Annex B

EIA report on
"Yuen Long South Effluent Polishing Plant"

Relevant Extract of the draft minutes of
the Environmental Impact Assessment Subcommittee meeting
held on 23 May 2022

Question-and-Answer Session (Open Session) Action

Location of the YLSEPP

1. With reference to the public comments received, a Member enquired about the feasibility to accommodate the YLSEPP inside a rock cavern. Ms Suki Pun explained that the location of the YLSEPP was under the scope of a separate EIA project on "Housing Sites in Yuen Long South" of the Civil Engineering and Development Department (CEDD) which was approved in 2017. Ms Pun said that according to the Planning Department and CEDD, there would be sufficient distance between the proposed YLSEPP and the residents during operation. The location of the YLSEPP was considered appropriate as it would not cause nuisances to the residents. If the facility was to be moved inside a rock cavern, more technical assessments would be required to examine its feasibility and this would bring a significant setback in the development programme of the Yuen Long South Development Area (YLS DA) as the YLSEPP was an essential facility required.

Water Quality Impact

2. The Chairperson and a Member sought details of the usage and outlets for the treated effluent in the YLSEPP. Mr Suki Pun said that in the ultimate scenario, around 8% of the treated effluent would be reused within the YLSEPP, another 70% to 80% would be sent to the neighbouring water reclamation facility (WRF) for further treatment as reclaimed water while the remaining some 10% would be directly discharged to the planned reedbed or Yuen Long Nullah for river revitalisation.

3. In reply to the Chairperson's enquiry about the construction programme of the WRF, Ms Suki Pun said that the YLSEPP and the WRF were both expected for completion in 2032 whereas the reedbed not later than 2038. The Chairperson was concerned about the direct discharge of the treated effluent to Deep Bay or Yuen Long Nullah if there was slippage in the construction of the WRF. Ms Pun explained that DSD was working closely with CEDD to tie in the delivery of the

two facilities. Given that the sewage would be treated at tertiary standard in the YLSEPP, there should be no adverse impact to the environment even if the treated effluent was discharged directly to Deep Bay or Yuen Long Nullah in the worst case scenario.

4. With reference to Table 8.27 of the EIA report, a Member sought clarifications on the impact and amount of effluent to be discharged to the planned reedbed. Ms Suki Pun explained that the sewage would be treated at tertiary treatment standard with only 10 milligram per litre of total suspended solids and biochemical oxygen demand. Another Member suggested with the support of the Member that the Environmental Monitoring and Audit Programme should monitor the habitat quality and biodiversity of the reedbed though a contingency plan was considered not necessary. Mr Desmond Ng supplemented that the treated effluent discharged would in fact enhance the habitat quality of the reedbed with a steady supply of water source.

5. A Member further suggested the project proponent to adopt appropriate mitigation measures to enhance the habitat and biodiversity of the nearby water channels. Ms Anna Chung advised Members that while most of the treated effluent would be collected by the WRF for further treatment as reclaimed water for other uses, part of the treated effluent would be discharged to the Yuen Long Nullah for river revitalisation so as to improve the quality of the water in the nullah.

6. Having regard to the projected population in the YLS DA, a Member was concerned that the reclaimed water might not be fully utilised and would result in additional discharge to the reedbed or Yuen Long Nullah. Ms Suki Pun explained that the reclaimed water of the YLSEPP would not only be utilised to meet the flushing demand of YLS DA, but also that of the Hung Shui Kiu/Ha Tsuen New Development Area. It was expected that the reclaimed water could be fully utilised to serve the two development areas.

Compensatory Tree Planting

7. Pointing out that the removal of 402 trees would have adverse impact on carbon neutrality achievements, a Member enquired about the possibility of retaining or relocating the trees under the project. Mr Desmond Ng explained that the trees to be removed were in fact arising from the site formation works for another project on "Housing Sites in Yuen Long South" commenced by CEDD. The project proponent of the YLSEPP was to help reserve the area required for the relocation of the trees involved in that project. In addition to achieving carbon

neutrality, the Member suggested that mitigation measures such as compensatory tree planting with native tree species should be devised to help improve the biodiversity of the environment.

8. A Member asked about the locations of the 402 trees to be removed considering that the removal of a cluster of trees would cause more adverse impact on the microclimate as compared with scattered trees. She was also concerned about the possible edge effect caused by removing trees at the edge of existing vegetation. In this connection, the Member and three other Members considered that a detailed plan of tree removal and compensation should be provided. Mr Desmond Ng explained that the compensatory trees would be planted in the south of the YLSEPP which was close to the existing hillside vegetation. Ms Anna Chung supplemented that at least 405 heavy-standard trees would be compensated in the area within and surrounding the project site as indicated in Figure 9.9 of the EIA report. In response to the Chairperson's suggestion to note also the landscape and visual impacts, Mr Ng agreed that the trees to be planted should integrate with the surrounding natural environment.

9. Noting that the compensatory trees in this project were heavy-standard ones, a Member suggested that sufficient spaces should be reserved for their planting and native tree species should be deployed. Mr Desmond Ng confirmed that native tree species would be used to ensure their compatibility with the existing habitat.

Odour Control

10. To address a Member's concern over the potential odour nuisances brought by the vehicles carrying food waste to the YLSEPP, Mr Desmond Ng explained that the food waste would be transported with air-tight and leakage-tight trucks which could effectively prevent any potential odour or leakage problems during the transportation process.

11. With reference to the public comments received, the Chairperson enquired about the project proponent's plan to mitigate odour emission during the operation of the YLSEPP. Ms Zhang Yan-ning advised Members that a highly effective two-stage deodorisation system would be adopted to remove the odourous gas through biological treatment and then activated carbon filters. Such processes could achieve at least 95% odour removal efficiency.

Management of Wastes and Chemicals

12. The Chairperson enquired about the generation and disposal of wastes such as activated carbon and zinc oxide arising from the deodorisation system. Ms Zhang Yan-ning explained that YLSEPP would be installed with two-stage deodorisation system, with the first stage a biotricking filter and the second stage an activated carbon filter. The biotrickling filter would use micro-organisms to decompose odour, and basically there would be no generation and disposal of wastes during operation. As for the activated carbon filters, the activated carbon would be expected to last for a period of time. The zinc oxide would not be used in the deodorisation system, but for the biogas treatment unit before the combined heat and power generator to remove excess hydrogen sulphide in the biogas. The amount of zinc oxide used would be small. As such, the wastes generated were expected to be minimal. Ms Zhang supplemented that the used activated carbon and zinc oxide would be properly handled in accordance with the relevant regulations for chemical wastes.

13. The Chairperson followed to ask about the overall waste management plan for minimising the construction and demolition (C&D) waste and ensuring proper waste disposal. Mr Desmond Ng advised Members that the construction waste would be stored and sorted in different containers at the site to facilitate the reuse or recycling of materials as far as possible. He remarked that full-time staff would be deployed onsite to monitor the proper handling and disposal of construction waste. Ms Anna Chung supplemented that the majority of the C&D waste would be reused in the current and other projects and only a small portion would be disposed of at the landfill. A Member suggested that an automatic identification system should be installed on the dump trucks with a view to ensuring the proper disposal of the C&D materials at the appropriate facilities.

14. In response to a Member's enquiry, Mr Desmond Ng confirmed that no chlorination process would be involved in the YLSEPP. The Member further enquired about the effectiveness of ultra-violet irradiation as compared with chlorination for disinfection. Ms Suki Pun explained that as the treated effluent for reuse within the YLSEPP was mainly for flushing and washing treatment facilities or diluting chemicals, disinfection with chlorine would not be necessary. She shared that chlorination might be required in the WRF which was a different project for production of reclaimed water.

Renewable Energy

15. The Chairperson enquired about the projected level and planned usage of the renewable energy to be generated by anaerobic digestion. Ms Suki Pun revealed that the YLSEPP would involve more electricity consumption with the usage of membrane bioreactors for high standard treatment. At the current stage, the renewable energy to be generated was expected to meet about 60% of the electricity demand of the YLSEPP at certain period of time, and the remaining power supply would come from the electricity company. Nonetheless, she assured that the project proponent would strive to enhance the generation of renewable energy in the detailed design stage.

Public Engagement

16. In reply to the Chairperson's enquiry about the plan to gauge public views and to address their concerns, Ms Suki Pun assured that they would continue to maintain communications with the stakeholders and the next engagement activity with the nearby residents would be carried out in June 2022.

Conclusion

17. There being no further questions from Members, the Chairperson thanked the project proponent team for their detailed presentation and clarification in relation to the project.

(The presentation team left the meeting at this juncture.)

Internal Discussion Session (Closed-door Session)

18. The Chairperson advised Members that the EIASC should make recommendations to the ACE on the EIA report with the following consideration -

(i) endorse the EIA report without condition; or
(ii) endorse the EIA report with conditions and / or recommendations; or
(iii) defer the decision to the full Council for further consideration, where issues or reasons for not reaching a consensus or issues to be further considered by the full Council would need to be highlighted; or
(iv) reject the EIA report and inform the project proponent of the right to go to the full Council.

19. The Chairperson proposed and Members agreed to endorse the EIA report with conditions and recommendations.

Compensatory Tree Planting

20. With reference to the earlier discussion on compensatory tree planting, the Chairperson suggested that a compensatory tree planting plan should be devised. a Member added that terrestrial ecologists and arborists should be consulted when devising the plan.

21. The Chairperson suggested with the agreement of Members that a condition should be imposed to require the project proponent to devise a detailed Compensatory Tree Planting Implementation Plan (the Plan) with the engagement of terrestrial ecologist(s) and arborist(s), which should include details of the planting objectives, planting numbers and locations, and list of native tree species to be used, with the aim to enhance urban biodiversity as well as landscape compatibility with the surrounding natural environment. The project proponent should consult the relevant authority and seek advice from AFCD on the Plan prior to submission to the DEP for approval before commencement of the compensatory tree planting.

Contingency and Response Plan

22. A Member suggested with the support of the Chairperson that the project proponent should be required to devise a contingency plan for potential overflow of effluent under heavy rainfall and extreme weather. Mr Stanley Lau pointed out that according to the EIA report, the project proponent would devise an emergency response plan for problems arising from power supply or failure of equipment. The Chairperson was of the view that potential overflow of effluent should also be addressed.

23. The Chairperson suggested and Members agreed to impose a condition for the project proponent to develop a contingency and response plan (the Plan) for handling potential overflow of effluent under adverse weather conditions and emergency discharges due to other incidents. The Plan should be submitted to the DEP for approval before commencement of the construction works.

Construction of WRF

24. Having regard to the relevant discussions in the open session, the Chairperson suggested with the support of Members to recommend the project proponent to liaise with the relevant parties to tie in the construction programme of the YLSEPP with the neighbouring WRF, with a view to commencing the two facilities at the same time such that the treated effluent of YLSEPP could be utilised for further treatment as reclaimed water for other usage as far as possible.

Renewable Energy and Carbon Emissions

25. The Chairperson pointed out that the energy to be generated from the co-digestion process of YLSEPP would only support about 60% of its overall energy requirement. As such, the Chairperson suggested the project proponent to strive to enhance the generation of renewable energy as far as possible. A Member added that measures should be taken with a view to achieving carbon neutrality in this project.

26. The Chairperson suggested with the support of the meeting that the project proponent should be recommended to explore ways to enhance the generation of renewable energy in the project, such as through enhancing the efficiency of co-digestion and photovoltaic panels, with a view to reducing the carbon emissions and achieving carbon neutrality in the construction and operational phases as far as practicable.

Greenhouse Gases

27. A Member was concerned about accidental leakage of greenhouse gases such as methane in the operation of the YLSEPP. Mr Stanley Lau stated that based on the EIA report, residual biogas for flaring would be carried out for emergency. Another Member remarked that the control of gases such as methane should be under the purview of the Fire Services Department. One of the two Members further sought information on the air quality standards for methane mentioned in Table 3.2 of the EIA report.

(Post-meeting notes: Information on air quality standards for methane was passed to Members for reference on 21 June 2022.)

28. While energy recovery from biogas generation should be fully utilised within the YLSEPP, the Chairperson suggested with the support of the meeting that

the project proponent should be recommended to devise a monitoring and contingency plan for greenhouse gases, in consultation with the DEP, with a view to ensuring safety in the operation of the facility through monitoring, preventing and timely handling of any potential leakage of greenhouse gases such as methane in the project.

Waste Management

29. With reference to the relevant deliberations in the open session, the Chairperson suggested and the meeting agreed to recommend the project proponent to devise a comprehensive Waste Management Plan which should include the installation of automatic system for real-time tracking and monitoring of the dump trucks, in consultation with the DEP, with a view to minimising the generation as well as preventing illegal dumping of solid waste, including but not limited to inert C&D materials, chemical waste and other types of waste, arising from the project as far as possible.

Zero-discharge

30. A Member understood that it was not possible to achieve zero-discharge in the current project. The Chairperson opined and the meeting agreed that a condition or recommendation on zero-discharge was not necessary given that the YLSEPP would treat the collected sewage to a tertiary treatment level, which was already the highest treatment standard in Hong Kong.

Odour Emission

31. While odour emission was one of the main concerns of the public, the Chairperson noted that the project proponent had proposed odour control measures such as the enclosure of odour emission sources and installation of deodourisation units with at least 95% odour removal efficiency. As the predicted cumulative odour levels at all the planned Air Sensitive Receivers were expected to comply with the odour emission criteria, the meeting agreed that a condition or recommendation in respect of odour emission was not necessary.

32. There being no other comments from Members, the meeting agreed that the EIA report could be endorsed with two conditions and four recommendations. The project proponent team would not be required to attend the subsequent full Council meeting.

(Post-meeting notes: The list of proposed conditions and recommendations was circulated to Members for comments on 26 May 2022.)

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EIA Subcommittee Secretariat
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