

立法會
Legislative Council

LC Paper No. CB(1)916/13-14(01)

Ref. : CB1/PL/EA

Panel on Environmental Affairs

Special meeting on 21 February 2014

**Background brief on "Incident of leachate from the
North East New Territories Landfill"
prepared by the Legislative Council Secretariat**

Purpose

This paper provides background information on the incident of leachate from the North East New Territories ("NENT") Landfill, and gives a brief account of the views and concerns expressed by members of the Panel on Environmental Affairs ("the Panel") on the subject.

Background

2. There are three strategic landfills in Hong Kong, namely, the Southeast New Territories ("SENT") Landfill, the Northeast New Territories ("NENT") Landfill and the West New Territories ("WENT") Landfill. They are operated under a design-build-and-operate contract managed by the Environmental Infrastructure Division of the Environmental Protection Department ("EPD"). All three landfills are designed and built with comprehensive systems to manage the wastewater and leachate¹ produced to ensure that the impact to the environment is well managed.

¹ Leachate is the liquid that has percolated through solid waste. It is generated by the moisture content in the waste, decomposition of waste, and rainwater infiltration into the waste mass. The leachate management system comprises leachate collection network, pump sumps, storage lagoons, rising mains and treatment plants for handling and treating leachate.

The Incident and its environmental impacts

3. Public concern about the environmental impact of the operation of landfills was aroused by an incident of the leakage of leachate from a temporary leachate storage lagoon ("the lagoon") at the NENT Landfill which occurred on 27 July 2013. Leachate leaking from the toe of the temporary lagoon was observed. Due to the heavy rainstorm, some leaked leachate mixed with a large amount of rainwater entered the surface water system serving the landfill and discharged into the nearby Kong Yiu Channel ("the Channel").

4. The Channel affected in the incident is a man-made and concrete lined channel draining into the Shenzhen River. No villagers in the vicinity extract water from the Channel for potable use and there is no known record of ecological sensitive site in the Channel. As the affected water has not overflowed onto the banks of the man-made channel, EPD believes that no ecological impact has been caused to the surroundings of the Channel. EPD has collected water samples from the downstream of the Shenzhen River and the Deep Bay for laboratory tests. The data showed that the incident had no significant adverse impact on the downstream water environment.

5. Although no significant ecological impact was observed, the laboratory analysis results showed that the samples collected on 7, 23 and 30 August as well as 2 September 2013 exceeded the legal standards. In order to keep the public informed of the incident, findings of the environmental monitoring and the remedial measures taken, a press release was issued on 28 August 2013 and a press briefing was conducted on the same day.

Follow-up actions

6. After this incident, EPD has, in conjunction with the NENT Landfill contractor ("the Landfill Contractor")² and the independent consultants, conducted an inspection of other lagoons in the NENT Landfill as well as the relevant facilities of the WENT and SENT Landfills to confirm their operation in normal conditions.

7. In response to members' views raised at the Panel meeting on 17 September 2013, EPD has continued to collect samples of any discharge and monitor the situation closely. EPD has also stepped up the inspection and monitoring of the other two landfills (i.e. the WENT Landfill and the SENT Landfill), and found no leakage of leachate from these sites.

² The NENT Landfill Contractor is the Far East Landfill Technologies Ltd.

8. Upon the request of EPD, the Landfill Contractor has submitted a report on the incident. The report touches on the causes of the incident, measures taken during the incident, medium and long-term measures to improve the management of leachate on site and to prevent recurrence of similar incidents. EPD and the independent consultants would study the report thoroughly and further discuss with the Landfill Contractor enhancement measures with a view to effectively monitoring the normal operation of the landfill and the relevant facilities (such as lagoons). As the samples of effluent discharge taken on 7, 23 and 30 August as well as 2 September 2013 had exceeded the statutory limits, EPD would consider taking legal action under the Water Pollution Control Ordinance (Cap. 358) ("WPCO") against the Landfill Contractor.

Long-term improvement works

9. The pretreated leachate from the NENT Landfill is pumped through a sewerage network to the Shek Wu Hui Sewage Treatment Works. Improvement works to the sewerage network is being planned to increase its total carrying capacity. The capacity will be sufficient for serving the projected population increase in the area and the planned extension of the landfill. The initial stage comprises the upgrading of a section of pipeline that serves the NENT Landfill and the diversion of some of the domestic sewage flow to another sewerage network, with a view to increasing the quantity of pretreated leachate that can be accepted by the sewerage network. These works are expected to complete within three years. The latter stage comprises the upgrading of the remaining sewers and pumping stations to receive the ultimate projected flow from the catchment. These works are expected to complete within six years.

Deliberations by the Panel on Environmental Affairs

10. The Panel discussed the incident of leachate leakage from the NENT Landfill at its meeting on 17 September 2013. Some members expressed concern about the belated notification mechanism on the leakage incident and considered that an earlier notification of the pollutant level of the wastewater discharged from the landfill would have alerted affected residents on the risks associated with exposure. These members also opined that there was a need to review the notification mechanism so as to establish a more effective notification and monitoring system. In response, the Administration explained that the affected residents were notified on the following day of the leachate leakage on 27 July 2013. The Administration accepted the need to improve the notification mechanism on leakage incidents.

11. Some other members were concerned about the quality of groundwater as the analysis results of the legal samples of wastewater collected from the NENT Landfill on 23 and 30 August as well as 2 September 2013 had indicated that their pollutant levels had exceeded the legal standards although the leakage incident was detected on 27 July 2013 and that remedial measures had already been taken. There were also views as to whether the water along the Channel was suitable for use by farmers for irrigation and other purposes. The Administration assured members that the quality of groundwater had not been affected by the leakage incident, adding that the leachate leak was an isolated incident. As it was observed that the water discharged from the NENT Landfill after 2 September 2013 was clear and free from odour, it was not considered necessary to take further legal samples for analysis. Considering that visual inspection was not reliable, members suggested adopting an objective standard for assessing water quality from the Landfill.

12. As regards the liability of the Landfill Contractor, some members opined that appropriate action should have been taken against the Landfill Contractor without having to await the findings of the report as there was an apparent violation of WPCO. Noting that the Landfill Contractor was contractually obliged to provide an incident report which would cover the causes of the incident, measures taken on site during the incident period as well as interim and longer term measures to improve the management of leachate on site and prevent the recurrence of similar incidents in future, some members requested the Administration to conduct investigative studies in parallel with the Landfill Contractor.

13. Some other members noted that since 2008, there had been a total of 22 complaints received against wastewater discharge from landfills in Hong Kong. As no prosecution had been taken, they were concerned that the Administration was overly lenient to landfill contractors.

14. The Administration undertook to improve the notification mechanism on leakage incidents. It would take measures to rectify the leakage problem and reduce the risk of overflowing of untreated leachate off-site. Efforts would be made to expedite the analysis of the pollutant levels of samples of wastewater discharged from landfills. A report on the progress of works would be made available to members.

Council question

15. Hon James TIEN raised a question relating to the leakage from the leachate storage lagoon at the NENT Landfill at the Council meeting on 23 October 2013. Details of the Council question are hyperlinked in the **Appendix** for ease of reference.

Latest development

16. The Administration has provided a progress report on the incident of leachate leakage to the Panel, and the progress report will be discussed at the meeting on 21 February 2014.

Relevant papers

17. A list of relevant papers is set out in the **Appendix**.

Council Business Division 1
Legislative Council Secretariat
17 February 2014

Appendix

List of relevant papers

Council/ Committee	Date of meeting	Paper
Panel on Environmental Affairs	17 September 2013	Administration's paper on "Incident of Leachate from North East New Territories Landfill" (LC Paper No. CB(1)1774/12-13(01)) http://www.legco.gov.hk/ yr12-13/english/panels/ea/papers/ea0917cb1-1774-1-e.pdf Minutes of special meeting (LC Paper No. CB(1)211/13-14) http://www.legco.gov.hk/ yr12-13/english/panels/ea/minutes/ea20130917.pdf

Hyperlink to relevant Council Question:

Date	Council Question
23 October 2013	Council question raised by Hon James TIEN http://www.info.gov.hk/gia/general/201310/23/P201310230233.htm