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environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

Ref: CD:Enf/ShongweniLandfillSite/Odour&Gas_ManagementPlan/Approval_05/2017

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To: Mr Dean Thompson
Chief Executive Officer
EnviroServ Waste Management (Pty) Ltd
P O Box 9385
EDENGLLEN
1613

Tel: (011) 456-5660

Dear Sir

APPROVAL OF THE ODOUR AND GAS MANAGEMENT PLAN DATED 10 APRIL 2017, AS WELL AS AN IN PRINCIPLE APPROVAL OF THE "SHONGWENI LANDFILL GAS EXTRACTION, TREATMENT AND VENTING SYSTEM" DATED APRIL 2017

1. I refer to the following:

- 1.1 The Compliance Notice ("CN") dated 21 October 2016, issued to your facility in terms of section 31L of the National Environmental Management Act, 1998 (Act No. 107 of 1998) ("NEMA");
- 1.2 Your letter to the Department dated 31 October 2016 entitled "*Shongweni Landfill Site, KwaZulu-Natal province: Request for variation and extension of compliance period to compliance notice as contemplated in section 31L(3) of the National Environmental Management Act, 1998, ("NEMA")*", as well as all the supporting documents which accompanied said letter; and
- 1.3 The Department's letter dated 10 November 2016, containing its "Variation Decision" on the request made in the aforementioned letter;
- 1.4 Your subsequent letter to the Department dated 15 November 2016 entitled "*Response to and further variation application in terms of section 31L(3) of NEMA and request for approval of disposal options as contemplated in the compliance notice*";

- 1.5 The Department's response letter dated 09 December 2016, containing its "Variation Decision - 2" on the request made in the aforementioned letter dated 15 November 2016;
- 1.6 The Department's letter dated 07 April 2017, granting approval of the recommendations contained in the Technical Assessment Report with reference number 548-2016-R003 ;
- 1.7 The Odour and Gas Management Plan dated 10 April 2017, submitted to the Department in response to requirements of instructions 8.9 and 8.10 of the CN;
- 1.8 The Shongweni Landfill Gas Extraction, Treatment and Venting System dated April 2017, submitted to the Department in response to the requirements of the "response letter" mentioned in 1.6 above;
- 1.9 The order made by the Honourable Mr Justice Kruger, on 26 April 2017, in the High Court of South Africa. Said order was made for the matter between Upper Highway Air NPC and, *inter-alia*, EnviroServ Waste Management (Pty) Ltd (case number 3692/2017).

Approval of mitigation measures contained in the Odour and Gas Management Plan

2. Subsequent to a review of the information contained in the Odour and Gas Management Plan as well as all other relevant and associated information presented to us at this stage, the Department has decided to approve the implementation of the following mitigation measures, as contained in the table below:

Actions to be implemented	Requirements and / or details of Implementation	Timeframe and / or further requirements for implementation
1. pH treatment of all wastes historically received and treated under the Minimum Requirements with the condition that they be treated to a minimum pH of 9 and additional dosing / treatment of trenches with lime	a) Investigate and identify methods to treat the active waste body without adding any additional waste to the body.	➤ Within ten (10) calendar days of receipt of this document.
	b) Commence and / or continue with the treatment of the active waste body in line with the requirements of the Investigation mentioned above.	➤ On-going.
	c) The effects of said treatment must be tracked and reported to this Department's Directorate:	➤ On-going.

	<p>Enforcement: Environmental Impact and Pollution on a monthly basis, commencing from the month following the date of this approval.</p> <p>d) In the event that said pH adjustment does not yield desirable results within an acceptable time-period, the Department will require you to readjust your treatment mechanisms to a higher pH level.</p>	
2. Reduce H ₂ S venting from various leachate storage and treatment tanks	e) Installation of "p-traps" to prevent H ₂ S emissions from said tanks.	➤ Installation completed.
3. Additional pre-treatment of leachate to reduce sulphides prior to being treated in the Leachate Treatment Plant ("LTP")	<p>a) Treatment of sulphides with ferric chloride.</p> <p>b) Installation of clarifier.</p>	<p>➤ Additional pre-treatment has been initiated and will continue.</p> <p>➤ Installation of clarifier has been completed.</p>
4. Removal of Whirly Birds from Valley 2	a) All whirly birds to be removed from Valley 2.	➤ Removal of Whirly Birds completed.
5. Progressive capping of front face of the waste body	<p>a) Submission of the revised progressive capping design including gas extraction and capture.</p> <p>b) Approval of revised capping design.</p>	➤ The revised capping designs have since been approved by the Department. The aforementioned letter was signed by the Chief Director: Hazardous Waste Management & Licensing on 19 May 2017 (Reference Number: 12/9/11/L1200/4).

	c) Capping of front face.	➤ On-going until completion.
6. Landfill gas collection, extraction and treatment from Valley 2	<p>a) Treatment and covering of the stone drainage layer.</p> <p>b) Installation of six (6) vertical wells and gas collection piping for the pilot gas flare. Provide the Department with weekly reports concerning the progress made in this regard.</p> <p>c) Installation of a pilot gas flare with double the required capacity. Provide the Department with weekly reports concerning the progress made with the installation of the pilot flare</p> <p>d) Measure the volume of gas and the H₂S concentration from the extraction system (the measurement should be done before any treatment is conducted). Provide the Department with weekly reports of all measurements conducted.</p> <p>e) Measure or calculate the amount of SO₂ generated by the flare, on a continuous basis. Provide the Department with</p>	<p>➤ Covering of stone drainage system has been completed.</p> <p>➤ Two (2) weeks after the "approved capping" is completed.</p> <p>➤ Two (2) weeks after the "approved capping" is completed and will run for four (4) to six (6) months to determine quality and quantity of gas.</p> <p>➤ On-going</p> <p>➤ On-going</p>

	weekly reports of all measurements conducted.	
7. Increased monitoring on site and off site	<p>a) Increase probe monitoring network.</p> <p>b) Additional sampling to be conducted by Envitech Solutions.</p> <p>c) Additional sampling to be conducted by Infotex (Pty) Ltd.</p> <p>d) Installation of two (2) real time monitors on site.</p> <p>e) Installation of three (3) real time monitors in the community for the verification of the dispersion model.</p> <p>f) Immediately include SO₂ as part of the variables which are currently being monitored SO₂ must therefore form part of all internal and external monitoring events.</p>	<p>➤ Completed.</p> <p>➤ Completed.</p> <p>➤ Completed.</p> <p>➤ Installed and operational.</p> <p>➤ Installed and operational.</p> <p>➤ On-going.</p>
8. Cease with all trenching activities associated with the leachate and contaminated stormwater on the waste body.	a) Increase the amount of contaminated stormwater and leachate taken off site for disposal and / or further treatment, in line with the approval for the alternative disposal options that was	➤ On-going

	<p>previously granted by the Department.</p> <p>b) Proof of lawful disposal as required by 8(a) above, must be reported to this Department's Directorate: Enforcement: Environmental Impact and Pollution on a monthly basis, commencing from the month following the date of this approval.</p>	<p>➤ On going</p>
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3. The Department wishes to also inform you that this document only approves the mitigation measures identified in the table above and not all of the measures proposed in the actual Odour and Gas Management Plan.
4. The aforementioned decision is based on the restrictions and / or limitations contained in the "court order" mentioned in 1.9 above.

In Principle Approval of the Shongweni Landfill Gas Extraction, Treatment and Venting System

5. Following a review of all the information, currently at the Department's disposal, regarding the Shongweni Landfill Gas Extraction, Treatment and Venting System and noting that this document excludes any pertinent information that may come to the Department's attention at a later stage, the Department has decided to grant an "In Principle approval" of the system.
6. The aforementioned decision is based on, *inter-alia*, the following factors:
 - 6.1 The need for the reduction, treatment, elimination and / or destruction of the high levels of Landfill gases which are currently being emitted by the site.
 - 6.2 The limitation of knowledge regarding the effectiveness and efficiency of the system in achieving its intended purpose. A risk-averse approach has therefore been adopted.

- 6.3 The fact that the active gas extraction and flaring system is a pilot system, and the results obtained during the pilot phase will provide vital data to make an informed decision regarding the installation of said system on a larger scale.
- 6.4 The fact that there are other Landfill Gas Treatment options available for trial.
7. Please note that this approval does not replace the requirements of the National Standards for the Extraction, Flaring or Recovery of Landfill Gas (GN 924 of 29 November 2013), which were promulgated in terms of the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008) ("NEM:WA"). You are still required to consult, and comply with the applicable requirements of the aforementioned standards throughout the life cycle of this "Landfill Gas Extraction, Treatment and Venting System" as well as any subsequent system/s.
8. **The approval set above is subject to Mr Brenden Perumal being granted permission to view the data contained on your on-line monitoring system on and off site with immediate effect.**
9. The Department also wishes to inform you that it reserves its right to retract, rescind, suspend and / or amend this approval, in its entirety or any part thereof at any time, including in the event that relevant information is provided to the Department by other external parties.
10. If you should be unclear about any aspect of this communication, kindly contact the person indicated for enquiries as soon as possible.

Yours sincerely



MS FRANCES CRAIGIE

GRADE 1 ENVIRONMENTAL MANAGEMENT INSPECTOR

CHIEF DIRECTOR: ENFORCEMENT

DATE: 14/6/17

Acknowledgement of Receipt:

APPROVAL OF THE ODOUR AND GAS MANAGEMENT PLAN DATED 10 APRIL 2017, AS WELL AS AN IN PRINCIPLE APPROVAL OF THE "SHONGWENI LANDFILL GAS EXTRACTION, TREATMENT AND VENTING SYSTEM" DATED APRIL 2017

Received by Mr/Ms.....

On behalf ofon thisday

of..... 2017, at

Signature: