

1. Introduction

1.1 The YLEPP will be constructed in two phases within the footprint of existing YLSTW. Phase 1 works will upgrade the existing YLSTW into YLEPP with a treatment capacity of 100,000 m³/day in ADWF. Phase 2 works will be implemented subject to further review of sewage flow projections and will further upgrade the treatment capacity to 180,000 m³/day in ADWF.

1.2 This appendix assessed the risk levels associated with operation of Phase 1 installation, with Phase 2 works not being implemented. In this case, the major difference from Scenario 1 of the main text in Section 11 is the extent of the plant's Co-use Area. Without the Phase 2 works, the existing Aeration Tanks No. 1 to 4 and existing circular Final Sedimentation Tanks No. 1 to 4 will be retained, and the Co-use Area will cover these facilities. **Figure 1** shows the Co-use Area in this case.

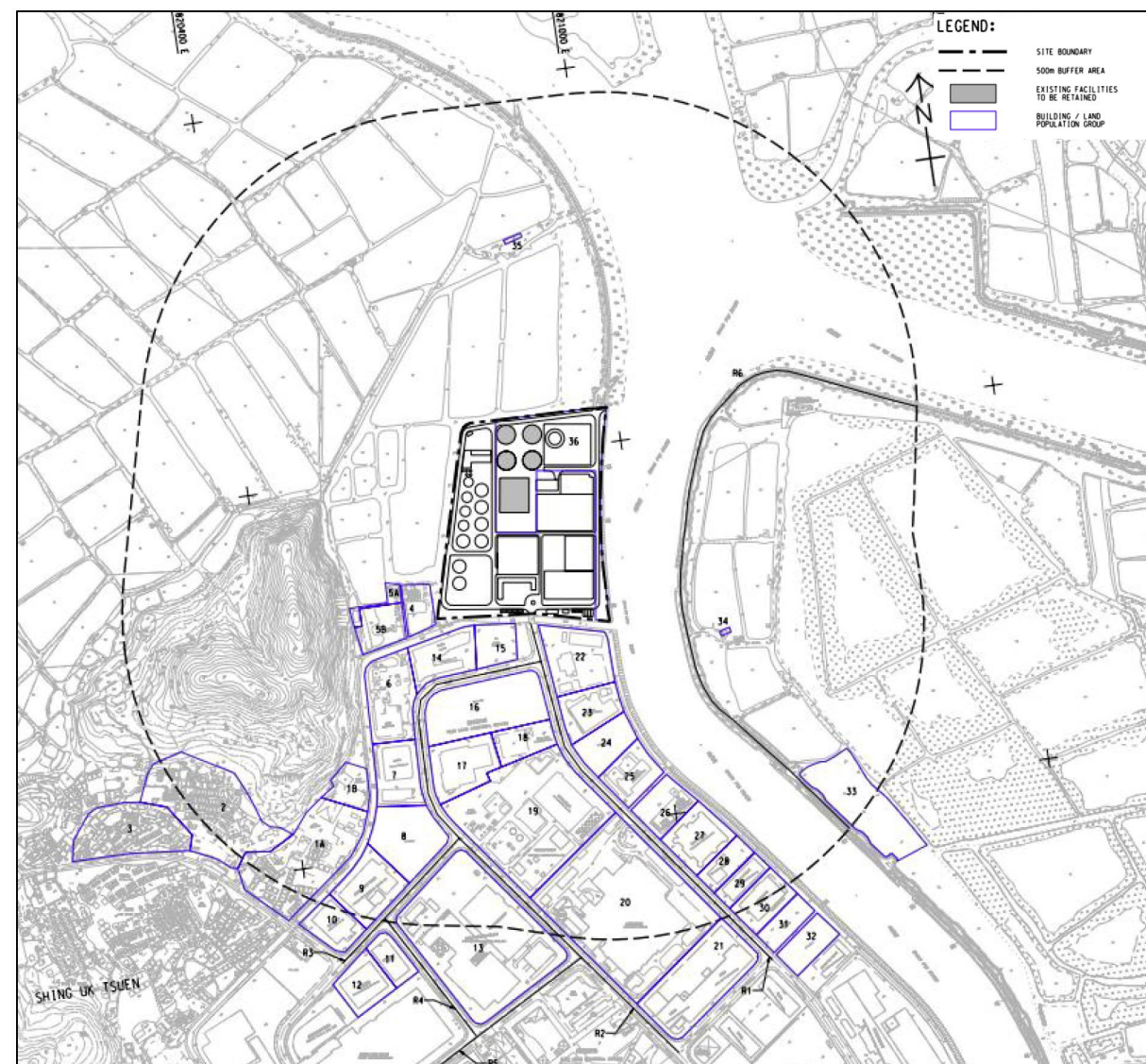


Figure 1 Population Groups for Sensitivity Test

1.3 Phase 1 works will be completed in 2026 and the gas facilities being commissioned accordingly. To tally with the assessment in Section 11 of the main text, Year 2030 is proposed as the assessment year for this case.

2. Surrounding Populations

2.1 The limitation of number of co-use area users remains as 200. The estimation of populations to be considered in the assessment is summarized in **Table 1**.

Table 1 Population Considered for Hazard Assessment

| ID | Description | Maximum Population in 2030 |
|----|--|----------------------------|
| 1a | Leon Court, Leon House, Green Garden, other village houses | 446 |
| 1b | Open Storage Area | 5 |
| 2 | Ng Uk Tsuen | 915 |
| 3 | Jade Court, Lai Yin Garden & Village Houses | 374 |
| 4 | Open Storage Area | 4 |
| 5a | Village Houses | 16 |
| 5b | Open Storage Area | 2 |
| 6 | Dunwell | 47 |
| 7 | Eu Yan San Centre | 170 |
| 8 | Vogue Laundry | 414 |
| 9 | Yau Sang Galvanizers (Hot-Dip) Co Ltd | 68 |
| 10 | Kyowa Industrial Co Ltd | 36 |
| 11 | Acme Agent | 50 |
| 12 | TDK Manufacturing (HK) Co Ltd | 81 |
| 13 | San Miguel Brewery Hong Kong Limited | 959 |
| 14 | Topfine Machinery (China) Co Ltd | 207 |
| 15 | Bus Depot | 41 |
| 16 | Eu Yan San Centre | 306 |
| 17 | Wai Yuen Tong Co Ltd | 327 |
| 18 | Fung Shing Steel Co., Ltd. | 23 |
| 19 | Hong Kong Petrochemical Co. Ltd | 247 |
| 20 | Nestle Hong Kong Limited | 347 |
| 21 | Bright Future Pharmaceutical Laboratories Ltd | 91 |
| 22 | Noble Phoenix Investments Limited (unoccupied) | 0 |
| 23 | EMIX Industry (HK) Limited | 38 |
| 24 | Vacant | 0 |
| 25 | Bright Future Pharmaceutical Laboratories Ltd | 79 |
| 26 | Bright Future Pharmaceutical Laboratories Ltd | 48 |
| 27 | Viva Manufacturing Limited | 270 |
| 28 | ClearWaterBay Technology Limited | 21 |
| 29 | Toppan Forms Card Technologies Ltd | 49 |
| 30 | Ushio Hong Kong Limited | 68 |
| 31 | Bus Depot / Amenity Area | 0 |
| 32 | Vacant | 0 |
| 33 | Nam Sang Wai | 45 |
| 34 | Village House | 6 |
| 35 | Village House | 3 |
| 36 | Co-use Area Users ^[Note 1] | 200 |
| R1 | Wang Lok Street | 12 |
| R2 | Wang Lee Street | 15 |
| R3 | Fuk Hi Street | 11 |
| R4 | Fuk Yan Street | 8 |
| R5 | Fuk Wang Street | 11 |

Note 1: The extent of YLEPP public co-use area please refer to **Figure 1**.

3. Risk Evaluation

Individual Risk

- 3.1 The IR contours associated with the organic waste co-digestion facility at the proposed YLEPP for the case without Phase 2 works are shown in **Figure 2**. The risk levels were estimated based on 100% occupancy with no allowance made for shelter or escape, which can be referred from the user manual of PhastRisk.
- 3.2 Individual risk contours down to the level 1×10^{-9} per year are shown in the drawing. The level 1×10^{-5} per year individual risk contour is confined entirely within the boundary of the YLEPP. The maximum individual risk remains below 1×10^{-5} per year at the site boundary and meets the HKRG requirements.

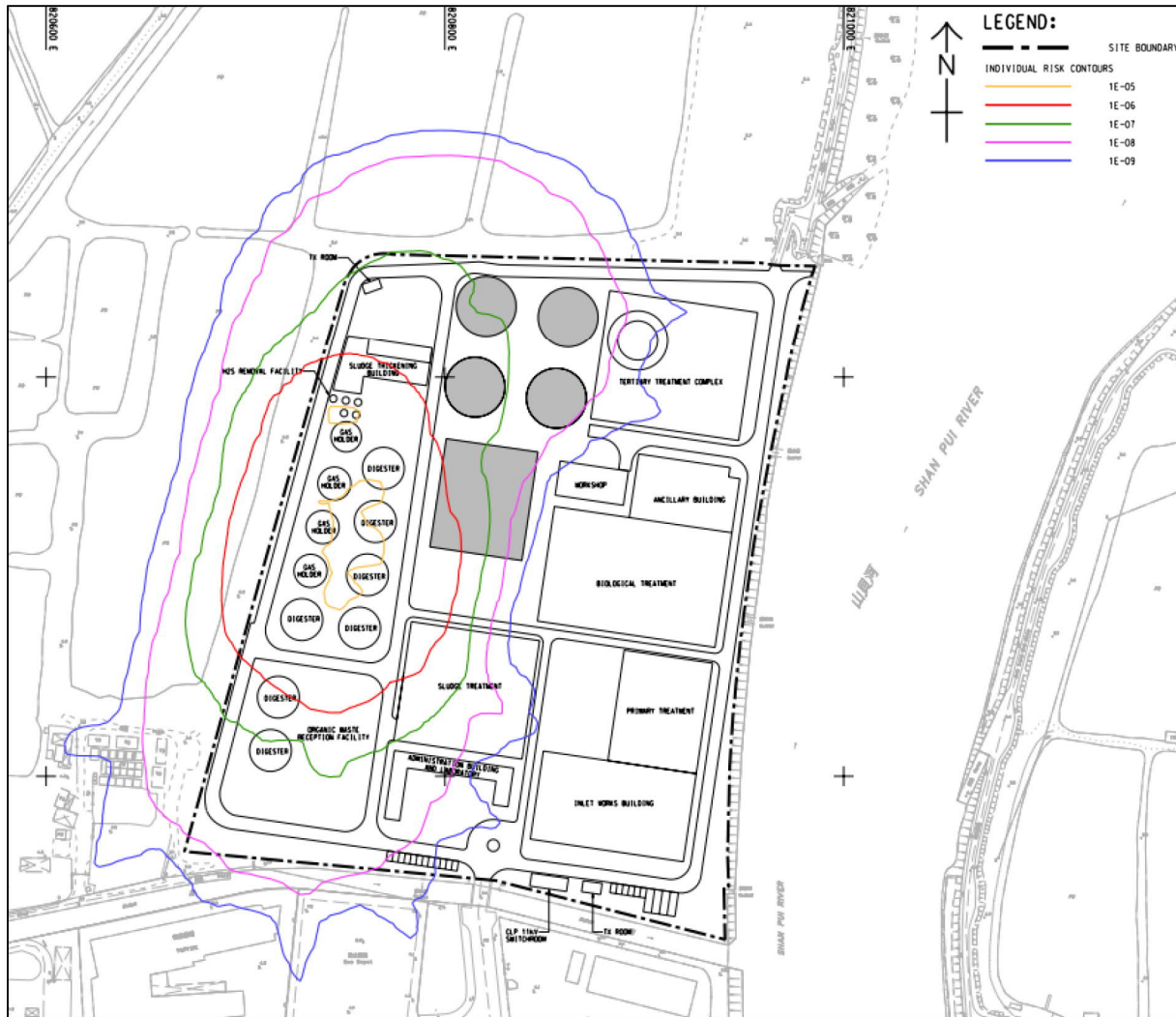


Figure 2 Individual Risk Contours

Societal Risk

- 3.3 The societal risk results at the proposed YLEPP without Phase 2 works are presented in **Figure 3** in form of F-N curves for comparison with the HKRG. The societal risks are low and within the “Acceptable” region. The potential loss of life (PLL) for the facility was estimated to be 7.75×10^{-6} per year.

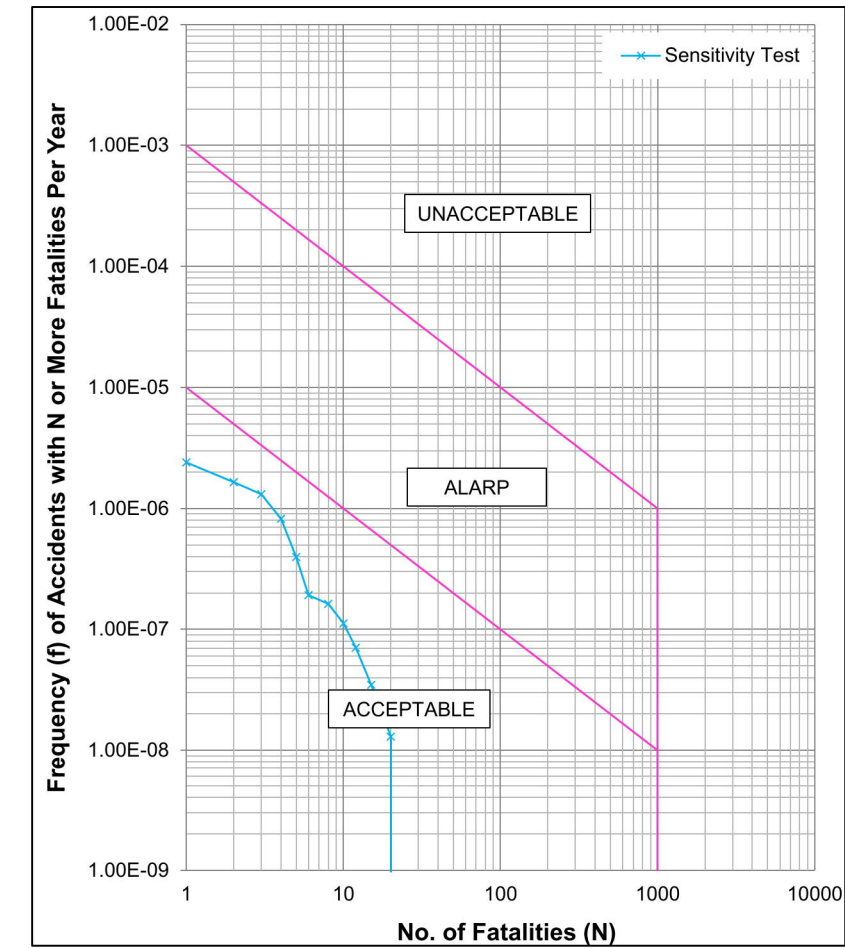


Figure 3 Societal Risk Curve

Conclusion

- 3.4 Both the individual and society risk levels were found to meet relevant requirements stipulated in the HKRG, i.e. the off-site individual risk level is below 1×10^{-5} per year and the societal risk falls into the “Acceptable” region, no mitigation measure is required.