PROPOSED ESKOM NUCLEAR POWER STATION AND ASSOCIATED INFRASTRUCTURE

ENVIRONMENTAL IMPACT ASSESSMENT (EIA: 12/12/20/944)

COMMENTS ON DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT

(Volume 24 RDEIR IRR 14 July 2011)

Issues have been received from the following stakeholders:

No	Name	Organisation
1	Alison Vickery	Interested and Affected Party
2	Philimor Pote	Youth Forum
3	Michel Lucy Lorton	Interested and Affected Party
4	Hilton Thorpe	Thyspunt Alliance and St Francis Residence
5	C Rutledge	Interested and Affected Party
6	Sally Andrew and Bowen Boshier	Interested and Affected Parties
7	Miranda Middel	Interested and Affected Party
8	Dr Peter Inman	CDC
9	Byron Andrews	Pam Golding Properties – St Francis Bay
10	Bradley Stilwell	Interested and Affected Party
11	Anna-Marie Groenewald	Interested and Affected Party
12	Dr Klaus and Barbara Willand	Interested and Affected Parties
13	Cathy Rutledge	Interested and Affected Party
14	Geraldine Mouton	The Bomb Surf Petition
15	Byron Andrews	Pam Golding Properties – St Francis Bay
16	Herman Stoffberg	Interested and Affected Party
17	George Hardie	Interested and Affected Party
18	Brian van der Watt	Witzenberg Municipality – Manager Distribution and Client Services
19	Uvesh Gopichund and Thys Horak	ATNS

NO	DATE	NAME &		
1	Mail	ORGANISATION Alison Vickery Interested and Affected Party	 Western Construction Access Road: Where is it going to be exactly and what will the social impact be and noise factor be for Oyster Bay and Umzamuwethu. This was brought up in previous meetings. How serious will the exclusion zones be taken by Eskom as we need Oyster Bay to be in the exclusion zone so that property development remains at a minimum and agricultural land cannot be re-zoned? Who will finance the suggestion that a police force will be increased to handle extra crime or is this just "pie in the sky" to appease us. 	 The routes of the proposed Western Access Roads have been re-evaluated and a number of alternative alignments have been considered. Based on additional assessment undertaken in 2012, the recommended alignment is east of Umzamawethu. This will ensure that potential social impacts that interested and affected parties were concerned about, associated with the possible split between Oyster Bay and Umzamawethu, do not occur. The noise impact is assessed in the Noise Impact Assessment (Appendix E23 of the Revised Draft EIR). The Noise Impact Assessment states that the noise impact at Umzamuwethu is potentially significant and therefore recommends that following mitigation measures: Construction processes and machinery/vehicles with the lowest noise emission levels available are utilised; A well planned and co-ordinated "fast track" procedure is implemented to complete the total construction process in the shortest possible time; and Construction work near residences only takes place during normal daytime working hours. As repeatedly indicated in Nuclear-1 public meetings at Oyster Bay, the proposed Emergency Planning Zones (EPZs) for Nuclear-1 will not include Oyster Bay. In any event, the appropriate means to control development and rezoning. Using emergency planning zones for the proposed Nuclear-1 would not be an appropriate or effective mechanisms to control development in Oyster Bay. Your comment is noted. The size of the police force, as with all other public services, must take account of the number of people it is required to serve.

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			The western construction access road needs to be minuted and assessment done. I have raised this on a few occasions and we don't get a response regarding noise and social impact between Oyster Bay and Umzamuwethu. This was also raised by Laura Nixon.	In recognition of the significant public concerns regarding the Western Access Road, a re-assessment of this access route and consideration of a number of alternative alignments has been undertaken and will be provided, together with the EIR Version 2, for public comment.
2	Mail	Philimor Pote Interested and Affected Party	I support the Thyspunt Nuclear Power Station. Eskom have to develop skills of the people in Umzamuwethu.	Your comment is noted. Skills development for employees is one of the core human resources policies of Eskom and requirements for this are also included in contracts between Eskom and its contractors. Should Umzamuwethu residents be employed by Eskom, they will be provided with opportunities to improve their skills.
			Eskom have to upgrade our school.	Your comment is noted. Whilst Eskom remains committed to making contributions towards the upgrading of service infrastructure (proportional to the in-migration of contract staff and employees during construction and operation), Eskom cannot be expected to provide for the upgrading of all infrastructure, which it is the responsibility of government to construct and maintain.
			We need a final date when Eskom going to start with the building of the Power Station. We need information of each stage of project.	The date of construction cannot be accurately predicted as the environmental impact assessment process is only the first of more than 30 different authorisations that Eskom requires before its Board can make the business decision to construct the power station.
			Special training required for unskilled people of Umzamuwethu.	Local Skills initiative discussions can only be further progressed once the EIA authorisation for a specific site has been issued. Please refer to the response above regarding skills development.

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3	Mail	Michele Lucy Lorton Interested and Affected Party	We do not agree with the finding that Bantamsklip is a viable site. We feel that it is a very delicate ecological site (containing many Red Data species etc.) and should be protected.	recognised as being sensitive in terms of botanical biodiversity. A comprehensive study of the vegetation of the
			Besides the site, the damage to the environment through the infrastructure and transporting and waste is unjustifiable (for all sites).	Your comment is noted.
			Europe is considering ending nuclear development and I am afraid we'll be buying their waste (or "trading" for it).	Certain European countries (e.g. Germany) have taken a decision to phase out nuclear power. However, other European countries such as France continue to rely heavily on nuclear power and will continue to provide the majority of their electricity from nuclear generation. The United Kingdom has recently (late October 2012) announced its decision to proceed with its extensive new build nuclear programme. Your comment regarding the purchase of nuclear waste is noted. Kindly provide a substantiation for this statement. The vast majority of nuclear waste worldwide continues to be stored on site at the nuclear power stations. It is only recently that geological storage of nuclear waste has become a reality (e.g. at Olkiluotu power station in Finland).
			The instability of the planet: What environmental impact report has been carried out as to the stability of the area in case of a Tsunami, tremors or earthquakes which are on the increase?	The Nuclear-1 EIA includes a Seismic Risk Assessment and a Coastal Engineering Report (respectively Appendices E4 and E16 of the Revised Draft EIR) that consider seismic risks, tsunamis and earthquakes. There is no factual basis for your perception that tsunamis, tremors and earthquakes are on the increase. Southern Africa is located in a seismically stable part of the world, as we are located in the

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			Not even "experts" know. Learn from Japan! One can't predict.	middle of a continental plate. Parts of the world such as Japan, which experienced the earthquake leading to tsunami and the nuclear incident at Fukushima Daiichi, are situated on the edge of a continental plate in a subduction zone, which is prone to frequent earthquakes.
4	03 July 2011 Email	Hilton Thorpe Thyspunt Alliance and St Francis Residence Association	A week or so ago I had a phone call from Reuben Heydenrych to ask for a reference in DEIR 2 to Eskom's membership of the St Francis Conservancy. It has taken a while to find it - perhaps a reflection on the difficulty of finding responses on the CD! At the public meeting, Chris Barratt drew attention to an error in the Draft. Jaana- Maria had stated that Eskom was not a member of the St Francis Conservancy, whereas it assuredly is. Indeed the only reason why the Conservancy failed to join the Thyspunt Alliance was a threat by Eskom to withdraw if this happened. As a result of the failure to join the Alliance, a number of members of the Conservancy resigned! As I said to Reuben, it is not exactly a key issue, but he correctly said that they wished to correct any errors. It would be good if they would correct some of the more important ones, such as the continuing lie that the prevailing wind is from the north-west, contrary to all the evidence. The reference Reuben wants is contained in Jaana-Maria's response to the St Francis Kromme Trust, found in Item 26, Appendix D8 of the revised DEIR, ref IRR45n Long Submissions, and response 12 on p.15.	Your comment regarding the conservancy is noted. There is no inconsistency in terms of direction of wind reported in the Revised Draft EIR. In this respect, kindly refer to the attached comprehensive response to the issue of wind direction provided by the air quality specialist.
5	5 July 2011	C Rutledge	a. "The wetland on the site is	Your comment is noted. The Freshwater Ecology

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	Email	Interested and Affected Party	considered as a "one-of-a-kind" wetland system. With interaction between the wind, sand dunes and water table.	Assessment (Appendix E12 of the Revised Draft EIR) notes the importance of the wetlands systems on the site and concluded that mitigation of the impacts on these systems is possible. It is to be noted that the development layout excluded development in the areas where wetland systems occur, such as in the mobile dune field and in the eastern portion of the site where the Langefonteinvlei wetland is situated.
			b. It is extremely risky to build a Nuke on a system that is so active that the scientist has still not figured out how the different elements interact."	It is not correct to state that "the scientist" has still not figured out how the different elements interact. From a hydrological perspective there is a very good understanding of the interaction between the geological formations, aquifers and different surface water sources such as Langefonteinvlei. The movement of the sand in the Oyster Bay mobile dune system is also very well understood. Extensive monitoring of groundwater levels and wetlands has taken place since 2010 and continues to take place. Data collected through this programme have resulted in a high degree of certainty regarding groundwater quality and movement. The results of this monitoring are provided in the Wetlands Monitoring Report (Appendix E12 of the Revised Draft EIR).
			And yet, you want to propose that it is safe to build this nuclear power station within a 6 to 10 kilometre range of our main water supply the Mpofu Dam. We all know that corrosion takes place near the coast and that the pipes have to be replaced every so often. Who will do this? Our municipality?	It is unclear how you link corrosion of pipes causally to the proposed nuclear power station. A nuclear power station cannot cause accelerated corrosion of pipes. The design of the proposed nuclear power station will ensure that corrosion-resistant materials are used.
			All of these power stations have leakages that appear after ten years or so let alone one built on a wetland. What guarantees have we as a community that the replacements will take place and that our water supply will not be affected.	Kindly provide an independent study to motivate your claim that "all these power stations have leakages that appear after 10 years or so". No such factually-based sources are known to GIBB. Environmental monitoring is a global practise and all releases are monitored to ensure compliance with nuclear regulatory limits imposed by the National Nuclear Regulator.

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				These limits to the public are usually below normal background radiation levels, as has been the case at Koeberg Nuclear Power Station throughout its operational life.
6	06 July 2011 Email	Sally Andrew and Bowen Boshier Interested and Affected Parties	All our previously stated objections have not been addressed and they still stand.	Your comment is noted. GIBB's previous responses remain valid.
7	07 July 2011 Email	Miranda Middel Interested and Affected Party	Oh whoopee! What's the difference between a Democratic Government and Communist Mao? Zults.	Your comment is noted.
8	07 July 2011 Email	Dr Peter Inman CDC	Thank you for taking my call just now. I confirm that the CDC will be responding formally to the Revised Draft EIR. With my colleagues to whom I have copied this email, comments will prepare and forward to you next week.	Your comment is noted. The CDC's comments have been responded to in a separate Issues and Response Report.
9	07 July 2011 Email	Byron Andrews Pam Golding Properties – St Francis Bay	With regards to the revised flawed EIA submitted, have you a contingency plan to deal with the high possibility of flooding affecting the entire area around Thyspunt?	Flooding has affected large portions of St. Francis Bay and has resulted in washing away of the R330 bridge over the Sand River. Comprehensive redesign of this bridge has been undertaken to ensure that the bridge is better able to handle regular floods in this river system. Even if the R330 bridge were to be washed away again, the Nuclear-1 power station would have two access routes, including a western access route from the Oyster Bay Road. In the event that both access routes are washed away, short-term repairs could be effected, as has been the case for the Sand River crossing. Even if all access is cut off, the power station could continue to operate for extended periods of time. Fuel and nuclear waste deliveries to and from the power station happen on an irregular basis at long intervals, thus the power station does not need daily or even weekly access.

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			Also, have you received the correct information from the South African Weather Bureau on what direction the prevailing wind direction is?	Your comment is noted. There is no inconsistency in terms of direction of wind reported in the revised Draft EIR. In this respect, kindly refer to the attached comprehensive response to the issue of wind direction provided by the air quality specialist.
10	07 July 2011 Email	Bradley Stilwell Interested and Affected Party	Thanks for taking the trouble to listen to the public and allow comment on this issue. I am aware of the challenges facing SA in the future but I think we should be focusing our efforts on clean energy like wind and solar energy. I know they are relatively low energy generators and the costs and logistics are not as practical as nuclear but with a long term vision and government backing I believe SA could place itself at the front of an innovation revolution. I firmly believe this is the time for a paradigm shift in terms of energy and if you guys play your cards right you could find yourself charging ahead into new and prosperous territory. Just think about it.	It is not in the mandate of this EIA process to compare the costs and benefits of nuclear generation technology to renewable forms of electricity generation, since the EIA process is, by its very nature, a project-specific tool that focuses on a particular form of technology. However, government and Eskom are pursuing renewable technologies in parallel to nuclear generation. It is to be noted that the Integrated Resource Plan (government's strategy for security of energy supply over the next two decades) requires a balanced mix of generation technologies, including 9,600 MW of nuclear and 18,700 MW of renewables. The purpose of nuclear generation is to provide reliable base-load power, which most of the renewable technologies are not capable of providing on the same scale. It is also pointed out in the Revised Draft EIR that a mixture of generation technologies is required in order to meet South Africa's future energy needs and that we cannot place reliance on only a single form of technology or a limited number of technologies. Although the relative contribution of renewable technologies must increase over time, it is not a simple matter of replacing non-renewable technologies with renewable technologies.
11	07 July 2011 Email	Anna-Marie Groenewald Interested and Affected Party	I object strongly to Nuclear development anywhere in South Africa. Where do I send my objections too? Your mail is not very clear on this.	The GIBB Nuclear-1 Public Participation Office sent an email reply to Ms Groenewald on 13 July 2011 confirming the details of where she can send her comments.
12	07 July 2011	Dr Klaus and Barbara Willand Interested and Affected Parties	We like to point out, that we are against any erection of a Power Station at the southernmost tip of the African continent.	Your comment is noted.

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			The temperature changes caused environment damages (CO2, NOX, etc.) are already an unsolved problem. In the name of our children and grandchildren: NO!	With respect to the change in temperature as a result of the release of warmed cooling water, extensive and detailed oceanographic modelling was carried out to determine how far the warmed water would disperse. The results of this modelling are reflected in the Marine Ecology Assessment (Appendix E15 of the Revised Draft EIR). It is stated here that warmed cooling water is dissipated quickly and that the impacts thereof would be minimal and of very limited spatial extent. With regards to Bantamsklip, the impact of warmed cooling water was particularly critically assessed due to the temperature sensitivity of the threatened abalone at this site. Abalone is able to tolerate a maximum temperature increase near the sea bottom of 7°C. It was found that a nearshore release of warmed cooling water at a depth of 25 m, the mean increase in temperature near the seabed would not exceed 1° C. An offshore release of warmed cooling water is therefore recommended at Bantamsklip.
13	07 July 2011 Email	Cathy Rutledge Interested and Affected Party	Noooooooo! (syc)	Your comment is noted.
14	05 July 2011 Email	Geraldine Mouton The Bomb Surf Petition	Has no one learned from the disaster in Japan?? Oh yes right, it was a month ago, forgotten already! Or is it that South Africa's technologies are so much more advanced than Japan's? oh yes, right, earthquakes and tsunamis won't happen in Cape Town	The design of the Fukushima Daiichi nuclear power station dates from the late 1960s and does not incorporate the substantial lessons in nuclear power station design that have been learnt in the decades since its construction. One of the major differences between the design of the Fukushima Daiichi power station and later power stations in terms of spent fuel storage is that the Fukushima design includes the spent fuel pool in the containment structure, whereas in later designs (e.g. at Koeberg Nuclear Power Station), the spent fuel pool is separate from the containment structure and contamination in the containment

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			That is what the Japanese also said (at least of that scale). But they were wrong! But money and success comes before the health of the people and the environment.	structure does not impact access to, and operation of, spent fuel cooling systems. Several other major differences in nuclear power station design and operation have been implemented in the decades since Fukushima was built, including passive cooling.
			One question: imagine Cape Town in all its glorious beauty, with its blue skies and gorgeous beaches, totally empty, no people, no animals, no plants, no life whatsoever on land or in the waterand dead, poisonous beauty How tragic that would be. It is the reality of Chernoby!! With every Nuclear Power Station, the possibility of that outcome gets bigger and bigger. I hope I never have to say "i told you so" but can you take the responsibility and say "yes let's risk everything?" I can't!	proper planning. Unfortunately planning for the Fukushima Daiichi plant in terms of catering for tsunami events was poor, in that a very low tsunami was assumed than should be the case for a country like Japan, which is prone to frequent earthquakes. In contrast, emergency planning for the Koeberg Nuclear Power Station assumed a tsunami of 4 m, even though no tsunami has ever been recorded on the West Coast, and in spite of the fact that Southern Africa is seismically stable. In addition to planning for a tsunami, planning for the KNPS assumes that a tsunami may co-

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				hand, not a single death or serious injury due to the radiation release from the power station has been recorded to date. This is not mentioned to minimise the significance of the nuclear incident, but to provide some perspective regarding the public perception of what is regarded as a significant risk. In the wake of the Fukushima incident, very critical attention has been focused on the nuclear power station. However, the everyday risk of living in vulnerable low-lying coastal areas prone to flooding seems to be tacitly accepted or at least not treated with nearly the same level of concern. If a tsunami does happen in an area like Cape Town (bearing in mind that there are no sources of tsunamis like seismically active zones such as those off the coast of Japan and that no tsunami has even been recorded in the Western Cape), the scale of human tragedy directly attributable to the tidal wave itself would be colossal.
15	08 July 2011 Email	Byron Andrews Pam Golding Properties – St Francis Bay	 This is the only way out of St Francis. What will happen if we need to evacuate? In holiday season 30 000 people will be nuked. Eskom could be responsible for the biggest disaster in Nuclear history. 	Mr Andrew's attached photos two emails regarding the St Francis Sand River flood (Only one email had text content.). A third email pointed to this link: <u>http://stfrancischronicle.wordpress.com/2011/07/07/motorists</u> <u>-stranded-as-sand-river-bridge-is-demolished/</u> Similar concerns from the public around Humansdorp area up to St Francis have been raised and the Transport Specialist study was revised accordingly. The report notes that a section of R330 across the Sand River was destroyed by flood and debris flow in July 2011. The box culvert was severely damaged and inhibited traffic flow between Humansdorp and St. Francis Bay while it was being repaired for a few days. Bridges and culvert are generally designed for 1:100 year floods. The flood experienced in 2011 was, however, considered to be a flood with much greater scale than designed for. Construction and operation of Nuclear-1 may be affected should the flood occur again during the construction and operations phase of the proposed nuclear plant. It is, therefore, suggested that a Stormwater

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				Assessment Plan should be undertaken for the flooding situations of Sand River at the R300 crossing. Design specification of the bridge should be reviewed and mitigation measures, such as embankment protection, should be implemented. As of October 2013, such redesign was in progress. Site safety issues are also considered in the Emergency
				Response and Site Control Reports (Appendix E26 and E27 of the Revised Draft EIR) and will also be dealt with in the NNR process.
16	10 July 2011 Email	Herman Stoffberg	MAJOR CONCERN The Western Access road cut through the dunes behind Oyster Bay as I see it, it cut over the water fountains that supply Oyster Bay of water. This is a major flaw in your placing of the road. The road will have to move more to the east. I have seen nobody fiscally (sic) inspect the land.	The fountains that supply water to Oyster Bay are important life-support systems and it is agreed that impacts on these features should be avoided at all costs. The routes of the proposed Western Access Road have been re-evaluated and a number of alternative alignments have been considered. Extensive fieldwork for this re- evaluation was undertaken in late 2012. Based on this additional assessment, the recommended alignment is east of Umzamawethu. The primary motivation for such an alignment is to avoid social impacts on Umzamawethu, but it would also avoid potential impacts on the springs that provide Oyster Bay with water.
17	10 July 2011 Email	George Hardie Interested and Affected Party	It is interesting to hear the various conjectures as to why the Sand River flooded. My family came to St Francis Bay originally in the mid 1950s and I can remember regular flooding of the Sand River from that time. I look back particularly to 30/40 years ago when I was very often trapped in St Francis Bay and unable to get our sons back to	Your comments are noted. Similar concerns from the public around Humansdorp area up to St. Francis have been raised and the Transport Specialist study was revised. The report notes that a section of R330 across Sand River was destroyed by flood and debris flow in July 2011. The box culvert was severely damaged and inhibited traffic flow between Humansdorp and St. Francis Bay while it was being repaired for a few days. Bridges and culvert are generally designed for 1:100 year floods. The flood experienced in 2011 was, however, considered to be a flood with much greater scale than designed for. Construction and operation of Nuclear-1 may be affected should the flood occur again

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			 school - because the Sand River was in flood. It is so easy to look for a scapegoat when natural disasters occur, but I thought your readers should understand that this phenomenon has occurred with regularity and was happening long before The Links was developed. For me the frightening concern should be a possible nuclear disaster and residents of St Francis Bay trapped in the village because of the Sand River flooding. Flooding will happen again no matter man's intervention. 	proposed nuclear plant. It is, therefore, suggested that a Stormwater Assessment Plan should be undertaken for the flooding situations of Sand River at the R300 crossing.
18	11 July 2011 Email	Brian van der Watt Witzenberg Municipality Manager – Distribution and Client Services	Can you please let me know to whom the Revised Draft EIR was sent at Witzenberg Municipality and when?	The GIBB Nuclear-1 Public Participation Office couriered a DVD with the Revised Draft EIR to the Witzenberg Municipality, 54 Voortrekker Street, Ceres, 6835 on 12 July 2011.
19	01 July 2011 Email	Uvesh Gopichund and Thys Horak ATNS	From documentation previously provided and located on your web site it appears that a study is currently in place regarding this Nuclear facility. In view of the fact that ATNS is an Interested and possibly an affected party you are respectfully requested to provide ATNS with as much information on this proposed facility – Exact location (Geographical position Degrees, Minutes, Seconds and decimals of a second in WGS- 84 format) etc.	to ATNS on 12 July 2011. The email included a footprint map indicating the co-ordinates. (footprint map received from Gert Greeff who received it from Stephen Ekermans - Draughtsman / Eskom)

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			The establishment of such a facility normally goes hand in hand with the establishment of a Restricted area as is the case with the "Koeberg Nuclear Power Station" – FAR36 GND/2,000 FT AGL See SA Aeronautical Information publication (SA AIP) ENR 5-11.	