IN THE APPEAL BEFORE THE MINISTER OF ENVIRONMENTAL AFFAIRS

REF: WML12/9/11/L1200/4/Suspension

ENVIROSERV WASTE MANAGEMENT (PTY) LTD	**APPELLANT**
and	
THE DEPARTMENT OF ENVIRONMENTAL AFFAIRS	**FIRST RESPONDENT**
GORDON, MARK TREVOR N.O.	**SECOND RESPONDENT**
UPPER HIGHWAY AIR NPC	**THIRD RESPONDENT**
DEPARTMENT OF WATER AND SANITATION	**FOURTH DEFENDANT**
ETHEKWINI MUNICIPALITY	**FIFTH RESPONDENT**

THIRD RESPONDENT'S ("UHA NPC") RESPONDING SUBMISSIONS

1.

In terms of s43(4) of the National Environmental Management Act 107 of 1998 (hereinafter "NEMA") an appeal in terms of s43(1) of NEMA must be **noted** and must be dealt with **in the manner prescribed** and upon payment of a prescribed fee.

2.

Regulation 4 of the National Appeal Regulations 2014 prescribes the procedure according to which an appeal must be duly noted as contemplated by the provisions of s43(4) of NEMA.

3.

Regulation 4(1) of the National Appeal Regulations provides that an Appellant must submit the appeal to the appeal administrator, and a copy of the appeal to the

Applicant, any registered interested and affected party and any organ of state with an interest in the matter, within twenty (20) days from the date the notification of the decision was sent to the Appellant by a competent authority.

4.

Regulation 4(2) provides that an appeal submission must be submitted in writing in the form obtainable from the appeal administrator; and accompanied by a statement setting out the grounds of appeal, supporting documentation which is referred to in the appeal submission and a statement, including supporting documentation, by the Appellant to confirm compliance with Regulation 4(1).

5.

Item 9 of the suspension decision in terms of s56 of the National Environmental Management Act 59 of 2008 ("NEMWA") dated 4 April 2017, which forms the subject of this appeal, informed the Appellant that any appeal had to be submitted to registered interested and affected parties, the Environmental Monitoring Committee of Shongweni landfill and any organ of state with an interest in the matter.

6.

The Appellant's first ("provisional") Notice of Appeal dated 10 April 2017 was delivered to the Third Respondent as representative of interested and affected parties, on 13 April 2017, and was not accompanied by any supporting documents which were referred to in the appeal, as required by Regulation 4(2)(b)(ii) and which was in terms of s43(4) of NEMA, mandatory. The inspection of documents tendered was also not in compliance with the case law relied upon or that of CROWN CORK & SEAL CO INC

AND ANOTHER v RHEEM SOUTH AFRICA (PTY) LTD AND OTHERS 1980 (3) SA 1093 (W).

7.

The prescribed mechanism for lodging the appeal in terms of Regulation 4 is the submission of the appeal together with the supporting documents on interested and affected parties.

8.

The accompanying documents were finally only delivered to the UHA NPC on 4 May 2017, outside the prescribed time period and accordingly, the appeal was not timeously and properly noted as prescribed by Regulation 4(2) read together with s43(4) of NEMA.

9.

Moreover, the appeal has never been served on the Monitoring Committee appointed for the Shongweni Landfill Site (“SLS”) as required by the decision in terms of s56(2) of NEMA as communicated to the Appellant.

10.

No condonation has been sought by the Appellant for either of the aforesaid breaches, and assuming that the Minister’s power to grant condonation for the late filing of an appeal against a directive, is by extrapolation, to be extended to the late filing of an appeal against any other decision in terms of NEMA and NEMWA such as that in terms of s56(2) of NEMWA.

11.

The Appellant, despite claiming the decision appealed against was premature and ill-founded based on the Second Respondent's alleged failure to await the toxicology report and accompanying Airshed report, does not, despite an opportunity to supplement the appeal, rely on the actual toxicology report and does not, in support of the appeal, submit such reports. The reasons for the same will become clear later. The UHA NPC submits those reports for the purposes of these submissions, and should they not already be available to the Honourable Minister will send them once more separately.

12.

Instead, the Appellant contents itself with incorporating by reference its answering affidavit delivered in the High Court: Durban and Coastal Local Division, opposing the Upper Highway Air NPC's urgent application to enforce the s56 decision pendente lite, and in particular insofar as it includes hearsay remarks concerning the contents of the Infotox report. No confirmatory affidavit was delivered in those proceedings opposing the urgent application by Dr. Van Niekerk of Infotox confirming the accuracy of the recordals contained therein and neither was an affidavit deposed to by Lucian Burger of Airshed Professional Planning delivered.

13.

Accordingly, and despite the criteria for a decision in terms of s56 of NEMWA being that there has been a contravention of the Act or a condition of the waste management license and such contravention/s may have, or is having, a significant effect on health or the environment, the Appellant does not attach the toxicology report which it claims

establishes that its contraventions are not having or may not possibly be having a significant effect on health or the environment. It is to be noted that in terms of s2 of NEMA when making a decision concerning a matter of environmental management, a cautionary and risk-averse approach must be adopted. Furthermore people and their needs must be placed at the forefront of such decisions which must serve their physical, psychological, developmental, cultural and social interests equitably. The SLS is surrounded by communities populated with, inter alia, the most vulnerable and previously disadvantaged members of our society. Thousands of children attending schools (both junior and high) and pre-schools / crèches, poorer communities, complexes including elderly, and a hospital are all among those impacted by the SLS.

14.

The remarks of Van Niekerk referenced in the opposing affidavits in the urgent application do not even support the contention by the Appellant that the contraventions by it of the Act and /or its waste management license are not having, or may not be having, a significant effect on health or the environment. At paragraph 106.3 of the Appellant's answering affidavit it in fact states that "*except for H2S, the risk of potential non-carcinogenic health effects at the ambient air concentrations modelled at all of the receptor locations is insignificant."*

15.

Stated otherwise the health effects due to H2S are not insignificant. They are thus significant.

16.

At paragraph 106.5 of the Appellant's answering affidavit it is stated that "*it cannot be concluded that health effects would not occur at the modelled H2S concentrations attributed to the landfill site…"*. It is also stated that the concentrations modelled are not "particularly high when considered in relation to health effects documented in case studies".

17.

What is significant (aside from the serious concerns and shortcomings raised by the UHA NPC's experts with regard to the Infotox and Airshed reports referred to more fully hereinafter) is Infotox's failure to analyse the modelled concentrations (albeit in all probability materially under-estimated) against actual reported health impacts in the community. Instead the toxicology report proceeds to analyse the modelled concentrations against "case studies" and then not even the relevant case studies per Infotox's earlier drafts.

18.

A negative inference in this matter accordingly is to be drawn against the Appellant. The negative inference is certainly justified given the criticisms which the UHA NPC refers to hereinafter, through its expert reviews and expert report relating to its own air testing campaigns undertaken thus far.

19.

That the Appellant has contravened its licences as well as material provisions of NEMA and NEMWA is indisputable. That those contraventions are having odour and

health impacts, has also been established by the UHA NPC and accordingly the DEA, as a matter of probability based on direct and expert evidence. This evidence was submitted to the DEA and to the High Court. The UHA NPC prays that the founding, supplementary, confirmatory affidavits and documentation delivered in support of that application be read as if specifically incorporated therein.

20.

The UHA NPC has also documented the material contraventions of the Appellant's license conditions and the provisions of NEMA and NEMWA, in its particulars of claim delivered in the action instituted by the UHA NPC against the Appellant and, inter alia, the Minister as an interested party therein, in the High Court, Durban and Coast Local Division, under case number 3692/2017. The UHA NPC prays that those allegations be read as if specifically incorporated herein. The UHA NPC refers, inter alia, to paragraph 14 of the particulars of claim. The Appellant was also aware that tipping in Valley 2 would result in H2S impacts on neighbouring communities and that an active gas extraction system was required as a key mitigation measure as well as covering of its leachate storage tanks. It failed to implement this system despite acquiring a license for such gas extraction, recovery and flaring. It only covered the leachate tanks pursuant to the compliance process.

21.

The Appellant in fact continues to breach its license conditions resulting in the continued and increased emission of fugitive gasses from the site causing odour, nuisance and health impacts (physical and psychological) by, inter alia, trenching contaminated storm water back into the site as referred to more fully hereinafter.

22.

The Appellant also considers the UHA NPC's suggestion that it improve its infrastructure in respect of the waste management facility at the SLS including the leachate treatment plant capacity and efficiency as not "constructive" contributions, this despite that the Appellant's own "Leachate Assessment" presentation prepared by Envitech and which forms part of the annexures to its opposing affidavit, recommend "*Improvements to LTP" in order to "assist in improving efficiency and odour issues*."

23.

At page 52 of the Phoenix Engineering Report attached to the Envitech report, Robinson records that the LTP (Leachate Treatment Plant) of the Appellant is alleged to have capacity to treat 100m3/d of leachate to a standard where it is deemed "clean" but that presently its treatment is only actually generating 15m3/d of clean / "treated" leachate. It is thus operating at 20% of its alleged capacity.

24.

All that is required, given the provision of s56 of NEMWA, is that the contraventions alleged *may* result in a significant effect on health or the environment.

25.

In support of the fact that the contraventions may, and in fact have, resulted in adverse health impacts, UHA NPC submitted to the DEA, as it did to the High Court, actual evidence under oath from affected community members, expert evidence of medical practitioners practising in the area, as well as the complaints data, the accuracy of

which was verified under oath, detailing the reported health impacts actually being suffered and reported, respectively, as opposed to any theoretical health impacts which the toxicology report would only pertain to.

26.

Insofar as there is any weight to be accorded to a toxicology report dealing only with possible theoretical health impacts, as opposed to an analysis of the actual complaints experienced and whether or not they can in fact be attributed to the fugitive gases being emitted from the SLS, the following needs to be highlighted insofar as the toxicology and accompanying dispersion model reports are concerned.

27.

In response to the UHA NPC's notice in terms of Rule 35(12) delivered in the urgent application referred to, the Appellant produced a document entitled "Toxicological Review of Hydrogen Sulphide Measured at the Enviroserv Shongweni Landfill Site Report no: 012-2017 Revision 1.0 compiled by Dr. WCA Van Niekerk and Dr. MH Fourie dated 15 March 2017". A copy thereof is delivered evenly herewith (annexed hereto marked "**INFOTOX 1**"). It was delivered in response to a formal request for the alleged "case studies" referred to in paragraph 106 of the Appellant's answering affidavit.

28.

On an examination of the 15 March 2017 report, it appears that section 10.3 of the final report, Revision 3.0 dated 10 April 2017 submitted by Infotox to the DEA, comprises a much redacted and materially inconsistent basis for the assessment of

the hydrogen sulphide health risks than that proposed in the 15 March 2017 Infotox report.

29.

Significantly in 10.3 of the final 10 April 2017 report, Dr. Van Niekerk stated that health effects data on low-level environmental exposure to H2S is limited in comparison to studies of severe effects and mortality at high exposure levels. Van Niekerk further stated that H2S exposure has been associated with a variety of effects on the nervous system reported over a wide concentration range and for different exposure periods. He alleges there is a shortage of good exposure data clearly associated with reports of health effects (Ross and Goodwin 2003).

30.

Van Niekerk further states that because of these limitations, Infotox reviewed findings of available exposure studies and concluded that the concentrations at which health effects may emerge lies roughly in the range of 50ug/m^3 to 150ug/m^3 for one (1) hour exposures.

31.

He alleges there is a great variation in the likelihood and severity of responses amongst individuals as it is not possible to indicate which portion of exposed individuals would actually develop adverse responses. He goes on further to state that exposure in the range does not suggest health effects would be observed but if certain of the exposed individuals reported the health effects typically associated with low-level exposure to H2S, it cannot be said that there is no link between the exposure

and the health outcomes. He avers that exposures below 50ug/m^3 are unlikely to be associated with health effects, although there may be levels above the odour threshold.

- Section 10.3 pg 26 of the final Infotox report 10 April 2017

32.

Van Niekerk states further that exposures to H2S above 150ug/m^3 for one (1) hour durations would increasingly indicate the potential for development of health effects, although the exposure-response is not expected to be linear. Adverse responses would become more severe as exposure levels increase.

33.

At page 34 of the 10 April 2017 report, Van Niekerk states that when considering only the Shongweni landfill as the only source of H2S concentrations in residential areas at receptor locations of R3, R4 and R6 range between 61.3 and 71.7 ug/m^3 in Plantations. He states that although it cannot be concluded that health effects would not occur at these concentrations, concentrations are not high when considered in relation to documented health effects from case studies, however, should health effects be reported, these are not expected to be widespread. Odour is a separate issue that is dealt with.

34.

At the conclusion of the April 2017 report, at section 15, Dr. Van Niekerk cites the references relied upon for the final health impact study.

35.

By comparison, the first revision of the toxicological review of hydrogen sulphide prepared by Dr. Van Niekerk dated 15 March 2017 provides the following observations:

(i) The ATSDR/2016 (US Agency for Toxic Substances and Disease Registry) concluded that the respiratory and nervous systems are the most sensitive targets of hydrogen sulphide toxicity in humans.

(ii) Respiratory distress or arrest and pulmonary oedema are associated with exposure to very high concentrations of hydrogen sulphide (page 4of 15).

(iii) At page 5 of 15, Dr. Van Niekerk states the following “Respiratory effects in the lower, non-lethal acute concentration range indicate nasal symptoms, sore throat, cough and dyspnea. Upper respiratory tract bleeding was the predominant complaint in a study of workers temporarily residing in an oil field worker camp that intermittently experienced short term / low-concentration H2S exposure”. [Emphasis added]

(iv) He comments that the most common presenting complaint was nasal bleeding, emphasizing the involvement of nasal epithelial damage.

(v) Van Niekerk records further that the types of symptoms and observations that may be reported by individuals exposed to H2S at lower exposures are listed below (Fiedler et al 2008). Van Niekerk records that references to

haematopoietic effects are from Legator et al (2001). He states that these descriptions are of interest in controlled studies and case reports of exposure to H2S and have been used in questionnaires for community surveys in situations of low levels of exposure. The types of symptoms reported are, inter alia:

a) Headache, fatigue, light-headed, drowsy, nausea, clotting disorder, breathing, anaemia, difficulty in concentrating, disorientated, confused, dizzy, burning eyes, dry eyes, itching, runny or watery eyes, heart palpitations, sneezing, nasal congestion, choking, throat irritation, nose irritation, shortness of breath, wheezing, chest tightness, chest pain, coughing, skin irritation or dryness.

(vi) Van Niekerk reports at paragraph 5.2 of the March 2017 report that keratoconjunctivitus has been observed in the range of 7ug/m3 to 140ug/m^3.

(vii) Van Niekerk further records that people exposed to H2S, methyl mercaptan and methyl sulphides while living in a community around a paper mill reported eye irritation 12 times more often than people without exposure (Jaakkola et al 1990, cited by ATSBR 2016).

(viii) These effects were observed at mean annual H2S exposures estimated at 6 ug/m^3 however this may also have been attributable to co-exposure to methyl mercaptans and methyl sulphides as a potential explanation for the ocular effects. (Given the pollutants identified in the final April 2017 tox

report, the omission of this case study and the possibility of such health impacts at these concentration levels being attributed to the SLS is telling).

(ix) At table 5.2.1 at page 8 of the 15 March 2017 report, Van Niekerk lists the general dose-response of health effects associated at exposure levels in the ug/m^3 range and is described as providing a framework for health risks based on interpretation of short term ambient air concentrations. It is recorded, *inter alia*, that at 42ug/m3 to 125ug/m^3 over a thirty (30) minute average, one can anticipate health effects in the form of increased hospital visits for all respiratory disease including asthma.

(x) Van Niekerk state that exposure to H2S experienced by communities would be mostly intermittent in nature due to irregular short term excursions into H2S concentrations, interspersed with longer episodes of low concentrations or even zero emissions.

(xi) Van Niekerk reports that the literature clearly indicates that health effects can occur as a result of short-term excursions into higher H2S concentrations, interspersed with longer period of low concentrations or even zero emissions and therefore it is appropriate to conduct human health risk assessments on the basis of short term exposure considerations.

(xii) In conclusion, at page 11 of the 15 March 2017 report, Van Niekerk states that Infotox proposes the assessment of health risks using the ATSDR 2016 intermediate exposure MRL of 0.03mg/m^3 (namely 30 ug/m^3) based on

neurological effects and the IRIS (2003) chronic Rfc of 0.002 mg/m^3 (i.e. 2 ug/m^3) based on protection of the nasal olfactory mucosa.

(xiii) Of note further is that of the references listed in the 15 March 2017 report, some thirty eight (38) references have been removed from the final 10 April 2017 report.

36.

Given the statements by Van Niekerk in the earlier report of 15 March 2017 that human health risk assessments ought to proceed using the concentration range of 2ug/m^3 for protection of nasal olfactory mucosa and 30 ug/m^3 for neurological effects, it is inexplicable that the final health assessment report was redacted and circumscribed in the manner set out in, *inter alia*, section 10.3 of the final report and why the statements are made therein that the literature and information pertinent to lower level exposure is lacking and that exposures below 50 ug/m^3 are unlikely to be associated with adverse health effects.

37.

Aside from the aforegoing (which materially compromises the starting premise of the health risk assessment), the UHA NPC's expert, Quintin Hurt (the Managing Director of Skyside) has prepared the attached report (annexure "**A"** hereto together with references attached) reviewing both the Infotox report as well as the Airshed report which was prepared based on the emission inventory allegedly obtained from Infotox. The UHA NPC prays that it be read as if incorporated herein. Hurt's curriculum vitae forms part of the urgent application delivered and which is to be incorporated herein

also by reference.

38.

The shortcomings are material and it is submitted undermine the entire credibility and reliability of the contents and analyses presented by both Infotox and Airshed. They fall to be disregarded in toto.

39.

Most incredulously, is the Appellant's reliance on the alleged SO2 data in support of a mystery polluter who is in fact responsible for the health impacts reported.

40.

What is evident from the supplementary affidavit prepared by Quentin Hurt delivered in the urgent application before the High Court, as well as the report (annexure "**A**" hereto) prepared herein (which includes the review of data provided by the Appellant to the UHA NPC up until 8 May 2017 in the course of the urgent application, regarding the SO2 real time monitoring data) is that not only are the devices utilised for the measuring of the SO2 inappropriate due to the shortcomings detailed in Hurt's confirmatory affidavit delivered in the urgent application, but it is clear that in truth the Appellant has been monitoring no more than temperature as opposed to the actual SO2 levels in the area.

41.

The temperature measurements for the period in question overlaid with the so-called SO2 measurements depicted in annexure "A" hereto, demonstrates this beyond doubt.

42.

Although the levels will not be significant, what is interesting is the Appellant's bald statement that the SLS produces absolutely no SO2, but at page 52 of the Phoenix Engineering Report prepared by Robinson (attached as an annexure to the Technical Report of Envitech – also delivered in the urgent application) the ozonation process, which is a pre-treatment step in the leachate treatment process, produces water and SO2.

43.

The Appellant continues to contravene its license conditions and in particular in the respects detailed in the UHA NPC's letter of 11 May 2017, together with annexures thereto, a copy of which is delivered evenly herewith, once more, as annexure "**B**" hereto.

44.

The continued contravention in the form of the trenching of contaminated storm water is particularly concerning, given the admissions contained in the Appellant's technical presentations, also annexed to the answering affidavits in the urgent application, extracts of which are attached hereto as annexure "**C**" and in which, the following is stated:

i) "*Ongoing development of suitable unsaturated zone considered to be vital, while the capture, extraction and destruction of LFG being emitted via preferential pathways is considered to be complimentary to this*".

ii) "*Moisture control near surface of landfill: minimise working face area, grading working face to encourage runoff, phasing and progressive capping of slopes, use of suitable cover materials to assist in attenuating & absorbing H2S, continuous removal and treatment of leachate*".

iii) "*A substantial unsaturated zone is important".*

45.

The Appellant submitted on record, at the hearing on 26 April 2017, that it was imperative for the site to dry as the problem included liquid waste (page 17, lines 4 to 7, page 36, lines 5 to 10 of the transcript). In fact, the Appellant finally at the hearing of the urgent matter requested that it be allowed to continue receiving domestic / general waste in order to remediate the site (page 45, lines 15 to 17 of the transcript – annexure "**D**" hereto).

46.

The Appellant's entire contention for continued trading and notwithstanding the fugitive gas emissions emanating from the site as a consequence of the circumstances more fully set out in the founding affidavit read together with the Appellant's own technical assessment report and annexures thereto, is to allegedly affect a pH adjustment to the entire waste body, which it claims (falsely so), has thus far resulted in a marked decrease in H2S emissions from the SLS. The Appellant has deliberately misrepresented this alleged reduction in H2S levels to advance its argument for the need to continue trading. The UHA NPC is able to demonstrate this using the Appellant's own information supplied to the UHA NPC on record in response to the

UHA NPC's Rule 35(12) notice.

47.

The H2S data was initially supplied by the Appellant to the UHA NPC in without prejudice discussions held between the Appellant and the UHA NPC undertaken under the auspices of the NDA (non-disclosure agreement). In breach of the NDA, the Appellant in opposition to the urgent application referred to those discussions, disclosed the agreement and contents thereof and in the answering affidavit once more alleged that reducing H2S levels demonstrated that pH adjustment was having a positive effect and was the single most relevant cause for the odour complaints and which needed to be addressed through continued trading. The UHA NPC accordingly, formally requested on record the H2S results referred to, and it was agreed by the Appellant that the H2S records already made available to the UHA NPC in the NDA process could now be released from the NDA process and utilised by the UHA NPC on record. It was thus agreed that the H2S data referenced in the answering papers as evidencing the success of this remedial step was that produced in the NDA process.

48.

In the NDA agreement the UHA NPC requested the Appellant to provide:

> *"The full set of H2S readings (including at both fence lines) as well as the readings for the pH levels for the site for the full periods covered by the graphs contained in the Schoonraad Report dated 3 January 2017 appearing at figures 3 and 6, and those for each year dating back to 2007*".

49.

These results were then what was produced also on record. The Appellant cannot contend that there are results missing.

50.

That graph appears at paragraph 8 of the Appellant's appeal herein and is ground 8 of the appeal. An enlarged copy of that graph is annexed hereto as "**E**".

51.

Annexed hereto marked "**F**", "**G**", "**H**" and "**I**" are the documents produced by the Appellant pursuant to the request for H2S data referred to above.

52.

The following immediately becomes evident.

(i) From the graph at annexure "**E**" (South Boundary – blue bar on the graph), the Appellant has represented that from July 2016 to January 2017, there was no H2S measured at the southern fence line / boundary of the SLS.

(ii) In truth, as can be seen from the supporting H2S data (annexure "**F**" hereto), this is not because there was no H2S produced by the site as represented but simply because from July 2016 onwards, the Appellant appears to have no data to insert or to produce at all. This needs to be explained. Annexure "**F**" ends at June 2016 with a reading of 7.5ug/m^3 which accords with the blue bar for H2S reading for June 2016 on graph 8 (annexure "**E**").

(iii) In respect of the period November 2016 to January 2017, virtually no H2S is reported on the northern fence line (represented by a red bar at annexure "**E**").

(iv) From annexure "**H**" hereto, in truth, the readings which ought to have been reflected on graph "**E**" and which materially contradicts the arguments of the Appellant that the marginal increase in pH is responsible for a significant drop in H2S, ought to have been as follows:

(a) November 2016 – 13.74 ug/m3;

(b) December 2016 total readings of H2S detected is 89.84 ug/m3; and

(c) For the first part of January 2017 (not the whole month), 41.48ug/$m^{3;}$

whereas graph "**E**" reflects only the 1.95 ug/m3 reading for November 2016, December 2016 and January 2017 no H2S at the Northern boundary

(v) Most alarmingly, is the missing data for the H2S readings at the contaminated storm water dam (represented by a green bar on annexure "**E**").

(a) According to annexure "**I**" hereto, the readings for November 2016 totalled an amount of 128.50ug/m^3, not only the first reading for November 2016 of 25.32 ug/m3 as presented on graph "**E**" as being the reading for the whole month of November 2016; and

(b) For December 2016, a total of 331.26ug/m^3 was in fact recorded (annexure "**I**") not the 0 ug/m3 as represented in annexure **"E"**.

(c) For the first period of January 2017 only, an amount of 103.27ug/m^3 was in fact recorded according to annexure "**I**" not the 0 ug/m3 as reflected on the graph at annexure **"E"**.

53.

Were the graph to be correctly representative of the H2S recorded on site (where recordings were made and reported by the Appellant), it would look like annexure "**J**" hereto, in which the UHA NPC has inserted the allegedly correct figures supplied from the raw data submitted by the Appellant to the UHA NPC.

54.

In the graph presented repeatedly to the DEA (annexure "**E**"), the Appellant has deliberately omitted material portions of the available data prior to April 2016, and has failed to qualify the data omitted in respect of the southern fence line from July 2016 onwards.

55.

Whilst the H2S readings for the contaminated storm water dam (the green bar) has not been provided prior to August 2016, the readings for the north and south boundary lines are available but has not been inserted to present the relationship between pH and H2S production.

56.

The southern boundary readings (the blue bar) are omitted for, inter alia, January 2016, February 2016 and March 2016 with the southern boundary level recorded 24.08ug/m^3 for February 2016 and 23.83ug/m^3 for March 2016. No readings are recorded for H2S for the period February 2014 to April 2016 despite the readings being available, as reflected in annexure "**F**" hereto.

57.

At the northern boundary line (red bar) the materiality of the omissions is demonstrated. The readings for September 2015 and October 2015 at the northern boundary line were 22.44ug/m^3 and 36.31ug/m^3. November 2015 was 21.45ug/m^3. February 2016 was 23.84ug/m3. January 2017 is omitted in its entirety at 41.48ug/m^3 for the northern fence line, which demonstrates the palpably false nature of the Appellant's argument. These have been inserted now in annexure "**J**" being the Appellants' graph but with additional data inserted from its own raw H2S monitoring data supplied to the UHA NPC but which was intentionally omitted from its presentations.

58.

The above demonstrates the falsity of the Appellant's argument that continued trading is necessary to adjust the pH of the site in order to reduce H2S levels.

59.

Furthermore, what is evident from the Airshed report is, *inter alia*, that insofar as H2S is concerned and pH, the relevant pH value is identified at page 17 as "pH7 and below".

The lowest pH level on graph "**E**" is just above pH7.3 and, for the most part, above pH7.7 /pH7.8.

60.

The Envitech report read together with the annexures thereto demonstrates beyond doubt, that the miniscule drop in pH over the period in question is a symptom of the problem and not the cause. Furthermore, it is clear from the Phoenix Engineering report that pH adjustment, if ever possible across the whole waste body (which is seriously doubted), does not constitute a short to medium term solution, only a long term solution, if possible at all.

61.

The question mark placed by the UHA NPC's experts over the landfill gas emission inventory in fact used for the dispersion modelling is corroborated by the final paragraph of the Airshed report which states that there has been reliance on a theoretical treatment of the emissions. Furthermore, it is stated that predicted H2S emission rates were compared to observed fluxes *albeit* not rigorously analysed and that the observed flux ranges fell within or close to the ranges predicted during the time when these measurements were done. In the UHA NPC's expert's analysis, this is a very limited data set, compromised by the elimination of peak concentrations. It appears, accordingly, that the bulk of the air dispersion modelling exercise was conducted (built?) on an estimated H2S emission rate as opposed to validated, measured data.

62.

The Appellant repeatedly blames the Waste Classification and Management Regulations 2013 for its woes, when in accordance with Regulation 8, the Minister had, in terms of the Appellant's waste management license of 2014 (the subject of the suspension), imposed a stricter standard by directing that the Minimum Requirements would apply. In May 2014, the Appellant sought a variation of this condition. That variation was never granted. This itself thus constitutes the material cause of the impacts and is indisputably then also a contravention of the Appellant's waste management license.

63.

The Appellant wrongly claims that, despite the very limited sampling data of the leachate, it was unaware that any problem was developing. This is again untrue in circumstances where the external order of September 2015 reported an increase in, *inter alia*, sulphates in the leachate emanating from the valley 2 and a clear warning was given in that audit report was that this indicated a problem with the chemistry of the waste body of Valley 2. Despite the aforegoing, no investigation appeared to have been conducted by the Appellant into this situation and sampling intervals were not increased. They were not increased even after the odour complaints started to increase.

64.

The Appellant also deliberately misrepresented, through its representative, Terrence Malan, that the waste deposited into valley 2 and by implication the quantity thereof, was comparable to valley 1 when the waste most definitely was not. These aspects

have been detailed in the UHA NPC's urgent application. The dumping of 16 000 tons of gypsum was known to the Appellant and as a professional waste management company the implications thereof on the waste body must have been known. The 46 000 tons of aluminium containing waste ought also to have raised a red flag.

65.

If, inter alia, these waste streams, the volume thereof, the high sulphate content of the leachate flagged in the September 2015 audit report, the hydration of aluminium containing wastes, the absence of two key mitigation measures despite earlier Airshed reports, and the onset of odour complaints as well as increase in H2S levels, did not raise any concerns for the Appellant and it is to be believed it was caught off guard, this in itself is reason enough, given the comments contained in the Phoenix report, not to trust the Appellant to continue waste disposal at the SLS, much less while remediation is taking place.

66.

In the urgent application the UHA NPC highlights in accordance with the Appellant's own technical reports why continued operations in fact results in increased fugitive emissions and thus increased and sustained health impacts. Given the comments in Hurt's expert report, these emissions are set to increase even further. The UHA NPC has incorporated these allegations by reference and it does not repeat them herein.

- See, *inter alia*, paragraphs 94 to 100 of the founding affidavit.

67.

What is most concerning, however, is the fact that the actual health impacts seem to accord with the UHA NPC's most *conservative* air testing results to date, the results of which are set out in the preliminary report of WSP annexed hereto marked "**K**". These also reflect, inter alia, the explanation for the "refinery" smell which Infotox claims cannot be due to the emissions from the SLS.

68.

That the community has been exposed to these pollutants is verified by the laboratory results from Genova Diagnostics Laboratory (USA) conducted on the blood samples of Petra Morum, resident of Hillcrest, residing in Knelsby Avenue, a copy of which is annexed hereto marked **"L**" showing pollutants identified by WSP, the UHA NPC experts in their report ("**K**" hereto). Confirmatory affidavits will be provided by the USA experts in this regard as soon as they are to hand.

69.

The Appellant repeatedly blames the DEA for the impacts based on an allegation that the Appellant has been unable to conclude an offtake agreement in respect of the gas extracted and captured.

70.

In truth, the Appellant was, at all material times in possession of a waste management license issued on 6 February 2011 in terms of s49(1)(a) of NEMA for the gas extraction, recovery **and flaring plant**, not limited to recovery only. This authorised the construction of the plant and the commencement of operations within a period of

two (2) years.

71.

The true reason for the failure to implement this necessary key mitigation measure (which was identified in the Appellant's 2009 Environmental Impact Control Report) before tipping started in valley 2 was the prohibitive costs of properly scrubbing the gas as a necessary precursor to safe flaring. In this regard, paragraph 4.2 of Dr. Schoonraad's report dated 31 October 2016 provided by the Appellant to the UHA NPC in the urgent application, in response to the Rule 35(12) Notice and accordingly, now on record (annexure **"M"** hereto) records the following:

> "*It is also well known that sulphur dioxide (SO2) gas is also a potent pollutant with well-known human health impacts. To effectively scrub the flare gas and prevent the release of SO2 would be exorbitantly expensive and this option was therefore rejected.*"

72.

Schoonraad also suggests that in fact H2S gas is toxic to SRBs and accordingly, is necessary in order to have an inhibitory impact on the SRBs on the site!

73.

It is clear accordingly, that the Appellant's attempt to blame the DEA for its refusal to implement the necessary operational mitigation measures which it knew, at all material times, was necessary in order to avoid impacts on the communities including from H2S, should be rejected out of hand.

74.

Furthermore, the Appellant was in possession of an air quality impact assessment for the SLS prepared by Airshed Planning Professionals for the establishment and operation of valley 2 at SLS and for the purpose of quantifying the potential gaseous and particulate emissions from the SLS operations to determine the possible impact on the surrounding environment and human health. The Appellant was aware from this report that the modelling conducted by Airshed demonstrated that the extraction of landfill gas from the SLS would have a positive effect by reducing the total emissions from the landfill body, and thereby reducing the frequency and extent of odour and health impacts.

75.

This was referred to in the report from Synergy prepared on behalf of the Appellant, which speaks not only to the dangers of raw landfill gas but records that previous impact assessments performed by Airshed Planning Professionals in 2008 predicted that exceedances of the odour threshold for H2S was likely to occur offsite under all scenarios (see paragraphs 118 to 120 of the founding affidavit in the urgent application).

76.

The Appellant's reliance on the alleged absence of occupational injuries or diseases resulting from the SLS is to be seriously questioned. In the first instance, the credibility and reliability of any evidence emanating from the Appellant's occupational practitioner being Dr. De Nobrega, has been seriously called into question and in this regard the evidence presented by the UHA NPC at paragraphs 109 to 115 of the founding affidavit

demonstrates the questionable allegations and accordingly findings of De Nobrega.

77.

It is well-reported also that previous erstwhile employees of the Appellant have alleged health impacts. More importantly, notwithstanding the aforegoing, the Appellant's contention that no adverse health effects have been experienced by any of its staff who have been employed there for as long as twenty four (24) years, is to be rejected.

78.

Annexed hereto marked "**N**" is an e-mail exchange between J. Naidoo of Devtech Civils, to S Hanuvanth of Enviroserv dated 5 September 2011. Devtech were engaged in completing the construction of the liner for Valley 2, and in it Naidoo complains that tipping had commenced and expressed concerns regarding a "very pungent unknown odour" that Devtech employees were exposed to were resulting in headaches and recommending an issue based air monitoring risk assessment be conducted with immediate effect so as to ascertain if any hazardous airborne particles and gases were prevalent in the air which may constitute a serious health hazard to Devtech's employees and in order to avoid "unwanted claims for compensation by employees".

79.

Hanuvath advised that the odours being experienced were due to hazardous waste coming in, which could cause irritation to the eyes and headaches.

80.

The Appellant's contention that the DEA has failed to follow an "agreed" process

“required” in terms of s3 and 4 of PAJA 3 of 2000 is ill-founded. In the first instance, any procedures to be agreed were to be agreed with all interested and affected parties including the UHA NPC. No such agreement was concluded and in any event, any agreement with the DEA is to be dealt with by the DEA. Certainly, the annexures relied upon do not evidence any agreement of the sort contended for by the Appellant.

81.

There is no required process in terms of s3 or s4 of PAJA 3 of 2000. The procedural requirements necessitated by any hearing are fact-dependent. In *casu*, the DEA received representations from interested and affected parties and copious written and oral representations from the Appellant. Far more than afforded to the UHA NPC.

82.

The DEA has exceeded all expectations and legal obligations to comply with a fair administrative procedure before a decision was taken. The DEA had already clearly taken a decision to proceed with the suspension and had indeed expressed the view in mid-March 2017 that the decision was imminent. The service of the particular of claim which had no impact on this decision.

83.

The Appellant, as is evidenced from the appeal submissions and documentation accompanying it, which had hitherto not been provided to the UHA NPC, barring the scantest of documentation, has made exhaustive representations (albeit that they are materially incorrect).

84.

The Appellant contends in the opposing affidavit in the urgent application that it is attempting, through the pH adjustment (the only justification for continued receipt of waste) to restore the pH of the waste body in valley 2 to a “level of pH 8.5 that prevailed under the minimum requirements” and to raise the pH of the site “to its historic pH >8.5 when no odour issues were experienced”.

85.

If regard is had to the historic graph of both valleys 1 and 2, as represented at page 49 of the Phoenix Engineering report (an attachment to the Envitech technical assessment report), it is evident that over a period of some eighteen (18) years, the pH of the respective site, valleys 1 and 2, only exceeded pH8.5 on two (2) occasions.

86.

Furthermore, at page 49 of the Phoenix Engineering report, the conclusion is clear. It is stated by Robinson that:

> “*It is completely clear from this graph that present pH values and leachates from valley 2 are entirely in keeping with leachate values measured over many years in leachates from valley 1, which we understand received very similar waste inputs and where we understand problems with sulphide odours were nowhere near those presently being experienced with leachates from valley 2*”.

87.

What is also stated in the report is that the slight recent reductions in pH was a symptom of the problem rather than the cause.

88.

At page 80 of the Envitech report, Envitech confirmed that reducing the disposal quantities of problematic wastes, specifically metallic wastes that could be contributing to heat generation, such as aluminium wastes and sulphate containing wastes would not solve the issue relating to the current waste mass in place. This much is borne out by the increase in complaints notwithstanding the reduction of the reduction or cessation of receipt of these waste streams with effect 1 March 2017. The complaints in fact increased, demonstrating that this is not a remedial measure but only serves to ensure that the waste body does not deteriorate any further.

89.

At page 8 of the Envitech report, it is clear that measures to ensure the prevention of H2S emissions (as opposed to a control of H2S emissions) does not include continued tipping. In particular, by controlling the moisture of the landfill and in service of the prevention of H2S emissions, it is stated that suitable cover material is to be utilised to provide a barrier to H2S emissions and to assist in absorbing H2S. Suitable landfill cover material does not automatically constitute waste.

90.

It is only under the heading measures for controlling of H2S emissions (not prevention) that one sees receipt of dry municipal solid waste, compost / bio-cover soil, concrete fines, lime and metallic materials.

91.

It is further recorded that experimental work has shown that H2S can rapidly be

removed by unsaturated municipal solid waste and by composted green waste with or without added iron.

- Pg 8 of the Envitech report

92.

Accordingly, from the Appellant's own technical reports, prevention of H2S emissions is not dependent on tipping, only controlling emissions would be and then this may include the continued receipt of dry municipal solid waste with or without iron not hazardous waste. It is precisely for this reason that at the hearing of 26 April 2017 the Appellant suggested it be at least allowed to receive generally municipal waste.

93.

Continued trading is not necessary given the Appellant's alleged objective - which is to increase the pH of the waste body so that H2S levels may continue reducing. It has (even were it not an exercise in futility) in truth not resulted in H2S reductions as alleged.

94.

The Appellant, in its own answering papers, and in particular the attachments thereto, conceded at a meeting on 28 March 2017, disclosed by the Appellant in the opposing papers, that the "most practical solution to prevent odours and emissions is the landfill gas extraction and combustion".

- Pg 161 of the indexed pleadings in the urgent application

95.

Continued tipping and trenching is hardly conducive to a speedy and successful installation of the necessary gas extraction and destruction system.

96.

Any allegation that has not been dealt with hereinabove is denied by the UHA NPC and the UHA NPC's rights to deal therewith at the appropriate time are reserved.

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C A NEL
MACGREGOR ERASMUS ATTORNEYS
DURBAN
25 MAY 2017