

Our Ref: J27035



21 December 2010

**Johannesburg**

14 Eglin Road  
Sunninghill 2191  
PO Box 2700  
Sunninghill 2128

Tel: +27 11 519 4600  
Fax: +27 11 807 5670  
Web: www.gibb.co.za

Attention: St Francis Bay Residents' Association, on behalf of the Thyspunt Alliance

Dear Sir

**ESKOM ENVIRONMENTAL IMPACT ASSESSMENT (EIA:12/12/20/944) FOR A PROPOSED NUCLEAR POWER STATION AND ASSOCIATED INFRASTRUCTURE: COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT ASSESSMENT REPORT**

Your correspondence to Ms. Bongi Shinga of Acer (Africa) entitled "*Appendix 2 Contradictions and shortcomings in the Impact Rating criteria*" 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 and comments concerning the Nuclear-1 have been noted.

**Your Comment (1)**

**Contradictions and shortcomings in the Impact Rating criteria**

The Final Plan of Study, Table 2 on p.11, claims to outline the criteria to be used by specialists in estimating the significance of impacts, as required in terms of Govt Notice R385, promulgated in terms of Section 24 of NEMA, and criteria drawn from Guideline 5 of the Integrated Environmental Management Series (Assessment of Alternatives and Impacts), published by the DEA in April, 1998. These criteria are extremely important in guiding specialists in preparing their assessments; the public in guiding their response; and the responsible authority in decision-making. Like all law, they are open to interpretation, and developers will be looking for grey areas and loopholes. It is crucial that they be clear, comprehensive and consistent, and give a fair reflection of the actual situation on the ground. There is room for scepticism, as will appear below.

The PoS lists 12 criteria to be considered, namely: nature, extent, duration, intensity, consequence, probability, significance, cumulative, reversibility, irreplaceability, mitigation measures, and degree of confidence. The list sounds comprehensive and sensible.

However, a problem arises over the manner in which these criteria are defined and applied. Some definitions are abstruse and difficult to interpret, whilst several are arrived at through a combination of others, and this can skew the results, as will be shown below. The result can be a conclusion which does not reflect the realities on the ground.

The key criteria are extent, duration, intensity, consequence and significance.



GIBB Holdings Reg: 2002/019792/02  
Directors: R. Vries (Chairman), Y. Frizlar, B Hendricks, H.A. Kavthankar, J.M.N. Ras  
Arcus GIBB (Pty) Ltd, Reg: 1992/007139/07 is a wholly owned subsidiary of GIBB Holdings.  
A list of divisional directors is available from the company secretary.



<b>Extent</b>	This is defined in terms of three possible categories: local, regional or national. Clearly the major impact of Thyspunt would be local, though its consequences would be felt throughout the region.
<b>Duration</b>	This is defined in the Final POS and Ch7 as short-term (up to 5 years); medium- term (6 – 15 years); long-term (16 – 30 years) and permanent if indefinite.
<b>Intensity</b>	This is defined as the severity of the impact on natural, cultural and social functions and processes. Once again there are three levels: low, medium and high, the last indicating that these functions and processes are altered to the extent that they will temporarily or permanently cease, and valued, important, sensitive, or vulnerable systems or communities are substantially affected.

### Response (1)

The assessment criteria have been amended in the Revised Draft EIR and have been made simpler and easier to interpret. The number of assessment criteria has been reduced, as well as reducing the number of categories per criterion.

The extent of the impact is purely an indication of the physical size of the impact. This is not an indication of the importance of the impact. Some impacts of very small physical extent may in fact be of extreme significance, based for instance on the scarcity of the resources that they affect or the that that essential life-support systems are affected. Other criteria such as “intensity and the “Potential for impact on irreplaceable resources” caters for the spatial importance of the impact.

### Your Comment (2)

#### Contradictions

Confusion reigns when it comes to interpretation of these tables. One version can be found in Table 2 on p. 11 of the Final Plan of Study; another in Table 7-10, Ch 7 “Methodology”, and a third in Table 1.05, p. 34 of the Social Assessment. **All three versions differ!**. Ch7 indicates that medium-term **duration** is 6 – 10 years, whilst the Plan of Study & Social Assessment state that it is 6 – 15 years.

More importantly, when it comes to “**Consequence**”, the Plan of Study omits it altogether in its summary, listing the “Consequence” criteria under “**Significance**” whilst Ch7, and the Social Assessment produce an elaborate table to determine what level of consequence should be allocated. They produce a different table to determine significance. The PoS, having omitted consequence from its table, uses the consequence criteria to determine significance, then omits the significance table altogether! It is assumed that Table 7 -10 in Ch 7 is the correct version.

When it is considered that these tables are used to assist specialists in determining impact, the public is reacting, and the responsible authority in decision-making, this can only be described as extreme negligence, leading to confusion to specialists, public and responsible authority .

### Response (2)

As indicated above, the assessment criteria have been revised. Impact significance is an indication of risk, which is a combination of the consequence (or seriousness of the impact) and the probability (the chance that the impact will actually occur). Generally speaking, an impact with low consequence and low probability will have a low significance, while an impact of high consequence and high probability will have a high significance. It is important to distinguish between consequence and probability, because although the consequence of some impacts may be high, their probability may be low, resulting in a significance or risk that society is generally willing to live with. An example may be daily commuting in a vehicle. One of the possible impacts may be a fatal accident. However, because of the

low probability of this happening, and the convenience of having a private vehicle, most people happily accept this risk.

### **Your Comment (3)**

#### **Shortcomings Consequence**

This is defined in terms of a combination of extent, duration and intensity. This is where the problem starts. A local impact can only qualify for a high level of consequence if it continues long-term or permanently i.e in excess of 15 years. At the local level, the intensity can be as high as you like, but it will only be classed as medium consequence if it is not long-term or permanent.

#### **Significance**

According to Ch7 and the Social Assessment (but not the ToR), this is defined as a combination of consequence and probability, and defines “the level to which the impact will affect the proposed development and/or environment in any way. It determines whether mitigation measures need to be identified and implemented, or whether the resource is irreplaceable and/or the activity has an irreversible impact”.

Since “Consequence” will only be classed as high if it continues for more than 15 years, the same will apply to “Significance”, which is the final element of classification, and will greatly influence decision-makers.

To take a reductio ad absurdum, on the basis of these criteria, a proposal could be made to place an airport to transport heavy equipment to Thyspunt, or a bombing target site adjacent to a residential area, for a period of 15 years, and the highest impact that could be recorded would be medium. This is manifestly excessively mechanical and inequitable, and there is a clear case for it to be reviewed. However, currently it is the law, and it affects assessments in the DEIR.

### **Response (3)**

The assessment criteria that have been used are widely accepted in the impact assessment industry, both locally and internationally, and are also prescribed by the Department of Environmental Affairs.

### **Your Comment (4)**

#### **Questions**

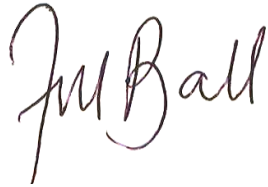
1. How can the EAP justify such extreme incompetence in the drawing up of such important tables as impact criteria? Is this not yet another example of the shoddy manner in which this EIA is being handled?
2. How can it be justified that the consequence and significance of an impact on a local area can only be classed as high if it continues for 16 years or more?

### **Response (4)**

1. We take note of your comment.
2. Duration of an impact is not the only criterion that affects impacts significance. Intensity and impacts of irreplaceable resources also have a material effect on significance.

Should you have any queries with respect to the above please do not hesitate to contact Arcus GIBB.

Yours faithfully  
For Arcus GIBB (Pty) Ltd

A handwritten signature in black ink that reads "JMBall". The letters are cursive and fluidly connected.

---

Jaana-Maria Ball  
Nuclear-1 EIA Manager