

MINUTES OF MEETING



CLIENT	:	Eskom Holdings Limited
PROJECT	:	Nuclear-1 EIA and EMP
PURPOSE	:	Eastern Cape Authority Meeting No. 3
PLACE	:	DEAET Offices, Port Elizabeth
DATE & TIME	:	03 June 2010; 10h00 to 14h00

NAME	REPRESENTING	E-MAIL ADDRESS	DISTRIBUTION
PRESENT			
Lene Grobbelaar (LN)	Department of Environmental Affairs (DEA)	lgrobbelaar@environment.gov.za	
Deidre Herbst (DH)	Eskom Holdings Limited (Eskom)	deidre.herbst@eskom.co.za	
Lorraine Ndala (LN)	Eskom	lorraine.ndala@eskom.co.za	
Jeff Govender (JG)	Dept. of Economic Affairs Environment and Tourism (DEAET)	dayalan.Govender@deaet.ecape.gov.za	
Andries Struwig (AS)	DEAET	andries.struwig@deaet.ecape.gov.za	
Alan Southwood (Alan)	DEAET	alan.southwood@deaet.ecape.gov.za	
Jan Kapp (JK)	DEAET	jan.kapp@deaet.ecape.gov.za	
Jaana-Maria Ball (JMB)	Arcus GIBB (Pty) Ltd (Arcus GIBB)	jball@gibb.co.za	
Reuben Heydenrych (RH)	Arcus GIBB	rheydenrych@gibb.co.za	

	DESCRIPTION	ACTION	DEADLINE
1.	WELCOME AND INTRODUCTIONS JG welcomed Arcus GIBB and Eskom to the DEAET Offices in Port Elizabeth and a round of introductions was made.		
2.	AIM AND EXPECTED OUTCOMES OF THE MEETING JMB explained that the aim of the Authority's Meeting was to obtain the DEAET's comment on Arcus GIBB's presentation of the Draft EIR and its appendices and to allow the authority to ask the independent Environmental Impact Assessment Practitioner (EAP) and Eskom questions regarding the EIA and the proposed project. She also welcomed Ms. Lene Grobbelaar of the DEA to the meeting and stated that Arcus GIBB was pleased that the DEA was present to hear first hand what the comment authority had to say about the EIR.		
3.	DRAFT EIR AND EMP OVERVIEW The attached presentation was delivered by Ms. Ball and Mr. Heydenrych.		
4.	TIMELINES AND PROJECT SCHEDULE This was covered in the presentation. Eskom intends to start construction in 2011, although this was stated that this date was highly optimistic and was likely to be 2012 or 2013, with the first unit being operational in 2018 or thereafter depending on the commencement of construction. The construction period is 8 to 9 years in duration and was dependent on over 30 other authorisations, other than the EIA.		

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5.	DISCUSSION		
AS	What other forms of reactor are available to Eskom?		
DH	Other forms of conventional nuclear generation reactors such as Boiling Water Reactors are available.		
AS	Are they also dependant on water to same extent?		
DH	Yes, all nuclear generators need a large heat sink, and are therefore not generally suitable inland in South Africa because they need a very large water source for cooling purposes. Therefore only coastal locations for nuclear generation have been considered thus far by Eskom.		
AS	Would the Pebble Bed Modular Reactor (PBMR) need less water than a conventional nuclear power station?		
DH	Yes, the PBMR requires less water however per kWh sent out it is more water intensive. Nuclear generation requires significantly less water than coal generation. Coal-fired power stations require approximately 0,12 litres of fresh water per kWh of power generated. Koeberg Nuclear Power Station requires approximately 0,005 l/KW of fresh water, however it requires large amounts of seawater for cooling.		
JG	Why are the EIA processes for the power stations and the transmission lines separate?		
JMB	There are practical reasons for this in terms of the vast volumes of information required to be assessed for a large and complex EIA such as this.		
DH	From technical perspective, Eskom always starts with EIA processes with the generating plant and then does the EIA for the transmission lines and other associated infrastructure. This is due to technical information of transmission lines having to be developed once the capacity and placing of the generation plant is available. It is logistically very difficult to undertake the EIAs for power stations and transmission line EIAs together. Precedents for this have been set in this regard with previous EIAs undertaken by Eskom.		
AS	Has incremental decision-making been raised as an issue by the public?		
JMB	Yes, it has been raised at some of the public meetings. The way in which it is approached is to ensure that the issues raised in the different processes are shared between the responsible consultants and raised with the DEA. Information between the transmission and generation EIAs is shared on a regular basis. Generation staff attend transmission EIA meetings and <i>vice versa</i> .		
AS	Is this not a problem with most I&APs?		
JMB	The fact that there are four EIAs running in parallel with each other was mentioned openly in the public domain. If transmission lines or plant EIA are not authorised, the project is a 'no-go'. Apart from the EIA authorisation there are also 30 other authorisations that are required before the project can be implemented. If any of these authorisations are declined, the project is at risk.		
AS	Stated that his personal opinion is that if power station is authorised, the transmission line could not possibly get a negative authorisation. The I&APs are under the impression they can influence the transmission EIA.		
JMB	The transmission EIAs need to address the cumulative impacts of transmission lines and the power station, because they are running behind the programme for the power station EIA. It must also be kept in mind that due to the nature of the legislation, other similar issues are addressed in separate processes e.g. the NNR and EIA processes.		
AS	Correct, but the separation between the transmission and power station EIAs are under a single piece of legislation i.e. NEMA.		
DH	Eskom initiated the transmission EIAs as soon as possible in parallel to the plant EIA, hoping that at least the Duynefontein and Thyspunt EIAs will be completed in		

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	parallel to the power station EIA.		
AS	Power lines need to be brought to the site before one can even consider using the site for power generation.		
DH	With nuclear generation, from a seismic perspective, it is vital to obtain absolute assurance a site is technically feasible. It is a complex and long process to find a suitable nuclear site. The sites for nuclear power stations were initially identified 15 to 20 years ago.		
AS	This is understood, but one cannot consider a site for the plant unless you are certain that you can get transmission lines to it.		
AS	Is it correct that no transmission line was included in the plant EIA application but that all other infrastructure was included?		
JMB	A transmission line between the power station building and the high voltage (HV) yard was included at Thyspunt because of the separation between the plant and the HV yard.		
DH	The possible upgrading of the dirt road from Humansdorp to Oyster Bay was not included. Housing is also excluded as Eskom first wants certainty on the location of the power station before starting the process for housing.		
AS	For Thyspunt, is it a situation of the East and West access routes or a situation of either or?		
JMB	Both are required – the Eastern access road is required for ultra-heavy loads. An additional access road (either the Northern or Western one) are also required.		
AS	The influx of labour would require improvements of municipal services. The municipal services cannot even cater for the current population e.g. sewage and water in St Francis, Jeffrey's Bay and Humansdorp. The Humansdorp sewage plant is already over capacity.		
DH	It has been highlighted in the Social Impact Assessment that current services are inadequate for the <i>status quo</i> . Similar issues have been experienced Medupi. Eskom built a new sewage plant there and will hand it over to the Lephalale Municipality after construction. It is very likely that Eskom will be required to contribute or even cover the cost of local infrastructure required as a result of the project. Eskom will need to engage with the local authorities prior to construction and a formal agreement should be established.		
AS	Did the Social Impact Assessment look at the influx of job seekers?		
JMB	Yes.		
AS	Have the sites identified in the NSIP been reviewed for current relevance?		
JMB	Yes, it was confirmed during scoping that all sites are still reasonable and feasible. Most biophysical conditions have not changed. Social changes were reviewed.		
AS	There is criticism that old information has been used, and that only sites owned by Eskom and outside the former homelands have been considered.		
JMB	It is correct that the homelands were excluded and a buffer was placed around large settlements, which is the reason why Coega was not considered. Nuclear-2, etc. may consider other sites.		
DH	To include another site at this stage would be risky due to the certainty required for seismic and geological conditions. The required seismic studies at Coega will take another 5 years to bring it in line with the other sites.		
AS	With reference to Nuclear-2, -3 etc. - it may be necessary to build additional power stations on the remaining 2 sites (playing devil's advocate). Thus, the public perception is that the only reason for the location of the power station at Thyspunt is a technical one, because the Eastern Cape has a dire need for power. The perception is that environmental reasons have not featured in the recommendation.		
JMB	The environmental team agonised over the recommendation for a preferred site. It		

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	was by now means an easy decision because the specialist studies are not united in their recommendation regarding a preferred site.		
JG	Is the current process only considering Nuclear-1?		
JMB	Correct, but Eskom has made an in principle decision for 20 000 MW of nuclear power, so there could be a number of other EIAs following the current one for Nuclear-1. I&APs have also been told clearly in the public meetings for Nuclear-1 that all sites are environmentally suitable; they were clearly informed there could be power stations at all three sites in future.		
Alan	Nuclear power has been used overseas since the 1950s. How is perceived there?		
DH	France generates approximately 70% of its electricity from nuclear power and people there are comfortable with it. There is a mix of land uses around power nuclear stations. There has in fact been a bidding process by towns in favour of locating certain associated infrastructure close to them. Germany made a decision for no more nuclear, but may extend the life of existing plants due to climate change issues. The situation internationally is that other sources, which are less carbon intensive (such as gas and hydro) are fully utilised as resources. In the future this will also push them in the direction of nuclear power for baseload. In these countries demand for electricity is also still growing.		
JMB	In South Africa, a number of other lands uses, including residential, tourism, agriculture, etc.) have developed around the Koeberg Nuclear Power Station.		
Alan	When will Koeberg reach the end of its life?		
DH	Its design life expires in 26 years but it could possibly be extended for another 10 years.		
JK	We must accept that nuclear is coming, but management and maintenance is the key.		
AS	The issue is not whether or not nuclear generation should be used. The important issue is site sensitivity from an ecological point of view. The Thyspunt site is close to St. Francis, and the main issue here from a social point of view is traffic. From an ecological point of view, if the power station is placed north side of Kromme River, it would probably make more ecological sense.		
JMB	The Nuclear Site Investigation Programme (NSIP) looked regionally at suitable sites, blocked out homelands and large settlements, then looked at a more detailed level. The NSIP included the Alexandra dune field in the Eastern Cape and rejected it in 2 nd and 3 rd phase of NSIP.		
AS	The Oyster Bay mobile dune system is absent north of the Kromme River – he is not trying to shoot down site selection criteria in the NSIP, just making it clear that the northern side of the Kromme River makes more ecological sense.		
AS	Is the NSIP available?		
JMB	Yes, it was included in the Scoping Report.		
AS	Questioned the size of the exclusion zones - what are the restrictions on land use? The Cape Town Structure Plan placed major restrictions on urban development – does not seem to be the case at Thyspunt and Oyster Bay and St. Francis could then continue to grow.		
JMB	A conservative Protective Action Zone (PAZ) of 800 m from the boundary of EIA corridor was chosen.		
DH	Preliminary discussions with the NNR have indicated they will use the zones as indicated. These areas have been developed to conform with International Atomic Energy Agency standards.. When looking at Melkbosstrand close to Koeberg, there are houses within 2km of the power station – the only restrictions are with regards to roads.		

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AS JMB	Have cumulative impacts been considered? Each specialist has considered cumulative impacts. Cumulative impacts on each site were considered by producing combined sensitivity maps per site.		
AS JMB & DH	In terms of the National Nuclear Regulator (NNR) / DEA agreement: is it true that only the NNR will make a decision on radiological issues? Yes. The separation of decision-making responsibilities between the DEA and the NNR have been discussed at length in the public forums and in the draft EIR.		
AS JMB	To put it simply, the EIA needs to show whether the plant is suitable environmentally, including from a safety perspective. Arcus GIBB has made it clear that the plant will not be authorised unless it can be proven to NNR that plant can be built safely.		
AS DH	So it is like a suspensive condition? Yes. The NNR has an incremental decision-making process. Only once one hurdle has been passed can the application progress to the next one. Safety is checked every step of the way. The NNR also has a permanent inspector on site at Koeberg.		
JK DH	Will site preparations be monitored by DEA or DEAET or both? Eskom currently sends monitoring reports for other projects to provincial and national authorities.		
AS DH	If Coega considered in future, what effect would the fault line have? Are the PGA values available for Coega? In 2008/2007 when scoping was conducted, land was not available in Coega. There is sufficient land available in terms of the footprint of the power station. Within 2km of the possible power station position there are existing industrial activities, including the Cerebos salt plant. To obtain the appropriate level of seismic studies would need approximately five years, so this is the limiting factor for considering the Coega IDZ as a site for Nuclear-1		
AS JB	What about Sand River at Thyspunt in terms of possible flooding impacts? Yes, there is a complex inter-relationship between geomorphology and groundwater and wetland habitats. This has been studied by the geomorphologist, geo-hydrologist and wetlands specialists.		
RH	Good photographic records exist for the dune dynamics. Aerial photos are available since the 1940s.		
JMB	The point of conservation benefits at Thyspunt and Bantamsklip has been challenged by I&APs, but to date no offers made to Eskom to purchase land and current large parts infected by alien vegetation. Need more than Eskom land to conserve system.		
AS	The reason St Francis Bay flooded in 2007 was that alien vegetation had been removed in Sand River catchment.		
AS DH	What is total cost of a nuclear power station? Coal-Fired: approximately R 140 billion Nuclear power station: approximately R 150 billion, but need to take into consideration that this is an estimate.		
AS JMB	Does 200 m setback line cover high water mark? Yes the setback line is from the high water mark. The setback line has been calculated to accommodate the recommendation from heritage and wetland specialist and other biophysical specialist but also climate change specialist findings.		

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AS	Could overburden be used for St Francis Bay beach? How much spoil will be removed?		
RH	Approximately 6 million m ² will be removed. .		
JMB	The information we have from other consultants is that the current solution to making the St. Francis beach grow is working and that the beach is growing at a rate of 12 m per year.		
AS			
JK	Rebelsrus should be pleased that warmer seawater to swim in.		
JMB	This will not be the case as given implementation of specialists' recommendations, hot water will rapidly mix with seawater due to high turbidity, depth of ocean floor and temperature of receiving water.		
JK	Is there data from the Koeberg Nuclear Power Station that proves benthic biota it is not impacted?		
RH	Yes, same specialists have worked at Koeberg for 25 yrs monitoring impacts on the marine environment.		
JG	Has the social specialist looked at ensuring jobs go to locals?		
JMB	Yes, a firm recommendation has been made that at least 25% of jobs go to locals.		
DH	At the Medupi power station, up to 50 – 60% of workers are locally based. This includes 5 000 to 6 000 semi-skilled to unskilled workers. To ensure that only locals are employed, the voter's roll is a reliable indicator. Contractors also check up on addresses of locals to ensure that they give accurate information.		
AS	Lower seismic risk – he does not see this as important.		
JMB	A seismic value higher than 0.3 g does not necessarily rule out a power station, but it has substantial time and cost implications, as the power station design needs to be improved to cater for possible seismic events.		
AS	The assumption the conservation will benefit can be arguable if the function of the system is destroyed.		
JMB	System function was one of the most important aspects looked at by biophysical specialists – dune geomorphology, flora, wetland, fauna – recommendations made not to touch Langefontein wetlands and mobile dune system.		
AS	What is the size of the footprint of the power station at Duynefontein?		
JMB	Approximately the same size as Koeberg.		
AS	When looking at the combined sensitivity map – need to understand how the 'white area' was determined.		
RH	Overlays of each specialist's sensitivity maps and the nature the of sensitivity were considered.		
JMB	Example of invertebrate sensitivity at Thyspunt explained.		
AS	Bantamsklip seems to be a more suitable site than Thyspunt as it has few sensitive areas.		
JK	Is the 200m setback line included on Bantamsklip?		
JMB:	Yes it was included at all sites.		
AS	What is vegetation at Thyspunt site? It was of understanding that all sites are extremely sensitive.		
JMB	The vegetation specialist has indicated that the vegetation within the EIA corridor is common along the section of coastline.		

¹ **Post-meeting note:** The number of lines will depend on the number and capacity of the power station units. There will be at least one 132 kV line that will provide power during construction. In addition, there will be one 400 kV line per nuclear unit. If 1000 MW units are used, up to four 400 kV lines will be required. If 1700 MW units are used, there will be only two 400 kV lines.

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AS JMB	Vegetation assumes indigenous vegetation? Yes it is primarily indigenous vegetation with there are areas of the site that are heavily infested by alien vegetation.		
AS RH / JMB	How will the dune system be spanned? The proposal is to place a single set of transmission line pylons in the middle of the dune system. There would be no permanent roads or conveyor belts through the dune system and it has been recommended that the powerlines be placed by helicopter if practical.		
AS DH	What type of powerlines would cross the dunes? Based on my recollection two parallel 400 kV power lines ¹ .		
AS JMB	200 ha Is needed for the power station but the available area (including the HV yard) seems to be only approximately 130 ha. The area of 130 ha (51 ha for the HV yard and 73 ha for the plant) indicates the area of least sensitivity. The sensitivity maps do not indicate no-go zones.		
AS JMB	If a disturbed area needs to be restored how resilient is it? i.e. will invertebrates move into temporarily impacted areas? Yes, as an ecologist she believes so, as it is a vegetation type that is prone to regular natural disturbance.		
AS JMB	What about coastal seeps? The wetlands study includes recommendations to mitigate impacts on coastal seeps. The 200 m set back line from the coast is also recommended to protect coastal seeps.		
JK JMB	Is it correct that excavations will be made to bedrock? Yes.		
AS JMB	What about intrusions? Freshwater intrusions are found along the coastline as coastal seeps.		
AS DH JK	Can freshwater produced by the desalination plant be supplied to local authorities? The question has been asked at some public meetings. Eskom's mandate is to supply power and not to supply water. The desalination plant is designed only to supply water to the power station and construction site. There is also the question of how the water would be transported to the municipality but Eskom does supply water to properties near our coal fired power stations so this is something that would be dealt with if a request was received and cost allocation was possible.		
JK RH / JMB	What sort of chemical effluent will be produced? Mostly chlorine and trace amounts of other chemicals. The impacts have been studied at the Koeberg Nuclear Power Station and no impact on marine life has been found.		
AS DH	Are ultra heavy loads restricted to the construction phase only i.e. Eastern access road? The Eastern access road is likely to be used both in construction and operational phases. The most intensive use will be during construction but it may still be required during operation for ultra heavy loads for example for a failure of a large component such as a turbine. The eastern access will also be used by operational staff (approximately 1400 people) living in Cape St. Francis, Jeffreys Bay and St. Francis Bay.		

² See last page of this document

	DESCRIPTION	ACTION	DEADLINE
JK JMB	Northern road should remain the main access. The Northern access road was rejected as an alternative due to its impact on the mobile dune system.		
AS JMB / DH	Intersections need upgrade – what about Humansdorp? The road through Humansdorp is feasible strictly from the technical viewpoint of its design capacity. However, from a social perspective, alternatives around Humansdorp are being investigated.		
JK JMB	What about roads under powerlines? Current practice is not to construct permanent roads under powerlines, but rather to gain access at selected points.		
AS JMB	How would the 42 m ultra-heavy vehicle get around T-Junction at the end of the Humansdorp main road? The traffic study has confirmed that it is possible, with minor upgrades.		
JK JMB	What about height restrict for heavy roads – bridges and powerlines. These have been confirmed to be suitable.		
JK JG RH / JMB	Waste – have concerns been raised? There may be several activities that trigger the Waste Act. There is also the question of the authorisation of the waste water treatment works. Yes other authorisations are acknowledged. There are more than 30 authorisations that will have to be obtained and the EIA authorisation is only one of these. Eskom is fully aware of all the necessary authorisations.		
JK	Excused himself from the meeting as he had another meeting to attend.		
AS JMB	Was it explained that hydro-electricity is not feasible for baseload? Yes, it has been fully explained but the public is still arguing that renewables can replace baseload generation.		
RH	The point has been made to the public that it is not a question of nuclear or renewables - Eskom is considering an appropriate mix of all suitable technologies. If Nuclear-1 does not go ahead we will need to build another coal-fired plant.		
AS	Could have beneficial impact on land if development is appropriate e.g. Derek Cooke developments and Sand River sanctuary approximately 40 houses and a footprint of only 2-3 m around houses. Usually look at transformation ratio of 10% as environmentally beneficial.		
DH	Need to have Integrated Resource Plan (IRP) 2 – now expected in August 2010. Eskom also needs to find a vendor, and is faced with an appointment process of approximately 2 years and then a Nuclear Licensing process of another 1 year.		
AS JMB	He does not like to see suggested mitigation ground monitoring but done before EIA completed. It is important to have results incorporated into EIA if a Revised Draft EIR is to be issued and Eskom needs data as soon as possible if the power station is authorised.		
JK JMB	No go area of fault line – how does this impact aquifers? Explained, with reference to a map from the geo-hydrological presentation showing groundwater contours ² , that the movement of groundwater is not affected by the fault lines. The groundwater contours indicate that groundwater movement is constant in a southerly direction across the site.		
AS RH	What will the plant actually look like? A visual simulation of the appearance of the power station from Rebelsrus Private Nature reserve is in process, at the request of the parties who live there.		

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AS	Have off-site construction laydown areas been considered?		
JMB	Explained that construction laydown areas are proposed to be on-site. It may be possible to optimise the placement of the different areas to take up less space. Off-site laydown areas are not preferred in order to limit the area of impact.		
JMB	Explained the way forward, including the comment period that has already been given on the draft EIA report and the proposed further extension of 45 days for comments on a revised draft EIR and selected specialist studies.		
JMB	Thanked all for their participation, particularly to LG for being prepared to come to Port Elizabeth for the meeting.		
6.	CLOSE JMB thanked all for their valuable input to the meeting and future contribution to the EIA process. The meeting was closed at approximately 14h00.		

Attached:

- 1) Agenda for meeting
- 2) Presentation delivered at the meeting

