LCQ12: North East New Territories Landfill

Following is a question by the Hon Chan Yuet-ming and a written reply by the Secretary for Environment and Ecology, Mr Tse Chin-wan, in the Legislative Council today (January 24):

Question:

The North East New Territories Landfill (NENT Landfill) is located close to the Heung Yuen Wai Boundary Control Point and straddles the Hong Kong-Shenzhen ecological corridor. Some local and Shenzhen residents in the area are concerned about the impact of the NENT Landfill Extension project on the surrounding environment and nearby developments. In this connection, will the Government inform this Council:

(1) of the measures taken by the Government in the past year to alleviate the pollution caused by the operation of NENT Landfill (including but not limited to pollution from livestock waste treatment), and whether it has assessed the effectiveness of such measures;

(2) as the Government will regularly exchange views with the Shenzhen authorities on the operation of NENT Landfill, of the relevant professional connection and information exchange in the past year, as well as the new measures put in place by the Government to step up efforts in disseminating the relevant information to the residents concerned;

(3) as the NENT Landfill Extension project is being taken forward, of the latest progress of the project, and the estimated serviceable life of NENT Landfill after its extension;

(4) as the first waste-to-energy incinerator at Shek Kwu Chau will commence operation in 2025, whether the Government has studied if there is room for reducing the amount of municipal solid waste (MSW) to be transported to NENT Landfill; if it has studied and the outcome is in the affirmative, of the estimated amount, as well as the specific timetable for NENT Landfill to cease receiving MSW; and

(5) given that the Government has set up a dedicated website to publicise the monitoring data on the concentrations of hydrogen sulphide at NENT Landfill, and that although the hydrogen sulphide generated by NENT Landfill meets the relevant standards, it is learnt that bad odours are still being emitted from time to time, whether the Government will consider setting up a dedicated hotline or online channel, so that residents in the vicinity can have an additional channel to reflect the situation concerned?

Reply:

President,

Currently, about 11 100 tonnes of municipal solid waste (MSW) are generated in Hong Kong per day. To reduce the total amount of waste, the Environmental Protection Department (EPD) is promoting waste reduction and recycling in full steam in accordance with the Waste Blueprint for Hong Kong 2035 announced in 2021, such as progressively installing smart food waste collection facilities in public housing estates across the territory and implementing MSW charging to encourage waste reduction and recycling, as well as resources circulation. In addition, we are working full steam on developing an advanced and efficient network of modern waste-to-energy (WtE) facilities to move away from the reliance on landfills for waste disposal. These include the Integrated Waste Management Facilities Phase 1 (I·PARK1) currently under construction near Shek Kwu Chau, which is expected to commence operation in 2025 for handling 3 000 tonnes of MSW per day. We are also actively planning for the development of the Integrated Waste Management Facilities Phase 2 (I·PARK2), with an expected MSW handling capacity of about 6 000 tonnes per day. Before the commissioning of these two WtE facilities, we still need the West New Territories (WENT) Landfill and the North East New Territories (NENT) Landfill for handling MSW in Hong Kong. At present, the remaining capacity of these two landfills is less than 20 per cent. Based on the current daily waste intake, it is projected that both landfills will be exhausted in 2026. Therefore, Hong Kong still needs to suitably extend both landfills to cope with the ultimate waste disposal needs of the territory in the short to medium term. The reply to the question raised by the Hon Chan Yuet-ming is as follows:

(1) The EPD had progressively introduced a number of improvement measures at the NENT Landfill since mid-2021, with full implementation by mid-2022, including stepping up the application of Posi-Shell covers to safeguard environmental hygiene and reduce odour emission, advancing the process of covering the landfill operational areas with clean soil cappings to reduce the size of such areas by 40 to 50 per cent as far as practicable, shortening the time for waste reception at the landfill site by one hour by advancing the closing time of waste reception from 7pm to 6pm, installing additional deodourisers, covering the leachate storage lagoons and enhancing the monitoring of odour emission, etc. To ensure effective implementation of the relevant measures and optimise the operation and management of the NENT Landfill, the EPD staff members stationed at the NENT Landfill work in shifts from early morning to late evening each day to monitor the work of the landfill contractor in the completion of applying soil cappings and Posi-Shell covers after the closure of waste reception for the day and in other environmental performance. In addition, starting from mid-2022, if weather conditions allow, the on-site staff members would operate drones to take aerial photographs on a daily basis to monitor the conditions and operational performance of the landfill more effectively. The EPD has also engaged a professional contractor to step up the monitoring of the operation of the landfill contractor through applying artificial intelligence-assisted drones and other technologies.

To expedite the environmental improvements to the NENT Landfill and

minimise the visual and odour impacts on nearby residents arising from the landfill and its extension works, the EPD has already advanced the final restoration and greening works of the NENT Landfill, originally scheduled for 2026 upon completion of its landfilling operation, to end-2021, with a view to minimising odour emission and improving the appearance of the landfill as soon as possible, thereby minimising the "Not In My Backyard" effect and the associated visual impact. In addition, the EPD carried out, as scheduled in end-2023, the restoration and greening works for 80 per cent of the operational areas where landfilling is completed. In 2024, we will continue to advance the restoration and greening of the remaining operational areas where landfilling is completed.

Besides, we draw on the successful experience of landfill sites in the Mainland to enhance the overall extraction volume of landfill gas (LFG) at the NENT Landfill. We will progressively extend the use of impermeable plastic liners for capping the landfill operational areas and install gas extraction facilities underneath the liners or additional extraction pipes at suitable locations, thereby speeding up the connection of gas extraction facilities to the existing LFG collection system for better odour control at the NENT Landfill. The odour issue arising from the landfill will further improve when we introduce in the first half of 2024 a new mechanical technology to cap the landfill operational areas with impermeable plastic liners upon completion of operation each day.

Apart from the aforementioned measures, we are sending pig waste to other sites for treatment using anaerobic digestion technology on a trial basis to minimise the potential odour problem arising from livestock waste treatment at the NENT Landfill, with the target of gradually receiving and treating livestock waste with anaerobic digestion technology after the commissioning of the Organic Resources Recovery Centre Phase 2 (O·PARK2) in 2024. Moreover, we have sprayed biological agents, as applied in landfill sites in the Mainland, in livestock waste pits during their operation. Waste odour is either absorbed or dissolved by the micro-organisms in the biological agents. We have also installed openable metal covers on livestock waste pits that are in use. The metal covers will be opened only when disposal of livestock waste is required for minimising the possibility of odour emission.

Following the implementation of the various improvement measures, the EPD commissioned an independent professional body to carry out independent monitoring exercises by collecting data at the Liantang/Heung Yuen Wai areas and the nearby local villages, which revealed that the levels of hydrogen sulphide measured in 2023 in areas close to the Hong Kong-Shenzhen boundary and villages in the vicinity of the landfill remained low and complied with the national standard. The number of complaints concerning the NENT Landfill received by the EPD in 2023 decreased by about 78 per cent when compared with the same period in the preceding year.

(2) The EPD has all along been working in close liaison with the relevant Shenzhen authorities and, through organising exchange meetings and mutual visits, maintained close communications and exchanges on the operation and

management of the NENT Landfill. With concerted efforts to mitigate public concerns, specific measures for improving the operation of the NENT Landfill and its extension and reducing the impacts on nearby residents have been explored from time to time. Besides, the EPD communicates with the locals on the management and operation of the waste treatment facilities in the districts through District Liaison Groups. Relevant data on the monitoring of hydrogen sulphide is accessible to members of the public in Hong Kong and Shenzhen on the EPD's website at airsensor.pedia.epd.gov.hk.

(3) and (4) As mentioned above, during the transitional period until the completion of sufficient modern WtE incinerators, we still need landfills for handling MSW in Hong Kong. An appropriate extension of the NENT Landfill is necessary for the ultimate waste disposal needs of the territory in the short to medium term. The design capacity of the NENT Landfill extension project is about 19 million cubic metres for reception of both MSW and construction waste.

Currently, the development of I·PARK1 is at full steam and the preparatory work of I·PARK2 is also actively underway. Upon the commissioning of I·PARK2, the NENT Landfill will completely cease MSW reception and will be transformed to receive construction waste only, which does not decay and is odourless, thereby eliminating the odour problem arising from MSW reception. Besides, it is anticipated that a substantial amount of construction waste will potentially be produced during the development of the Northern Metropolis, which will require disposal at the NENT Landfill.

(5) Members of the public may make suggestions or enquires in relation to environmental issues at 1823 or the EPD's customer service hotline at 2838 3111. The relevant EPD staff members would take appropriate follow-up actions. In addition, the EPD staff members stationed at the NENT Landfill would conduct daily site inspections to monitor the operational and environmental performance of the landfill contractor. The EPD would also maintain communication and keep in touch with the local communities and the rural committees concerned through District Liaison Groups and various channels.