are seasonally in abundance in this area to the extent that a whale watching permit has been issued to an operator out of Port St Francis. The spoil disposal and construction of the pipelines in our clients view would have a major impact on the migration routes of these marine mammals especially as this point is the second furthest point in Africa.

“disruption of the marine environment during construction”

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This part of the report concedes that during the construction period there will be a severe localised disruption to the marine environment. The report concedes further that under these circumstances the benthic habitat and in particular egg beds of the Chokka Squid are at risk of damage due to smothering, while turbidity will result in adults temporarily moving out of the area. The report confirms further that this disturbance will be focused within the construction phase (i.e. 9 years) and is likely to be "localised and of short duration". History shows that the construction period of nuclear power plants have always considerably exceeded original estimates.

The report continues to state that "the discarding of an estimated 6.37 million cubic meters of spoil from the excavation of the nuclear island, turbine hall and contractors yards fill poses a threat to the marine environment". Furthermore, "both the physical and biological marine environment would be affected". Therefore on the specialists own version this is an absolute given and it is just the extent of the disruption which is in debate.

The report further confirms that such impacts would occur due to "the increased turbidity in the water column as a result of the suspension of fine particles and due to the smothering of benthic habitat".

After making these concessions the report tries to downplay the effect of the disposal of 6.3 million cubic meters of spoil by posing different discharge rates. The marine specialists apparently recommend alternatives 5 and 6 as the suspended sediment concentration is not expected to reach levels above 80mg/l near the water surface at any time during, or after disposal. Regarding turbidity levels of 80mg/l, this must be compared to the natural average of only 8mg/l.

The report continues to state that at using these alternatives the turbidity levels will be very temporally limited outside the actual disposal site appearing for a maximum of two days throughout the entire disposal period. As the construction of the project is over a period of 9 years (at the very least) we place in dispute this estimate and consequent downplaying of the effect of the disposal of building soil into the ocean. The uncertainty as to the effects of this occurrence scream out for the application of the precautionary approach.

On the marine specialists own version "following disposal on the sea floor roughly three metres of sediment will cover an area of 1.5 or 3 kilometres squared depending on whether only half or the

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full volume of the sediment is disposed of.” Three meters is about one story high over an area of three kilometres squared. Over the next 10 years this spoil is going to spread. The report admits that while the initial disposal site will be lost as a breeding area to squid, “the areas to which sediment spreads is unlikely to affect the squid permanently as they lay eggs on both sand bottoms and rocky reefs”. The word “unlikely” is used which in our client’s view shows a strong element of doubt. The report presupposes that because the squid lay eggs on sandy bottoms and rocky reefs they should also lay eggs on the new sea bed covered with building spoil. Building spoil is completely different in make up to the current sea bed . Therefore this assumption is untested and for a marine specialist to simply make this conclusion is irresponsible not to mention unethical.

The words “unlikely to affect squid permanently” are also used. Thus according to the report, the areas to which the sediment spreads are definitely going to affect the squid negatively but not permanently. No time period is given for any such recovery which is a further ground for the precautionary approach to be applied. Perhaps the marine specialist is hoping that after say ten years the squid in this affected area will recover, however by that time the squid industry would have been long ago decimated by the impact on its prime catching area.

In particular our client vehemently denies the assumption that “the inshore jig fishery is unlikely to be greatly affected by the disposal of spoil as only a small portion of catches are taken in the area expected to be impacted.” Our clients have stated categorically that between 30-40% of their catches are caught in the area impacted. It is highly unethical and irresponsible for the marine specialist who has stated that he is only analysing the species and not the fishing industry to state in his report that it is unlikely that the jig fishery is to be greatly affected by the disposal of spoil.

It is further irresponsible for the marine specialist to state that although the species will be affected “recovery is expected once the benthic community re-establishes.” After the disposal of soil there will be a completely different benthic environment and it is highly unlikely that squid who require special conditions for laying eggs will return to this area. In any event how long will it take for them to recover? The industry does not have nine years to wait with its vessels tied up or even one year or six months for that matter.

“abstraction of cooling water”

The report concedes that squid will be impacted by the release of warm cooling water. It admits further that adults will avoid the area and there will be a certain amount of egg mortality. However,

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the report incorrectly states that only 1% of the coastal spawning ground centred between Plettenberg Bay and Port Alfred will be affected. This is an unsubstantiated remark. Whilst there are other spawning grounds in the area mentioned, the spawning ground at Thyspunt is the prime spawning ground for squid and once this area is eliminated a viable squid fishing industry will be eliminated simultaneously. The report simply assumes that adults will avoid the warm water plume and move to other spawning grounds. If this is true how will the squid fishing industry react to this? How will they follow the squid to other areas? How will they know where the squid are now spawning? Will it take a month, six months or five years for the squid industry to find out where the squid have moved to? The squid industry expects to find its catches in certain areas year after year. If this project goes ahead the entire squid fishery and the management of the resource will be severely affected, and in all likelihood terminated.

“closure of the site to exploitation”

The closed zones are not the main issue which needs to be assessed. The environment which is no longer suitable for squid catching due to changes in the benthic environment over a large area is of importance and has not been properly investigated and in a sense ignored.

Furthermore, as stated previously, although Eskom appears to be proposing a smaller exclusion zone, these zones are apparently governed by international standards and Eskom may not have the required control to give such guarantees.

“relevant legislation”

Regarding relevant legislation a glaring omission is the Marine Living Resources Act of 1998 (“MLRA”) which is not referred to. With regard to marine living resources (eg. squid), the MLRA in fact takes precedence over other legislation. This is of vital importance to our client in that in Section 2(c) of the act it states “the need to apply precautionary approaches in respect of the management and development of marine living resources”.

Even on the marine specialists own version, there is going to be a significant effect on the squid species in the area concerned which in turn will have a knock on effect on the management of such resource. The precautionary approach will have to be applied in the circumstances.

“mitigation measures”

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Our client notes that there will definitely be impacts during the construction phase and would like to point out that this construction phase is a period on nine years at least and any recovery referred to will only occur after such nine year period if it does in fact occur. The report again admits that the discarding of the building spoil will act over the "long term". However, the marine specialist is of the belief without any testing or research that a medium pumping velocity will mitigate against the severe impact on the benthic environment. In addition the engineering feasibility study has still not been completed regarding the disposal of the building spoil and this may in fact impact on this part of the environmental assessment.

Regarding the purported mitigation of pumping the spoil into a deeper area, our client is of the view that this does not change the fact that the same volume of spoil is being pumped out into the ocean and will ultimately settle on the sea bed and effect the benthic environment.

"monitoring and evaluation programmes"

It is submitted that the research and sampling of the benthic and inter tidal habitats in the area should actually be conducted now at EIR stage rather than before construction or after construction when it will be too late. It is also submitted that these studies should also be conducted from Thyspunt to Seal Bay.

"conclusions and recommendations"

Our client again denies that the disposal of the spoil will result in little potential impact on the squid and that the inshore jig fishery is unlikely to be seriously affected. These conclusions have not been properly investigated. The report refuses to address that this is a major spawning ground which is consistently producing egg beds and is the most important area in the viability of the species and the industry.

Our client again also denies the statement that the elevated water temperatures will only affect less than a percent of the coastal spawning ground. Furthermore it is submitted that the conclusions fail to address the possibility of the effects of chemicals which would be added to the cooling water to stop entrainment and growth on the intake and heat exchanges. No quantification of the chemical concentrations have been given and we would presume that there must be some international standards which should apply.

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Finally regarding the revised marine ecology report we note that it is date the 24 March 2011. This is long before the meetings held with the SWG commencing on the 20 June 2011. Accordingly the marine specialists have reached their conclusions on the effect of the project on the squid species and fishery without having properly consulted those responsible for the management of the fishery.

5. THE ECONOMIC REPORT

Response by EAP to letter dated 30 June 2010

The response by the EAP to clients' previous representations on the 30 June 2010 relating to the economic impact assessment report are minimal to non-existent. Either they merely note our comments or state that:

“the economic and marine assessment are being revised and omissions, if found will be addressed in the revised reports. The revised reports together with the revised draft EIR will again be made available for public review and comment.”

Furthermore, an interesting and staggering response relating to the market perceptions of a fishing ground near a nuclear plant is made as follows:

“One needs to consider why the same negative market perceptions not applied in the case of fresh produce grown around nuclear power stations in France, for example? At the Koeberg nuclear power station, vessels trespass into the exclusion zone from time to time to catch fish in the proximity of an outflow pipe. The economic specialists stand by their argument that perceptions can be overcome by appropriate marketing using scientific evidence.”

The very superficiality and naivety of this comment in our view illustrates the biased attitude of the authors of the economic report. Clearly these specialists have done little to no research on this marketing aspect. For instance we reiterate that the specialist has not approached overseas agents and markets to establish this viewpoint and furthermore has not properly interviewed the major exporters of squid in South Africa.

In this regard it is submitted that our comments on this aspect stand along with our other comments on the report.

A further quote from the response is as follows:

“In compiling the economic report a discussion with a marine specialist, during which no fatal flaw for the economic study was indicated, was taken into account. No more work could be done with the information that was available at the time.”

It is submitted, in this event, that either the marine ecologist or the economic specialist chose to ignore the severe effect of the disposal of 6.3 million cubic metres of building spoil on prime fishing grounds and the potential loss of income to be caused to the fishing industry. This loss of income is not reflected at all in the revised economic report. It is a glaring omission.

Revised Economic Report

It is submitted that the economic report has not been substantially revised as undertaken in the response by the EAP to our letter dated 30 June 2010. Due to the very few changes made to the economic report, our client simply refers the EAP to the comments made previously on the economic report in its letter dated 30 June 2010 and request that they be incorporated by reference.

Furthermore, our client raises the following further points:

- Under paragraph 2.1.4 the specialist references to information in this section being drawn from an interview with the largest commercial fishing company in Port St Francis, interviewers with researchers at marine and coastal management and the report of the South African Squid Management Industrial Association dated 2007;

Firstly the scope of the economic study should not be a twenty kilometer radius from the site but should include Port Elizabeth where the largest percentage of squid vessels operate from and where there are further processing factories and infrastructure relating to the industry. These vessels also fish in the affected area and as such the economic impact will be felt not only in the twenty kilometre radius of the site but also in the Port Elizabeth

area. The specialist should also have interviewed some of the other major squid fishing

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companies based in Port Elizabeth to get a more detailed understanding of the squid fishing industry. In this regard the report lacks necessary detail regarding catching costs, closed seasons, financing of vessels, market price deviations/conditions, margins and details of investment in the sector. Furthermore we request copies of the notes of any interviews with researchers at Marine and Coastal Management including names and dates of the interviews. In this regard it is denied that the specialist obtained accurate catch data regarding catches in the affected area which data could be translated into potential losses. When referring to the affected area we are referring to the area affected during the construction phase and during the period when 6.3 million cubic meters of building soil is going to be pumped onto the ocean floor in the prime catching area of the South African squid industry where between 30-40% catches are made.

- Our client submits that an analysis of the catch data information from DAFF will indicate that between 30-40% of catches of squid are made in the area to be directly affected by the disposal of building soil during the construction stage of the project. Accordingly we report that this economic report is fatally flawed by only referring to losses incurred due to the post construction exclusion zone apparently to be of a one kilometre width. Due to this exclusion zone the specialist has only calculated 1.8% loss to catches of squid. As we have previously done in our 30 June 2010 representations, using the economists calculation method ,with catch losses of say 32%, the estimated yearly impact would be around R156,000,000.00 (One Hundred and Fifty Six Million Rand) per annum which translated over twenty years would be about R3.136 billion Rand;
- Accordingly, we dispute as irresponsible and unprofessional the statement by the specialist that “the fears of the local fishing industry about lost catches of squid appear to be groundless, given the conclusions of the marine ecology impact assessment report”;
- This is a further flaw of the economic report. It relies on only certain conclusions in the marine ecology report but ignores others. The marine ecology report in turn categorically states that it is analysing the effects on the species as a whole and not the fishery, Accordingly as we understand the marine ecology report, although the species will be impacted and that spawning grounds will be lost and the squid will move to other areas, the species will survive. The economic specialist appears to have translated this conclusion into an assumption that the negative effects on fishing will be “slight”. The economic specialist

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needs to independently analyse and investigate the effect of the project on the squid fishing industry and not rely on isolated comments of the marine specialist taken out of context;

- Regarding the perception of squid caught in waters opposite a nuclear power plant we have already commented on the naïve comments of the specialist where an attempt is made at comparing the position of agricultural and live stock near similar facilities in France. In fact the specialist goes further to state “the main market for squid is the EU and it must be questioned whether consumers in a country such as France, for example would react differently to squid as opposed to fresh produce in terms of their proximity to a nuclear power station.”

This comment is made without any research having been done. Squid exported into the EU is far different from agricultural produce grown in France. The export market of squid to the EU is fickle and any negative perceptions can affect the market price.

The purported mitigation measure proposed at paragraph 5.2 of the report is preposterous. It proposes an extensive and expensive advertising campaign to international markets and including regular testing of squid for contamination and the issuing of certificates stipulating that the product is free of contamination. It is submitted that such a process would in fact do the very opposite and exacerbate the negative perceptions already created. We repeat the submission that this measure has clearly not been researched and the economist again appears to be “shooting from the hip”.

- Under paragraph 3.2.1.3.10 of the report a reference is made to the “fishing impact”. The specialist states that “in the case of Thyspunt only the value of squid is used as it is perceived as the one segment that could be negatively impacted”. He goes further to state that “the figures used however could be overstated and the marine ecology impact assessment report found that a nuclear power station would have no significant impact on squid.”

Firstly, as stated previously the specialist has not taken into account the effect on the industry of the discarding of building spoil during the construction phase and the fact that the spoil is to be dumped on a prime catching site where between 30-40% of catches are made annually. We have referred to the potential losses previously herein. Secondly, the specialist has again taken a statement of the marine specialist out of context where the marine specialist was discussing the squid species rather than the squid fishery. Rather

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than being overstated it is submitted that the losses to the squid fishing industry have been grossly understated and in fact the economic report should have concluded that there was a high probability that a viable squid fishing industry could be terminated by the impact of this project.

In conclusion with regard to the economic impact of the project at Thyspunt, our client wholly rejects the economic report as totally inadequate and failing to investigate and analyse the true extent of the losses on the squid fishery and particularly during and caused by the construction phase.

6. INFORMATION OUTSTANDING

Our client has recently been advised that the revised marine ecology report is going to be substantially amended due to further information to be provided by DAFF / the SWG *inter alia* regarding catches and the effects of turbidity on the squid species. Furthermore, DAFF has not forwarded its written report with recommendations and findings after its recent meetings with the EAP during July 2011. As stated previously herein our client reserves the right to appeal any findings or recommendations by DAFF in terms of Section 80 of the MLRA.

7. PRECAUTIONARY APPROACH

We have referred you to the well documented and legally applicable precautionary approach in our previous submissions. We record that the EAP made no comment regarding this aspect of our representations. Due to the current reports as they stand and the ongoing deliberations thereon, it appears on a balance of probabilities, that a sufficient level of uncertainty now exists regarding the impact of the project at Thyspunt on the environment and particularly the squid fishery, for the decision maker to apply the precautionary approach and to determine Thyspunt as a "no go" site.

8. FURTHER SUPPORT OF SUBMISSIONS BY THE THYSPUNT ALLIANCE

As per our previous submission we again confirm that our client as a member of the Thyspunt Alliance, in addition to the representation set out in this letter, fully supports the submissions and objections raised in the responses submitted by the Thyspunt Alliance in respect of the revised Draft Environmental Impact Report for Nuclear 1.

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9. CONCLUSION

In conclusion, our client looks forward to the information requested throughout our submissions and reserves its rights should such information not be provided, and in addition reserves its rights to supplement these comments should any further information be submitted to the EAP and / or should the EAP revise any of the reports forming part of the EIR.

Please be advised accordingly.

Yours sincerely

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