

TAG – Tesselaarsdal Action Group
c/o P O Box 461
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Western Cape Province
Tuesday, 23rd June 2009

To: Acer (Africa) Environmental Management Consultants
Att: Ms Bonggi Shinga
Nuclear 1 EIA
P O Box 503
Mtunzini
3867
eMail: nuclear1@acerafrica.co.za

Dear Ms Shinga,

**RE: PROPOSED ESKOM NUCLEAR POWER STATION & ASSOCIATED INFRASTRUCTURE
(DEAT REF. NO. 12/12/20/944 – ARCUS GIBB PROJECT NO. J27035)
REVISED PLAN OF STUDY FOR ENVIRONMENTAL IMPACT ASSESSMENT**

Herewith please find our TAG (Tesselaarsdal Action Group) response to the above-mentioned document, for which the public comment period ends today. This response should be read in conjunction with our TAG response documents to the Draft Scoping Report regarding the proposed high-voltage power line routes, which were submitted to NMA Effective Social Strategists on the 30th April 2009 and 22nd May 2009 (Annexures A & B respectively, attached hereto – text portions only, no annexures included due to large file sizes of the latter), as we feel the issues surrounding the nuclear power station and the power line routes are inextricably linked. In addition, the two response documents provide details of the unique history and make-up of our Tesselaarsdal community, which should be considered in the context of this proposed nuclear development. Attached is also a copy of our current TAG membership list (Annexure C), all being interested and affected parties with regard to the proposed nuclear project, specifically the Bantamsklip site near Pearly Beach on the Overberg coast.

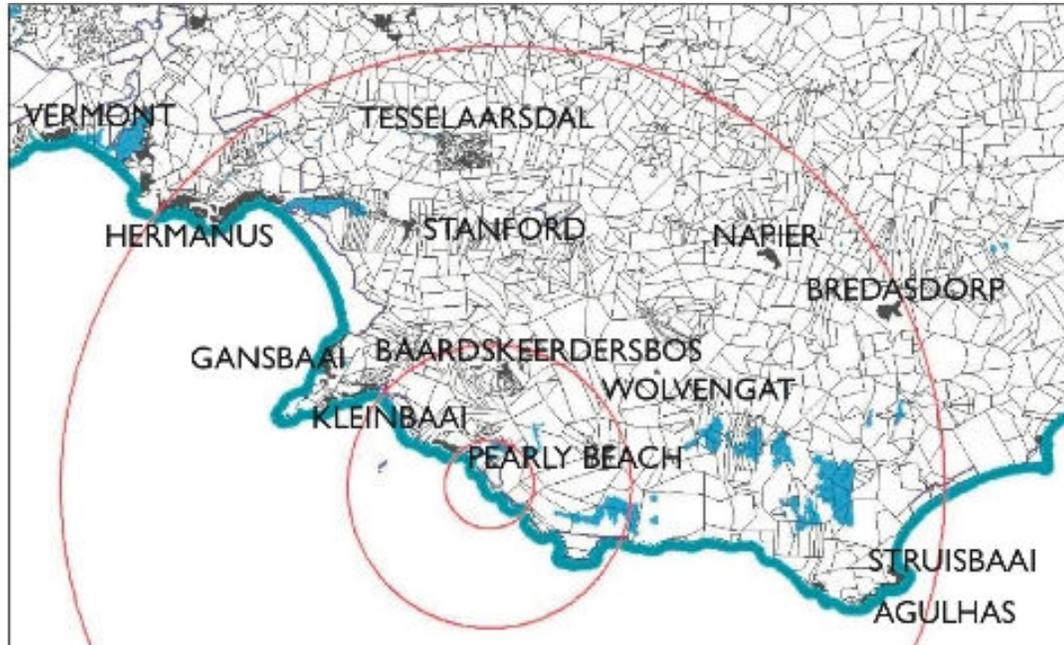
As with our comments to the DSR for the high-voltage power line routes, we would firstly like to point out that our community¹ knew nothing about the proposed nuclear project until the beginning of March 2009, when some of us got our first information via other concerned citizens in the area. As directly affected parties – we are well within the 50km zone² of the Bantamsklip site (see map on page 2), and are also impacted by two of Eskom's proposed high-voltage power line routes stemming from this site – we received no official notification of the project proposal, and consequently were also not given the opportunity to participate in the scoping phase of either of the EIA's to date, before the respective Draft / Scoping Reports were issued. From the limited interaction we have had with the EAP and its representatives, it is clear that if I&AP's do not participate in the EIA process from the very outset, then it's a case of tough luck and 'what's done is done', and the assumptions and conclusions drawn without everybody's active participation can have a significant effect on the outcome of the process. It is hence our contention that the EIA process is procedurally substantively flawed. In addition, it is noted with some concern that the Draft Scoping report for the Bantamsklip EIA was not even issued for public review to residents in Caledon, Riviersterend, Napier or Tesselaarsdal, even though these fall within the 50km zone or just outside it, and as such should surely be considered significant stakeholders in the process. A project of such magnitude, with such potentially far-reaching and long-term effects for an entire

¹ Please note that when the terms 'our community' or 'this community' and 'Tesselaarsdal' are used in this document, we define this as being everyone on Farm 811 and the adjoining small farms that have traditionally been part of the Tesselaarsdal (previously Hartebeestrivier) settlement, which include the groupings within this locale of Solitaire, Steyntjiesfontein, Tesselaarsdal village and Bethoskloof (Bietouskloof). Farm 811 consists of 487 sub-divisions, of which one has a further 89 RDP housing development sub-divisions.

² The 50km zone is significant as this is the area that remains officially uninhabitable after a major nuclear incident, such as Chernobyl in the mid-1980's, for a minimum of 200 years.

region should most definitely have undertaken a far more in-depth and thorough assessment of the affected parties, and ensured that all such parties were notified of, and included in, the EIA processes from the very beginning. It is clear that making use of newspaper advertisements is not a sufficiently broad method of notifying affected parties across a region, and the EAP should employ more thorough methods as a result – for example the applicant's (Eskom's) very own database of account holders who get their bills timeously per post every month!

REGIONAL MAP SHOWING THE LOCATION OF TESSELAARSDAL AND OTHER TOWNS WITHIN THE 50km ZONE OF BANTAMSKLIP



This response is structured as follows:

1. Comments on the 'Amendment of the Application for Environmental Authorisation'
2. Comments regarding the 'Environmental Issues Identified during the Scoping Phase'
3. Comments on the 'Detailed Impact Assessment Phase'
4. Comments regarding the 'Conclusions and Recommendations'
5. Comments regarding DEAT's comments on the Plan of Study for the EIA
6. Comments pertaining to the Statement by the Director-General regarding nuclear safety matters.
7. Conclusion
8. List of Annexures

1. AMENDMENT TO THE APPLICATION FOR ENVIRONMENTAL AUTHORISATION

Five sites were assessed in the Scoping Phase, however the two West Coast sites of Brazil & Schulpfontein were eliminated from further consideration during the detailed EIA phase (although they may still be developed as nuclear sites in the future). Reasons given for the exclusion of these two sites were that they were not reasonable and/or feasible due to the severe time constraints, lack of local demand in those areas and the lack of existing power corridors from those sites.

These reasons seem a little thin, frankly, given that the time frame proposed for the development of the three remaining sites on the list stretches from January 2011 to July 2022 – even if only one of those West Coast sites were to be developed second or third on the list, the suggested time frame (Table 1 page 5) would surely then be able to accommodate any special or additional planning/development time required by these sites?

Considering that the Overberg region would receive no direct benefit from any power generated at Bantamsklip, if this site were to go ahead, (as it would feed power straight into the national grid at Bacchus & Kappa), the existence or lack of local demand is clearly not at issue for this site – so why is it an issue for a decision made regarding the Brazil and Schulpfontein sites? In fact, it could be argued that the very fact that the West Coast areas are fairly uninhabited should surely be

considered as an advantage when compared to the relative density of the Overberg population that would be impacted by the development of the Bantamsklip site...?

The Overberg too has no existing power corridors from the Bantamsklip site, as evidenced by the extensive route proposals that have had to be put forward to link the power station site with the national grid. If this is a valid reason to disqualify the Brazil and Schulpfontein sites, then it should, by the same token, be a valid reason to disqualify the Bantamsklip site.

Considering the fact that Vaalputs is within easy reach of both of these West Coast sites, and would make the transport and storage of radioactive waste considerably cheaper than from any of the other sites, and the fact that geotechnical and tourism assessments also supported these two sites over the others, it is strange that they were still eliminated for the time being, and raises further questions about the motivation for this decision.

Perhaps the real reason for the elimination of the Brazil and Schulpfontein sites can be found in the fact that the land in the area has recently been handed back to the local community, and that the heritage aspect of this community is too sensitive to be foisted with a NPS at this early stage? If this is indeed the case, then communities such as Elim and Tesselaarsdal deserve the same consideration of their heritage asset, and an NPS should not even be considered in the region, given that they are considered to be previously disadvantaged communities, even though they managed (at least in Tesselaarsdal's case) to keep their land rights even through the apartheid era, without any Group Areas classification being imposed.

Whether the amended EIA regulations are promulgated, or not, (i.e. if Eskom continues with its current application for one Nuclear Power Station (NPS), or revises the application to three NPS's, TAG feels that Eskom has not proven that nuclear energy is in fact the only possible and economically viable source of power generation in South Africa. In this regard, we attach a copy of parts of the draft comments made by Rod Gurzynski (Annexure D) regarding the economics of nuclear, which raises some serious questions about whether renewable resources have been sufficiently investigated, researched and invested in by Eskom, and consequently also raises concerns as to why Eskom seems to want the public to summarily accept their assertion that nuclear is the only viable option. Considering, on the one hand, the money that Eskom proposes to spend on this nuclear programme, and then recoup from the already cash-strapped South African consumer, and on the other hand the possibility of Eskom relinquishing some of its monopoly on power generation, so that the private sector, using its own funds, can develop the renewable energy power sources industry, it would make economic sense if Eskom and the private sector could then work together to provide the country's power needs. This in turn would in all likelihood result in at least one (if not more) of the proposed NPS's no longer being required, and due to the acknowledged extreme sensitivity of the region this would in all likelihood then be the Bantamsklip site. It seems clear that Eskom needs to apply a shift in its thinking and approach to the issue of additional power generation, and incorporate other role players into the mix. Competition is always a healthy market force to keep the costs to the consumer within reachable targets. Additionally, the lead time of getting additional power into the national grid would also be considerably shorter if renewable energy sources were to be developed, rather than the nuclear option.

Per our country's Constitution (Act 108 of 1996 Section 24) it is stated that

"Everyone has the right to:

- *an environment which is not harmful to their health or well-being*
- *have the environment protected for the benefit of present and future generations through reasonable legislative and other measures that:*
 - *prevent pollution and ecological degradation*
 - *promote conservation*
 - *secure ecologically sustainable development and use of natural resources, while promoting justifiable economic and social development."*

In light of this, and taking into consideration the following items:

- the incredibly unique, diverse, extremely sensitive, internationally acclaimed, largely unspoiled and in some instances highly threatened ecological heritage in the Overberg and along the Overstrand coastline, and

- this region's dedication to conservation (as proven by the extensive conservation areas, whether of a formal, private, co-operative, internationally funded or officially 'planned for future conservation development' kind) which is the life-blood of this region's tourism and eco-tourism industry, and
- the radical negative impacts of an NPS, such as the problem of disposal of radioactive waste of all types, the release of hot water into the sea, the daily radioactive emissions and effluent released into the environment which would impact every level of the terrestrial and marine ecosystems and ultimately humans, not only in the immediate area, but also with ramifications over a broader spectrum, and the possibility of long-term and disastrous effects of a nuclear accident, to name but a few,

TAG therefore cannot accept that a NPS at Bantamsklip can be considered to be either reasonable or justifiable in the least. This region's tourism and conservation focus is the basis on which our region's future generations will have to depend – what we have to offer is lifestyle, our people and our environment which we must use to build our regional economy up with. Rural regions will have to depend on themselves, as the State is already struggling to maintain and create work opportunities for the ever-growing populations in the cities, and has few resources available to provide for the needs of the rurally based communities too.

2. ENVIRONMENTAL ISSUES IDENTIFIED DURING THE SCOPING PHASE

Under the key negative impacts scoped to date, no mention is made of the radioactive emissions and radioactive effluent issues released into the environment on a daily basis, and the effects of these in the longer term from such a site. Additionally, no mention is made of the consistently increasing levels of radioactive emissions that occur as a result of the ageing of a NPS, and the consequent effects of these higher levels on the surrounding environment on all levels. By just considering one aspect that would be impacted by the effects of radioactive emissions, for example, agriculture (the Overberg, besides being the bread basket of the region, also has a growing wine industry, olive production, fynbos propagation and sustainable harvesting etc.) and how these emissions would in fact impact on a vast area as a result of the notorious prevailing winds, one does not have to be an expert to imagine the 'ripple effect' of consequences as a result.

No mention is made of the possible catastrophic consequences of a nuclear accident either, which would put paid to one of the most unique, diverse, extremely sensitive, internationally acclaimed, largely unspoiled and in some instances highly threatened ecological heritages in the world, not to mention all the people who would be put at risk too.

Another negative that is not raised is the length of time it would take to get a nuclear power station up and running – 7 to 8 years each at least, not taking into account the extensive planning and regulatory phases required before construction can even begin. Considering the urgency of the need for power that Eskom consistently highlights, this hardly seems like the ideal option to address this urgent need at all.

Under the positive potential benefits scoped to date, the following is listed:

- *Improved electricity network in the coastal regions and South Africa as a whole, which could stimulate local economic growth and reduce current power shortages;*
TAG response – per Eskom's answers during recent NMA run public participation meetings, it was stated that the region would draw no direct benefit from the electricity produced at the NPS, as it would be fed directly into the national grid. Given this region's tendency to appreciate 'green' practices and ever increasingly makes use of renewable energy sources on a household level, it could be argued that the region's local economic growth is doing just fine – particularly as most international visitors are very aware and appreciative of such ecologically sound practices. Improving the electricity supply by investing in large scale renewable energy power sources would probably stimulate the local economic growth far more, and cost the public far less than investing in this nuclear development, given the comments made by Rod Gurzynski. These positive benefits can thus be achieved just as effectively by means other than nuclear, so the point is moot.
- *Potential establishment of formal conservation areas;*
TAG response – conservation areas of all types are already a huge part of the Overberg and Overstrand region, and the continued planning for future conservation areas to form a

linked network across the entire region are already well established. It certainly does not require a NPS to establish conservation areas to preserve our extensive ecological heritage. In fact, considering the vast number of negative and long-term ecological impacts that the establishment of such an NPS would have on the environment, the term 'conservation' paired with 'NPS' hardly seems appropriate here.

- *Significantly lower greenhouse gas emissions when compared with that of coal fired power stations; and*

TAG response – whilst it may be true that nuclear power generation results in lower greenhouse gas emissions, one must consider items like, the dangers (radioactive emissions and pollution) and large scale disruption associated with uranium mining and uranium enrichment plants (not only in the RSA but also in neighbouring countries that form part of this supply chain), the fact that daily radioactive emissions and radioactive effluent into the environment are an integral part of such a NPS, and the fact that, worldwide, there is no acceptable and long-term solution regarding the issue of the disposal of every grade of nuclear waste produced by such a NPS, this supposed 'positive' suddenly becomes offset by some rather significant and even longer-term negatives.

- *Direct economic injection to the local economies.*

TAG response – whilst there may be an injection to the local economies for the 8 to 10 years during the construction of the NPS, this would significantly decline when the site becomes operational, and would be of a finite nature, as the benefits would cease to exist when the site is decommissioned after 30 years. On the other side of the coin, so to speak, is the continued economic injection to the local economies of the already well-established and growing tourism/eco-tourism industry which would continue to flourish in perpetuity because we have preserved and not spoiled one of the last really unique ecological bastions in the world, and grain and grapes and olives and canola and lavender would continue to be produced without any risk of contamination, and also contribute to attracting the tourists, both local and international.....

3. DETAILED IMPACT ASSESSMENT PHASE

Re: 4.3.1 Advertising - refer to comments made at the beginning of this document (second paragraph) regarding the inadequacy of using only newspapers to inform potential I&AP's and directly affected stakeholders.

Re: 4.5.13 Economic – this section should include an assessment of the impact of this proposed development on existing regionally based, and regionally unique, industries such as tourism, boutique wine farms etc. not only on the locally based operators, but also the economic impact that the changed perceptions that such a development will create, will have on the potential international traveller and potential investor in this region's ecological heritage and growth.

Re: 4.5.15 – Human Health Risk – this study should include a detailed analysis of the extent of all levels of radioactive waste that can be expected from such an NPS, in particular how these levels of emissions consistently and dramatically increase as the NPS ages – it must be asked if the authorities will maintain the levels and required standards for such "allowable" emissions throughout the life of the NPS, or whether these values will be adjusted as the NPS ages, in order to seem as if standards and levels are being monitored and maintained correctly; the transportation and storage of such waste and the risks not only to those involved in dealing with this waste, but the surrounding populations that run the risk of exposure due to the transportation thereof through various regions; and potential contamination risks due to storage methods employed. Similarly, a detailed study of the dangers and risks associated with the mining of uranium, and uranium enrichment plants, which supply the necessary materials required for the operation of NPS's, should also be included, as these are direct supply-chain links.

TAG contends that radiation and radioactive contamination issues should not only be assessed in terms of human health risks (although this is ultimately where the end-result will be manifested), but that these impacts need to be studied in detail in terms of their direct effect on most of the

other specialist study subjects too i.e. flora, fauna, agriculture, social, economic, hydrology, wetlands, oceanography etc.

4. CONCLUSIONS AND RECOMMENDATIONS

Re: 5.1 – Key Impacts – refer to our comments made in Section 2 above, in this regard. In addition, we would like to point out that it also does not require the construction of an NPS to protect the “heritage and cultural resources in the undisturbed areas of the sites” – this is being achieved, managed and consistently being improved upon, given the region’s increasing dependence on all forms of tourism (heritage tourism being a specific segment within the whole).

Re: 5.3 – Alternatives Assessed – “Given the urgent power demand based on economic growth in South Africa, the no go option is not considered to be a logical alternative, as Eskom must provide power.” We take exception to the assumption that nuclear power is the only viable option to provide the power required, particularly in light of the comments made by Rod Gurzynski. Likewise, we take exception to the implied threat regarding coal-fired power plants – considering all the negative impacts associated with nuclear power generation, not least of which is the very long planning, regulatory approvals and licensing, and construction phases, which means that no such plant will be operational before at least 2018, coal-fired power stations may yet prove to be the more attractive solution until such time as Eskom (or possibly independent power providers) do the necessary research and development into renewable energy sources like wind, solar, wave and methane gas (rubbish dumps and sewerage plants). It is a fact that towns like Freiburg in Germany have managed to stave off the construction of a nuclear power plant in their vicinity and to prove their point converted almost the entire town to power-sourcing and operational principles that are governed by ‘green’ methods. This proves that it can be done, and that we in South Africa, blessed with sun and wind and waves (and presumably also ever increasing sources of methane), and having not nearly the range of temperature extremes that Europe experiences, should be in a prime position to investigate and employ these options, particularly if the cost to the public is likely to be considerably less than the nuclear option. In addition, the concept of ‘negawatts’ is definitely a principle that should be applied before any other, in order to make the current supply system more stable and efficient until such new technologies can be brought on line, regionally and nationally.

5. DEAT’S COMMENTS ON THE PLAN OF STUDY FOR THE EIA

It is with some concern that we note, under point 2 “Content of the Scoping Report”, that DEAT has pointed out such items like, for example:

- the project description information is inadequate
- DEAT requests the inclusion of a layout plan of the proposed footprint of the proposed NPS, indicating where all infrastructure will be placed – does this mean that no such layout was included in the Scoping phase, and if not, how can any assessment be deemed to have been sufficient if such a basic and integral factor has not been addressed, even if only in broad strokes to provide a framework for the detailed EIA to proceed with going forward?
- the decommissioning aspect of the proposed NPS’s has not been sufficiently addressed
- the possible contamination of key water resources must be discussed in the EIR – does this mean it was not addressed in the Scoping phase? If not, how is it possible that such a vital aspect has not been dealt with?
- waste disposal and transportation has not been adequately addressed, in particular whether or not new disposal sites are to be established near the NPS, and clarity is required regarding the transportation of waste to and from the site. Again this begs the query, how is it that such a fundamental aspect has not been suitably addressed in the Scoping phase in order to give a solid base for the detailed EIA phase to work from?
- the long term storage of high level nuclear waste must be addressed in the EIR
- the effects of the projected rise in sea level, due to global warming, on the proposed NPS siting must be addressed
- the reasons for the selection of a pressurised water reactor (PWR) as the preferred option is poorly motivated
- the proposed methodology for the assessment of impacts is vague
- I&AP’s have not been given a clear indication on how their inputs have been taken into account in the SR, and how the responses to the issues have affected the report. If this

already an issue in the Scoping phase, it raises some considerable concern that future inputs by I&AP's will in fact not be properly considered, or affect the assessments made in the detailed studies going forward

- Eskom has addressed radiology concerns raised by I&AP's rather than the independent specialist appointed to this task. We would have preferred if DEAT had insisted that *only* the specialists may respond to queries raised (rather than that they must at least review Eskom's responses to I&AP's).

The above-mentioned inadequacies highlight, in our opinion, the lack of thorough information that was provided to the public / lay people for comment at the end of the Scoping phase (those stakeholders and I&AP's that were fortunate enough to actually participate in this phase, that is!), most of these issues being of fundamental importance to the assessment and analysis of the impact of such a development.

DEAT states in 2.15.1 page 4 "The proposed technology alternatives discussed in the SR must be assessed taking into consideration their environmental performance." As we have not had access to the entire Scoping Report, nor time to make a detailed assessment of this, we assume that this refers to alternative power sources other than nuclear (rather than other methods of nuclear power generation). We wholeheartedly support this requirement if in fact it refers to the former, rather than the latter. If reference here is being made to alternative methods of nuclear power generation, we would then like to request that the same level of consideration and analysis be given to alternative power sources other than nuclear (i.e. renewable sources), especially from a cost and environmental performance perspective.

Re: item 2.21 page 4 – "All radiological issues which are not comprehensively addressed, must be explicitly referred to the NNR to be addressed as part of their process."
and

Re: item 2.25 page 5 – "Certain specialist studies (Human Health Risk Assessment, Traffic and Transport Report and Security Report) included in the EIA process could result in conflicting NNR and DEAT assessment outcomes and findings. It is therefore recommended that the specialist studies relating to the radiological impact be qualitative in nature as quantitative studies would require appropriately verified and validate models and codes and quantitative dose and risk assessment criteria."

Comments pertaining to these two items are covered in point 6 below.

6. STATEMENT BY THE DIRECTOR-GENERAL REGARDING NUCLEAR SAFETY MATTERS

This statement serves to inform the EAP that DEAT will not make an assessment regarding the radiological issues assessed in the detailed EIA phase, but that the National Nuclear Regulator (NNR) will be the decision-maker in this regard. The reasons given for this decision are to:

- prevent unnecessary and unavoidable duplication of effort;
- ensure that the mandates and independence of the respective authorities are not compromised;
- facilitate the integration of processes; and
- contribute to effective and efficient decision-making.

It is our contention that both DEAT and the NNR should analyse and assess radiological issues (nuclear safety, radiation and radiology) in detail, even if this means a duplication of time and efforts, as both of these bodies have different perspectives and terms of reference in their very reason for being – considering the magnitude and far-reaching consequences of such a proposed development, it would surely behove all role players to be fully and comprehensively informed from all possible quarters. If then a conflict in decision-making arises, this can only further highlight the significance of how sensitive, controversial and extensive this topic is, and that any decision-making in this regard cannot be taken lightly, or for that matter by only one authority. A situation such as this would also be an opportunity for the public to become better informed, and consequently be further involved in the decision-making process, as well as having the assurance that the matter would then possibly have to be referred to even higher authorities for a decision (if DEAT and NNR cannot come to a publically approved, joint decision after further consideration and assessment).

Having detailed assessments done within the EIA process and then by the NNR can in no way be seen as impacting on either the mandates or the independence of either DEAT or the NNR, so we feel that this reasoning to support the transference of the decision-making responsibility solely to the NNR is not relevant.

It is also difficult to understand the reasoning of how, if both DEAT and NNR were decision-makers in the process from their respective perspectives, this would not facilitate the integration of processes, or that the decision-making would then be not effective or efficient.

TAG therefore is not in favour of this split in decision-making aspects, and feels that DEAT should apply itself in its role as the assessor of the radiological issues assessed in the detailed EIA phase, and that NNR should continue to deal with the licensing aspects when/if the regulatory process gets to that stage. This state of affairs would not preclude co-operation and a sharing of information by these two organs of State, and it would most certainly provide opportunities for fully comprehensive information gathering and acknowledgement of different view points leading to the respective decisions made.

7. CONCLUSION

Given that our Tesselaarsdal area has been rated as highly sensitive by the visual, flora, fauna, avifauna, and heritage specialist reports, and considering the relevant social and land use aspects which we have tried to highlight in our response documents to the DSR (regarding the proposed high-voltage power line routes), and the fact that Tesselaarsdal has incredible potential to develop eco- and heritage tourism initiatives to the benefit of this predominantly disadvantaged community, we can only but contend that Tesselaarsdal is treasure chest of opportunities that needs to be opened, not destroyed or limited by the injudicious placement of a NPS in the region and the consequent routing of multiple high-voltage power lines over or nearby this community.

It remains our contention that the scoping process is substantively flawed due to the fact that not all the directly affected parties were suitable informed about this proposed project and given a chance to participate in the scoping phase – our community being a case in point.

Considering the extreme sensitivity of our unique region in all respects, and the groundswell of objections that have arisen from individuals, land-owner-, environmental- and tourism groups based in the greater Overberg / Overstrand region, we feel strongly that this EIA process going forward should eventually find that the proposed NPS at Bantamsklip can only be given an emphatic 'NO GO' assessment. This option should also be seriously considered w.r.t. the other sites, given that it is clear that a case can be made for the development and implementation of renewable energy sources at far lower cost to the consumer and the environment than the nuclear option.

8. ANNEXURES

A – TAG response document re DSR powerlines routes dated 30th April 2009

B – TAG response document re DSR powerline routes dated 22 May 2009

C – TAG membership list as at 22nd May 2009

D – Copy of parts of draft comment document by Rod Gurzynski

Yours sincerely,

TAG Steering Committee

Johnvin Hendricks, Joy Paulsen, Kobus Visser, Katrin Pobantz & Vincent Cook (co-opted)