

Documentation of Key Assessment Assumptions, Limitation of Assessment Methodologies and Related Prior Agreement(s) with Director

Note #: N/A = Not applicable

Assessment Methodologies	Key Assessment Assumptions	Limitations of Assessment Methodologies/ Assumptions	Prior Agreements with EPD/ Other Authorities #	
			EIA Study Brief Clause Ref.	Relevant Documentation
Air Quality				
<p>Construction Phase</p> <ul style="list-style-type: none"> Annexes 4 and 12 of the EIAO-TM EIA Study Brief (No. ESB-267/2014) Guidelines on Assessing the 'TOTAL' Air Quality Impacts Guidelines on Choice of Models and Model Parameters Guidelines on Estimating Height Restriction and Position of Fresh Air Intake Using Gaussian Plume Models Guidelines on the Estimation of 10-minute Average SO₂ Concentration for Air Quality Assessment in Hong Kong Guidelines on the Estimation of PM_{2.5} for Air Quality Assessment in Hong Kong Guidelines on the Use of Alternative Computer Models in Air Quality Assessment 	<p>Details of the construction programme, plant inventories and working hours and days used are subject to changes in detailed design stage. The current construction programme which is verified by the authority is a preliminary one and was made reference to other building projects with similar scale.</p> <p>No major earthworks will be required for site formation works because no construction of basement structure in place.</p> <p>Good site practices are assumed to be implemented accordingly.</p>	N/A	Not required	N/A
<p>Operation Phase</p> <ul style="list-style-type: none"> Annexes 4 and 12 of the EIAO-TM EIA Study Brief (No. ESB-267/2014) Guidelines on Assessing the 'TOTAL' Air Quality Impacts Guidelines on Choice of Models and Model Parameters Guidelines on Estimating Height Restriction and Position of Fresh Air Intake Using Gaussian Plume Models Guidelines on the Estimation of 10-minute Average SO₂ Concentration for Air Quality Assessment in Hong Kong Guidelines on the Estimation of PM_{2.5} for Air Quality Assessment in Hong Kong Guidelines on the Use of Alternative Computer Models in Air Quality Assessment A near-field dispersion model was used, i.e. CALINE4, for line sources to quantify the air quality impacts at local scale from open road emission. Another near-field model ISCST3 was used to assess point and volume sources to quantify the air quality impacts at local scale from volume sources induced by the activities within the proposed depot. Year 2020 of PATH model was selected as the background concentrations. 	<p>Emissions due to Vehicular Movement</p> <p>Emission factors referenced from EMFAC-HK V2.6.0 and the Road Tunnels: Vehicle Emissions and Air Demand for Ventilation published by PIARC Technical Committee on Road Tunnel Operation in November 2004.</p> <p>Ozone limiting method was used to estimate the conversion ratio of NO_x to NO₂ for vehicular emissions.</p> <p>Hourly meteorological data in 2010 as extracted from grids PATH grids (33,25), (33,24), (34,25) and (34,24) was adopted for modelling.</p> <p>In view of the constraints of elevated roads higher than 10m, the road heights of elevated road sections in excess of 10 m high above local ground or water surface has been set to 10m in CALINE 4 modelling.</p> <p>Assessment heights of 1.5 m, 5 m and 10 m (where applicable) above local the ground level have been modelled at the representative ASRs.</p> <p>Surface roughness of 370 cm was adopted.</p> <p>The travelling distance of the vehicles within the proposed Project was assumed as the longest travelling distance of 1000 m.</p> <p>Travelling at speed of 5 kph within the proposed Project was assumed.</p> <p>Vehicle breakdown followed the in and out traffic data obtained from user departments.</p> <p>Vehicular emission from vehicle movement within the proposed Project is assumed to be emitted from the openings of the proposed Project by natural ventilation. The size of the opening was assumed to follow the minimum requirements of permeability of building as recommended by the Buildings Department.</p> <p>Conservative formulae in the Guidelines on the Estimation of PM_{2.5} for Air Quality Assessment in Hong Kong were adopted to determine the ambient annual and daily concentration for PM_{2.5} from PM₁₀.</p> <p>Emissions due to Vehicle Repair / Testing</p>	<p>The representative ASRs were identified based on the site visit on 20 May 2014 and the best available information at the time of preparation of this study.</p> <p>There will be double accounting of emissions in the total simulation as PATH's concentrations were used unadjusted. The adopted ambient air quality level may a bit overestimate the future baseline conditions, which is considered as a conservative approach.</p> <p>3 particular years within the next 15 years upon commissioning of the proposed Project were selected for assessment in order to provide a spectrum of emission inventories over time within the study area.</p> <p>Gaussian models are designed for use in simple terrain under uniform flow, in which CALINE 4 has a limitation of source height between - 10 m and +10m.</p>	Not required	N/A

Environmental Impact Assessment Report – Appendices

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	<p>Idling emissions from the EMSD Depot, HKPF PVP&EC and FEHD Depot were assumed to be exhausted through forced mechanical ventilation at designated plant rooms at various floors.</p> <p>All the planned vehicle repair / testing activities will be limited to the normal working hours (0800 to 1800 hours).</p> <p>Vehicle breakdown followed the ingress and egress traffic data obtained from future users.</p> <p>Idling activity per vehicle lasted for maximum 900 seconds (15 minute) in 1 hour.</p> <p>Maximum 20 idling vehicles were being repaired/ tested in 1 hour.</p>			
Noise				
<p>Fixed Noise Sources</p> <p>The noise impact assessment for the project follows Annex 5 and Annex 13 of the EIAO-TM as well as the requirements given in EIA Study Brief (No. ESB-267/2014) and TM for the Assessment of Noise from Places other than Domestic Premises, Public Places or Construction Sites under Noise Control Ordinance</p> <p>For project fixed noise sources, in the absence of any detailed information and noise specification for the proposed fixed plant, the maximum allowable SWL of the fixed plant was determined for future detailed design of the fixed plant. This was determined by adopting standard acoustics principles.</p> <p>For those existing fixed plant noise sources, the design information were made reference to the relevant approved EIA Reports. Noise measurement was carried out to determine the SWL of the fixed sources where information was not available. The noise impact from these sources would then be assessed with the use of the same methodology as stated above for the project fixed noise sources.</p>	<p>The noise level of planned fixed noise sources was referenced from relevant EIA studies or the best available information from the future users. It was assumed that the noise levels presented in those EIA reports would be maximum allowable SWL.</p> <p>The locations of fixed plants, louvers and openings are assumed based on best available information and engineering judgement.</p>	<p>The locations of fixed plants, louvers and openings may be refined in detailed design.</p> <p>The actual noise levels emitted from the fixed plants within the proposed Project will be determined in later detailed design stage.</p> <p>As the maximum allowable SWLs are adopted, which the SWL of each equipment may be lower in actual case, overestimation is considered.</p>	Determination of Assessment area; Location of representative noise sensitive receivers.	N/A
<p>Construction Noise</p> <p>The noise impact assessment for the project follows Annex 5 and Annex 13 of the EIAO-TM as well as the requirements given in EIA Study Brief (No. ESB-267/2014)</p> <p>Assessment approach to the noise impact is in line with the Guidance Note titled “Preparation of Construction Noise Impact Assessment under the Environmental Impact Assessment Ordinance” (GN 9/2010).</p> <p>The assessment of construction noise impact was based on standard acoustic principles, and the guidelines given in GW-TM issued under the NCO where appropriate. Where no sound power level (SWL) could be found in the relevant TM, reference was made to BS 5228 Part 1:2009.</p>	<p>Details of the construction programme, plant inventories and working hours and days used are subject to changes in detailed design stage. The current construction programme which is verified by the authority is a preliminary one and was made reference to other building projects with similar scale.</p> <p>The type and quantity of PME were estimated based on best available information and engineering judgement.</p> <p>The assumption of all PME items required for a particular construction activity would be located at the notional source position where the activity is to be performed.</p> <p>The planned NSRs included for construction noise impact assessment are selected by assuming the construction programme and phasing of development is strictly followed.</p>	<p>The prediction of construction noise impact was based on the methodology described in the GW-TM under the NCO. There would be limitations of the methodology such as the accuracy of the predictive base data for future (e.g. plant inventory for proposed construction works).</p> <p>With the latest technology, the actual SWLs of PME may be lower than the SWLs adopted, overestimation is considered.</p>	Determination of Assessment area; Location of representative noise sensitive receivers.	N/A
<p>Traffic Noise</p> <p>The noise impact assessment for the project follows Annex 5 and Annex 13 of the EIAO-TM as well as the requirements given in EIA Study Brief (No. ESB-267/2014)</p> <p>Road traffic noise levels at the NAPs have been calculated based on the AM and PM peak hour traffic flow within a 15 years period upon commencement of the operation of the proposed Project.</p>	<p>The traffic flow of assessment year is predicted based on the best available data.</p>	N/A	Determination of Assessment area; Location of representative noise sensitive receivers.	N/A

Environmental Impact Assessment Report – Appendices

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Traffic noise has been predicted using the model “RoadNoise”.				
Water Quality & Sewerage				
The water quality impact assessment has been prepared in accordance with EIAO-TM Annexes 6 & 14 and Section 3.4.6, Appendix D1, Appendix D2 of the EIA Study Brief.	N/A	N/A	N/A	N/A
Desktop study has been carried out to collect relevant information for the assessment of sewerage and sewage treatment implication. The capacity of the existing public sewerage networks and sewage treatment facilities in the vicinity of the Project site have been investigated and reviewed based on the Drainage Record Plans within the vicinity of the Project site from Drainage Services Department (DSD).	N/A	N/A	N/A	N/A
The impacts of discharging sewage arising from the Project to the existing public sewerage system along Sheung On Street has been studied and assessed based on the maximum sewerage flow to be generated by the Project.	The load on the existing sewerage network from the Project is assessed based on the sewage generation estimated by users; and The existing load on the public sewerage network is estimated based on the best available data.	N/A	N/A	N/A
Landscape & Visual				
The landscape and visual impact assessment has been prepared based on existing available information and in accordance with EIAO-TM Annexes 10 & 18 and EIAO GN No. 8/2010.	At the time of preparation of the LVIA, specific details on various aspects of the development are subject to revising during detail design, such as the precise form and appearance of the buildings, the location of the compensatory planting and the tree species of landscape planting. It is assumed that the proposed landscape and visual mitigation measures will be considered during detail design stage and be implemented.	Assessment of the sensitivity of receivers and the magnitude of change of the Project works are inherently subjective. Additional mitigation measures introduced during detail design stage may assist in the reduction of residual impacts. No detail data exists for future planned projects. Changes to these or the identified concurrent Project may affect the evaluated impacts of the proposed Project.	N/A	N/A
Waste Management				
The waste management implication assessment for the project follows Annex 7 and Annex 15 of the EIAO-TM as well as the requirements given in EIA Study Brief (No. ESB-267/2014). Analysis of activities and waste generation; and Development of proposals for waste management.	The amount of waste to be generated were estimated based on best available data, relevant studies or engineering judgement. No sediment to be excavated according to foundation method and engineering design.	N/A	N/A	N/A
Land Contamination				
The waste management implication assessment for the project follows Annex 19 of the EIAO-TM as well as the requirements given in EIA Study Brief (No. ESB-267/2014) Review of aerial photographs; Review of relevant information acquired from government departments; Review of ground investigation records near the Project site; and Review of records and photographs from site walkover.	The study area was designed to ensure 100% coverage of any areas with potential impact.	N/A	N/A	N/A
Hazard to Life				
The assessment of construction and operation phases hazard to life for the Project followed the EIAO (Cap. 499), Chapter 12 of HKPSG, Chapter 4 and Annexes 4 of the EIAO-TM as well as the requirements given in Section 3.4.4 and Appendix B of the EIA Study Brief (No. ESB-267/2014). Other	Hazardous installations identified included Sinopec Hong Kong Oil Terminal (Chai Wan), Sinopec petrol cum LPG filling station, Esso petrol cum LPG, filling station, New World First Bus Permanent Depot, Citybus Chai Wan Depot and a LPG Wagon Parking Site.	The characteristics of the potential hazardous installations were based on the best available information on site surveys conducted in July, September 2014 and February 2015 as well as information requests from the corresponding operators.	N/A	N/A

Environmental Impact Assessment Report – Appendices

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<p>guidelines including the following were also referred to where appropriate:</p> <ul style="list-style-type: none"> Gas Safety Ordinance (Chapter 51); and Dangerous Goods Ordinance (Chapter 295). 		<p>Operational data of Sinopec Hong Kong Oil Terminal Chai Wan, Sinopec and ExxonMobil petrol cum LPG filling station were not available from their corresponding operators.</p> <p>Sinopec Hong Kong Oil Terminal Chai Wan was closed during the time in the 3 site surveys. Dangerous goods considered were made reference to the pervious EIA-034/1999 that information could be not up-to-date.</p> <p>The Authorities that manage the LPG Wagon Parking Site had no record on the LPG storage quantity and on the number of wagon in and out of the parking site.</p>		
<p>Buildings were assumed to provide protection for persons indoor from flash fire and fireball due to the failure events of the petrol cum LPG filling station.</p>	<p>The indoor fatality rate for flash fire was assumed to be 10%.</p> <p>For persons indoor within the fireball radius, the probability of death was assumed 50%.</p>	N/A	N/A	N/A