

ENVIROSERV

WASTE MANAGEMENT CONSULTANTS

ACER (Africa) Environmental Management Consultants,
Attention: Mrs Candace Sparg,
 P O Box 503,
 Mtunzini, 3867

28th March 2011

Dear Mrs Candace Sparg

RE: Comments by EnviroServ on the Draft EIAR for the proposed KwaDukuza Landfill Upgrade Project

Thank you for your e-mail dated 7th March 2011 notifying us of the availability of the Draft Environmental Impact Assessment Report (Draft EIAR) dealing with the proposed KwaDukuza Landfill Upgrade Project.

We have studied the document provided, namely the *Draft Executive Summary* dealing with the "*Proposed Upgrade at the Kwadukuza Landfill site, KwaZulu Natal*" and would like to raise the following issues. It is our contention that some of the potential environmental and health impacts mentioned in the document have been erroneously minimized or incorrectly evaluated.

All issues are referenced according to the relevant paragraph in the *Draft Executive Summary* as well as the line in which they occur for ease of reference.

1. Paragraph 2 - Project Proposal – 1st paragraph – line 4

Document reads – (additional volumes of waste) *is likely to be approximately 300 tons per month*".

More specifics (ie. detailed information as to chemical composition or type of hazardous waste) should be supplied as an H:H landfill site can accept waste ranging from extreme hazardous wastes (HG1) containing cyanides and cancer causing compounds such as polycyclic aromatic hydrocarbon compounds (PAHs) to low hazard (HG4) materials.

The proponents are basing part of their justification for the upgrade of the site on the logic that such wastes are currently shipped to suitably constructed and permitted sites in Gauteng and the Western Cape. This would imply that they have more detailed information on the potential waste streams they are targeting. Such information should be supplied to all I&APs to allow for a more informed decision making process.

The significant potential impact of these extreme (HG1) to low hazard (HG4) wastes on the landfill is partially summarized in their statement that "*the leachate will become 'stronger' as a result of the disposal of hazardous waste*" – [see comment below].

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2. Paragraph 2 - Project Proposal – 2nd paragraph – 1st line

Document reads – ***“the leachate will become ‘stronger’ as a result of the disposal of hazardous waste”***.

The term ***“stronger”*** must be better defined to allow for an informed decision making process w.r.t. the ***“Proposed Upgrade at the Kwadukuza Landfill site, KwaZulu Natal”***. The proponents have full knowledge of the quality and quantity of the hazardous leachate generated at the lower risk BulBul Drive H:h landfill facility in KZN and are naïve in simply stating that ***“the leachate will become ‘stronger’ as a result of the disposal of hazardous waste”***. The data available from the BulBul Drive operation can be used to model the potential impact that the disposal of hazardous waste will have on the kwaDukuza landfill (should this be permitted to take extreme hazardous wastes), despite these also not currently being accepted at the BulBul Drive operation due to it's inherent lower risk (H:h) rating.

3. Paragraph 2 - Project Proposal – 4th paragraph – 4th bullet

Document reads – ***“hyperchlorite”***. Should read ***“hypochlorite”***.

4. Paragraph 2 - Project Proposal – 4th paragraph – 7th bullet

Document reads – ***“Macro encapsulation”***.

It is surprising that the proponents, who are clearly aware of the impending changes to waste management in South Africa as evidenced by their reference to the ***Draft Waste Classification and Management Regulations***, would advocate the use of ***“Macro encapsulation”***. The Department of Environmental Affairs (DEA) has clearly indicated their intention to phase out and prohibit ***“Macro encapsulation”*** within eight (8) years as a waste management practice. It would appear as if the proponents intend to bring the most extreme of hazardous wastes (HG1) wastes into the kwaDukuza site for ***“Macro encapsulation”*** despite the clear indication from Government that this is not a favored technology. This situation needs to be clarified with all stakeholders.

5. Paragraph 3 - Current Landfill Impacts – 1st paragraph – 1st line

Document reads – ***“Dust and odour are currently exceeding limits on the site”***.

It is of significant concern that these causes of health and environmental impact are already ***“exceeding limits on the site”*** as their potential risk will increase significantly should the kwaDukuza site start receiving extreme hazard (HG1) wastes. Clearly both ***“odour”*** as well as ***“dust”*** could carry significant levels of other contaminants within themselves. In the case of ***“dust”*** this could be in the form of hazardous pollutants either absorbed (or adsorbed) on the ***“dust”*** which is then carried via wind to nearby areas where it is already ***“causing nuisance to residents”***. Clearly, any hazardous pollutants carried along on or with the dust could have a serious health impact on these residents.

6. Paragraph 3 - Current Landfill Impacts – 2nd paragraph – 1st line

Document reads – ***“although some phenols were found in a downstream water sample in the latest test results”***.

It is of significant concern that ***“some phenols were found (in a) downstream”*** of the kwaDukuza landfill-site despite, according to the proponents, being designed to operate as an H:H landfill. The source / origin of these ***“phenols”***, which could range

from the moderate hazard (HG3) unsubstituted *phenol* to the extreme hazard (HG1) *2,4,5-Trichlorophenol* should be investigated before proceeding any further with the **"Proposed Upgrade at the Kwadukuza Landfill site"**. Should these hazardous pollutants be found to be originating from the site then it would firstly be an indicator that the site is incapable of controlling the escape of hazardous leachate from the site despite assurances of the proponents to the contrary. Secondly, the reason for these pollutants being present in leachate from the site should immediately be investigated as the site has not been permitted to receive waste streams containing hazardous pollutants.

7. Paragraph 4.3 Air Quality and health – 3rd paragraph – 2nd line

Document reads – **"Baseline monitoring revealed that benzene, toluene, ethyl benzene and xylene in the vicinity of the landfill were substantially below health-based air quality standards and guidelines"**.

It would have been a serious cause for concern if the levels of **"benzene, toluene, ethyl benzene and xylene in the vicinity of the landfill"** were found to be above the mentioned guideline values as the site is not permitted to receive these hazardous wastes. This does, however, also imply that the baseline values cannot be used to predict future pollutant levels should the site be permitted to receive waste streams containing such known carcinogens. It would be false logic to imply that a low current baseline level (when none of these VOC compounds should be present in the waste) is a guarantee of low future levels.

8. Paragraph 4.3 Air Quality and health – page 6 – 2nd paragraph – 1st line

Document reads – **"The incremental cancer risk was calculated for benzene, based on the modelled baseline concentrations"**.

As stated in Point 7 above, the baseline data is not relevant as they should not have been taking in benzene containing wastes. The issue would be the future volumes and composition of hazardous waste streams for which they can provide no information at present. To calculate the **"incremental cancer risk"** based on a "zero" baseline value from current practice of non-hazardous waste disposal is totally incorrect.

9. Paragraph 4.6 Leachate – 1st line

Document reads – **"Leachate may increase in strength and volume as a result of the upgrade"**.

See Point 2 above w.r.t. the statement that **"Leachate may increase in strength"**.

10. Paragraph 4.10 Traffic – Page 10 – 2nd paragraph (1st full bullet)

Document reads – **"It has been found that there are substantial economic and energy / environmental benefits in terms of reduced carbon footprint of providing a H:H landfill for hazardous waste at KwaDukuza, in preference to the existing situation where the waste must be taken to Holfontein in Gauteng, or Vissershok near Cape Town"**.

The statement is erroneous and misleading. The proponents are clearly aware of the impending changes to waste management in South Africa as evidenced by their reference to the **Draft Waste Classification and Management Regulations** [see also Point 4 above]. They should therefore be very aware that these (draft) **Regulations**

include the proposal that all current H:h landfill sites such as Shongweni and Bulbul Drive be upgraded to H:H landfills based on current design requirements. The proposed "**substantial economic and energy / environmental benefits**" related to the proposed upgrade of the kwaDukuza site are therefore considerably reduced, if they exist at all, as waste will not need to be taken to "**Hofontein in Gauteng, or Vissershok near Cape Town**".

11. Paragraph 5 Summary of Potential Impacts of the proposed upgrade - Climate Change – 1st paragraph – 1st line

Document reads – "**The reduction in impacts relates to the local disposal of waste, ie the reduction in fuel burned by vehicles transporting high hazard wastes to other provinces**".

Statement is misleading and based on incorrect information. [See Point 10 above].

12. Paragraph 5 Summary of Potential Impacts of the proposed upgrade – Health – Page 13 – 1st paragraph – 1st line

Document reads – "**The health risk assessment states that there is no risk associated with any of the potential airborne pollutants emanating from the site currently or in the upgrade scenario**".

The statement is questionable based on the data presented [see Point 5 above].

13. Paragraph 5 Summary of Potential Impacts of the proposed upgrade – Groundwater – Page 14 – 1st paragraph – 1st line

Document reads – "**There will be a slightly increased risk to groundwater due to the nature of the wastes to be disposed of on site**".

The statement is naïve and misleading based on the evidence presented as they clearly state that [see Point 6 above] "**some phenols were found (in a) downstream**" of the kwaDukuza landfill site. Until the source and origin of these phenols is identified there can be no guarantee that they did not come from the kwaDukuza landfill site.

14. Paragraph 5 Summary of Potential Impacts of the proposed upgrade – Odour – Page 15 – 1st paragraph – 1st line

Document reads – "**The modelling shows that there will be no difference to the odour levels in the upgrade scenario**".

The statement is incorrect and misleading as the modelling is incorrectly based on baseline information obtained from the site when it is not receiving hazardous waste. It is impossible to predict the impact of a hazardous pollutant based on information obtained when the pollutant is (theoretically) not present at the site at all.

15. Paragraph 7 Conclusions and Recommendations – 1st paragraph – 4th line

Document reads – "**The reduction in risk due to the disposal of hazardous waste closer to its source cannot be underestimated**".

While the statement is correct the document appears to ignore the fact that the **Draft Waste Classification and Management Regulations** [see also Point 10 above] will probably result in the H:h landfill sites in the KZN Province being upgraded to H:H landfill sites. These sites would then compete directly with kwaDukuza for the proposed

~300T/m of hazardous waste they intend to target for disposal and also inherently reduce the environmental impact of shipping waste long distances to other receiving provinces.

We trust the above comments will prove useful in the evaluation of the ***“Proposed Upgrade at the Kwadukuza Landfill site, KwaZulu Natal”***.

Your response to the issues raised would be appreciated.

Yours truly,



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