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Attention: Mr DJJ de Villiers

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ENVIRONMENTAL IMPACT ASSESSMENT FOR THE PROPOSED ESKOM NUCLEAR POWER STATION AND ASSOCIATED INFRASTRUCTURE: COMMENTS REGARDING THE ESKOM NUCLEAR-1 ENVIRONMENTAL IMPACT ASSESSMENT

Dear Mr DJJ de Villiers

Your correspondence to Ms. Jaana-Maria Ball of Arcus GIBB (Pty) Ltd entitled "*FINAL SCOPING REPORT - PROPOSED ESKOM NUCLEAR POWER STATION*" refers.

Arcus GIBB acknowledges receipt of the above-mentioned letter. We thank you for your valuable comments and your participation in the Eskom Nuclear Power Station (NPS) Environmental Impact Assessment (EIA) process to date. Your questions concerning the Nuclear-1 EIA process have been noted.

Responses to your comments / questions are as follows:

Your comment (1):

The Final Scoping Report for the Proposed Eskom Nuclear Power Station and Associated Infrastructure (DEAT Ref no 12/12/20/944) was completed in July 2008 but it is our understanding that final approval from the Department of Environmental Affairs and Tourism is still being awaited. The Draft Scoping Report for the proposed transmission lines from the Bantamsklip site was made available to the public recently. In the case of the transmission lines from the Thyspunt site it is our understanding that the Draft Scoping Report will be made available to the public by the end of May.

Response (1):

With respect to the Nuclear-1 site EIA the Final Scoping Report for the NPS was approved by DEAT on the 19th of November 2008. However, DEAT requested that the Plan of Study be revised in accordance with DEAT's comments. The Plan of Study for EIA has subsequently been amended and submitted to the public for comment on 25 May 2009. The public had 30 days to provide comments on the PoS, following which all comments with appropriate responses along with the PoS will be submitted to DEAT for review and decision making.

Your comment (2):

The purpose of the letter is to question the conclusions reached and recommendations made in the Final Scoping Report (FSR) for the Nuclear Power Station. We are not questioning the need for nuclear power in South Africa and we are mindful of the "not-in-my-back-yard-syndrome," but believe that even the

consideration of the construction and operation of a nuclear power station at Bantamsklip, should be opposed unequivocally.

Bantamsklip is situated in a region known as the Strandveld and the Agulhas Plain which is a globally recognised biodiversity hotspot in an area of irreplaceable lowland fynbos. It is also the site of a world-renowned sustainability study focussing on the integration of conservation and development. The Agulhas Plain was selected by the SA Government in 2002 to serve as a model for an innovative approach to conservation and human development. This requires that all parties which own, manage and utilise natural resources and land are included in planning and implementation. As a consequence eco-tourism in the area, land as well as ocean based, have experience phenomenal growth in the last five to ten years. The construction of a nuclear power station at Bantamsklip accompanied by the required transmission lines will destroy the achievements attained in this regard.

Response (2):

Thank you for highlighting this important point. Arcus GIBB and DEAT are aware that the Bantamsklip site falls within the Agulhas Biodiversity Initiative. Section 2.4.7 of DEAT Letter of Approval of the FSR states that "The Bantamsklip Site is a Protected Area, as well as a Natural Heritage Site and falls within the Agulhas Biodiversity Initiative. Comments from SANParks, CapeNature and DEAT Protected Areas must be included in the EIR."

The relevant specialists will evaluate your comments for inclusion in their specialist reports.

Your comment (3):

The FSR and its appendices contain a considerable amount of technical data used to make numerous deductions, reach conclusions and make recommendations. Our detailed comments on many of these issues will follow in due course. At this stage however, we wish to limit our comments on the recommendation to exclude the Brazil and Schulpfontein sites (the west coast sites) from further study during the EIA phase of the Environmental Impact Assessment Process.

In paragraph 8.8.2 of the FSR for the Proposed Nuclear Power Station a justification is given for the recommendation that the west coast sites should be excluded from further comparative assessments during the EIA phase. It is mentioned that these two sites are deemed to be "unfeasible" for the proposed Nuclear Power Station. The so-called unfeasibility of these sites are based on:

- The cost associated with the "*local integration and exportation of power via existing corridors.*"
- "*...lengthy time delays associated with the authorisation and construction of new power corridors.....which will prevent Eskom from providing the power within the required timeframes*"
- Environmental impacts associated with the development of new power corridors.

The report also states that conclusions are not formed on the basis of detailed impact assessments, but are based purely on qualitative analyses. From studying the report it would appear that the west coast sites were only very superficially evaluated and the impression is created that these two sites were effectively disqualified by Eskom even before the scoping phase commenced. To substantiate this statement one only need to look at Table 18 on page 8-35 of the report. In this table a "preliminary comparative assessment of the baseline environments associated with the five proposed sites" is made. In the table the various aspects studied are tabulated. In the case of the west coast sites, 14 of the 24 aspects were either "least studied" or "insufficient data" were available.

Response (3):

As mentioned above, the Final Scoping Report was approved by DEAT on the 19th of November 2008. Section 2.17.1 of this letter states that "The Department accepts the exclusion of the Brazil and Schulpfontein sites for further investigation in this EIA process, as they are not technically feasible at this

stage. The Department has also however noted that these sites will be considered for future Nuclear projects.”

In terms of Section 29 (b) of Government Notice Regulation 385 of the National Environmental Management Act, 1998 (Act No. 107 of 1998), scoping reports should include “a description of the proposed activity and of any feasible and reasonable alternatives that have been identified”. Based on the information contained in Eskom’s 20 GW Nuclear Transmission Grid Draft Impact Report (2007), it is evident that Brazil and Schulpfontein are neither reasonable nor feasible to meet the desired objectives associated with the Nuclear-1 NPS and are therefore not considered as valid site alternatives. Thus it was not practical to further assess the Brazil and Schulpfontein sites in the detailed impact assessment phase of the EIA process for Nuclear-1.

Furthermore, section 8.8.2 of the FSR states the following as rationale for the exclusion of the Brazil and Schulpfontein sites:

“Thus, the Brazil and Schulpfontein sites require the construction of new power corridors and the exportation of the majority of the power to areas of demand given the limited local demand (**Figure 78**). Thus, the Brazil and Schulpfontein sites are deemed unfeasible for the proposed NPS based on the following reasoning:

- Optimal, strategic and cost effective utilisation of existing infrastructure associated with the Duynefontien, Bantamsklip and Thyspunt sites, with respect to local integration and exportation of power via existing power corridors;
- Prevention of lengthy time delays associated with the authorisation and construction of the new power corridors applicable to the Brazil and Schulpfontein sites, which will prevent Eskom from providing the power within the required timeframes;
- Unnecessary environmental impacts associated with the construction of new power corridors given that there is existing infrastructure; and
- Cost implications associated with the development of new power corridors”

Your statement that “The report also states that conclusions are not formed on the basis of detailed impact assessments, but are based purely on qualitative analyses” is not correct. This implies that conclusions were formed based purely on qualitative analyses. What the FSR does state is in fact, the opposite: “It must be emphasised that the information contained therein (Table 18) is based on preliminary studies and therefore **cannot be used to draw confident conclusions** (own emphasis) pertaining to a preferred site until further detailed studies are undertaken as part of the EIA process.”

Table 18 is a “Preliminary Comparative Assessment of the Baseline Environments associated with the Five Proposed Sites”. Due to the fact that “other specialist studies could not infer relative sensitivity levels until detailed investigations are undertaken during the detailed assessment phase of the EIA process”, some sections of the table contain the phrases “least studied sites” or “insufficient data”. The FSR specifically states that the information contained in Table 18 “is based on preliminary studies and therefore cannot be used to draw confident conclusions pertaining to a preferred site until further detailed studies are undertaken as part of the EIA process.” The purpose of the table is to display “preliminary baseline information obtained from the relevant specialists, to date, show that specific components of the baseline environment indicate varying degrees of sensitivity amongst the five proposed sites.”

In the case of the West Coast sites, only one (1) study was considered “least studied sites” and two (2) as “insufficient data”. The remaining 10 studies, which were considered as “least studied sites” or “insufficient data” apply to not only the West Coast sites but also to all five sites. Further, we would like to point out that there are in fact 25 (and not 24) “aspects” or studies; and that only 13 are listed as “least studied sites” or “insufficient data”. This is contrary to your statement that “In the case of the west coast sites, 14 of the 24 aspects were either “least studied” or “insufficient data” were available.”

The two Northern Cape sites have not been excluded from future nuclear development.

Your comment (4):

The cost associated with a connection to the national power grid of a power station based on the west coast seems to have been taken into account in reaching a conclusion to disqualify them as potential sites. On the other hand, the full cost of the connection to the grid in the case of other sites was not taken into account. As an example, in the case of the Bantamsklip site the recently released draft scoping report on the transmission lines states the following: *"If the principles of NEMA are to be adhered to it would thus appear that the proposed nuclear power station at Bantamsklip cannot be connected to the grid, unless alternative transmission line routes are found that are of lower botanical significance."*¹ In order to connect a nuclear power station at Bantamsklip to the grid it may be necessary to construct power lines underground or under the sea at very high costs to protect the sensitive and priceless environment of an international biodiversity hotspot.

Whether it is necessary or technically feasible to install underground lines or whether its cost compare with the cost of new grid corridors from the west coast sites to the areas of consumption is neither here nor there. The fact that the scoping study to identify the sites that should be further investigated during the EIA phase, did not consider the cumulative impact of the power station and its associated transmission lines (at least in the case of Bantamsklip) leads us to conclude that the process thus far is seriously flawed.

Response (4):

We assume that the "recently released draft scoping report" refers to that of the Bantamsklip transmission power line. To reiterate, cost was not the only factor that led to the exclusion of the Brazil and Schulpfontein sites. The exclusion was based on the timing, which constitutes a key factor given the recent power crisis in South Africa; potential costs; as well as potential impacts associated the construction of completely new power corridors as opposed to those associated with the integration and strengthening of existing power corridors. The Brazil and Schulpfontein sites are not located in close proximity to any load centers, requiring significant engineering of the power corridors.

As in our response to your letter dated 31 March 2009, cumulative impacts will be investigated in both the EIA process for the power lines as well as the EIA for the power station. The proponent of the power lines and the power station is Eskom Holdings Limited. As is the case for other power lines and power stations in South Africa, two separate EIAs have been undertaken to allow for better management of the process.

Your comment (5):

The other justification used to disqualify the west coast sites is the time delays associated with the authorisation and construction of new power corridors. The urgency to supply the national grid with additional nuclear power that existed at the time of Eskom's application (May 2007) has, in our opinion, disappeared thus making such a justification totally invalid.

Response (5):

In spite of the current economic down-turn, the programme for Eskom to meet to energy demands in South Africa is very stringent and the EIA for Nuclear-1 remains on the critical path, with the first NPS expected to be operational by 2018. The anticipated roll out of new base load power stations is as follows:

- 2012 – Medupi Power Station first unit;
- 2014 – Kusile Power Station first unit;

¹ Page 34 of the Botanical Scoping Assessment dated 24 November 2008 attached to the DSR for the Bantamsklip Power Lines

Additional coal and or nuclear power station will still be constructed from 2016 onwards. Further, South Africa will need to replace existing coal fired power stations which reach their end of life from approximately 2025.

Your comment (6):

The third justification for the disqualification of the west coast sites appears to be the environmental impacts that will result from the development of new power corridors. It is inconceivable that environmental impacts associated with power corridors from the west coast are a matter of concern but that the environmental impact of transmission lines from a power station at Bantamsklip is completely ignored.

Response (6):

Again, the exclusion of Brazil and Schulpfontein was based on a culmination of factors such as timing, the limited local demand, the infrastructure required to export the power generated by the proposed NPS to centres of demand as well as the environmental impacts associated with the creation of new power corridors in comparison to strengthening and reinforcing existing corridors. The remaining three sites i.e. Thyspunt, Bantamsklip and Duynefontein are associated with existing power corridors that require enforcement and strengthening i.e. the Cape Corridor, the Cape Peninsula Corridor and the Southern Grid Corridor.

The electricity supply to the Western Cape is currently limited to the power transferred to this province via the Transmission Network, the power generated by the two Koeberg Units, as well as the power generated at various peaking power stations. The establishment of a fleet of nuclear power stations on the Cape coast will significantly improve the security of the network and delay the need for new transmission lines between the Cape and the northern part of the country for a substantial period of time. There will also be a major savings in losses, as the power will be generated closer to the load instead of in the north of the country and then transported down to the Cape. This in turn reduces the amount of new generation required to meet the overall system loads. Eskom Transmission is therefore investigating possible transmission power line routes from each of the three NPS sites.

Your comment (7):

It is also surprising that the Economic Report² mentions that Thyspunt “is in an established tourist growth point and a high-potential agricultural area.” And further that “it is foreseen that tourism will suffer severely from the construction and operation of a nuclear power station in the area. This may have far-reaching consequences for the region from an economic perspective.” In the case of Bantamsklip however, the comment is made that “it is a neutral site with no overriding positive or negative development and cost impacts.” The only conclusions we can reach from these comments are that whoever did research on these issues do not know what they are talking about.

Response (7):

The Economic Specialist Study states on Page 2, Point 8 that “these conclusions are not formed on the basis of detailed macroeconomic impact assessments, but are based purely on qualitative analyses. Formal studies will be conducted in the EIA phase to provide more definitive insights into the suitability of each site.”

You comments have been noted and subsequently passed onto the specialist for consideration in the final specialist report.

Your comment (8):

² Page 28 of the “Specialist Study: Economics dated Oct 2007 attached to the FSR for the Proposed Eskom Nuclear Power Station.

For the reasons given above we believe that the Final Scoping Report is fatally flawed in respect of the conclusions reached and well as the recommendations made. Consequently, in our view, work on the EIA phase, which is due to start shortly (or has started already), should be suspended until a complete review of the entire process to date has been made.

We are writing directly to you, with a copy to ACER (Africa), because of the urgency of the matter. We would appreciate your early response before we approach the Department of Environmental Affairs and Tourism in this regard.

Response (8):

For the purposes of the Nuclear-1 EIA process, the Brazil and Schulpfontein sites are neither feasible nor reasonable for reasons discussed above and contained in the Final Scoping Report. As a result, the exclusion of these sites from further assessment in the detailed impact assessment phase of the EIA process is justified. Nevertheless, we note your comment.

In conclusion, the project team would like to assure you that Interested and Affected Parties comments are important to us and that your continued involvement in this process as an I&AP is valued. Your comments/questions will be captured in the draft EIR that will be submitted to the decision-making authority in due course.

Please do not hesitate to contact us at any stage should you require any additional information regarding this proposed project.

We thank you for providing us the opportunity to respond to these questions and look forward to your ongoing involvement in the project.

Yours sincerely
For and on behalf of Arcus GIBB (Pty) Ltd

A handwritten signature in cursive script, appearing to read 'JMBall', written in black ink.

Jaana-Maria Ball
EIA Project Manager