Final Environmental Impact Assessment Report

## Appendix 12

**Responses to Comment** 

**Route 9 Detailed Feasibility Study** 

	Committee	Kesponse/ Actions have been taken
Section 1.3 Add " <i>The I</i> the area lik	tabitat survey area is 500m from the site boundary or ely to be impacted by the project."	Agreed and incorporated in Section 1.4.5.
ection 2	Section 2 General	
(i) T m m re	The identification and evaluation of traffic noise mitigation measures shall be in accordance with the requirements of Technical Memorandum on Environmental Impact Assessment Ordinance Process	Agreed and amended.
G EI C	under the EIAO(TM). In this regard, all references to EPD/HyD Working Group Guidelines mentioned elsewhere in Section 2 shall be deleted and the text	
STS	amended (the amendments should be applied to the relevant sections of the EM&A Manual and the Executive Summary).	
(ii) A F H ii 5 N	Amend all references to HKPSG to Annex 5 of TM for all noise assessment criteria. All criteria of and references to HKPSG in the report shall be revised to criteria stipulated in TM (the amendments should also be applied to the relevant sections of the EM&A Manual and Executive Summary).	Agreed and amended.

Concerned Party		Comment	Response/ Actions have been taken
	(iii)	Show the demarcation of Route 9 and Route 16 on a properly scaled plan and indicate the predicted noise levels due to the proposed Route 9 near Lai Wan Interchange in Tables 2.9 and 2.10, and accordingly address the noise levels in the relevant text.	Agreed and shown in Appendix 1 and Figure 2.4.
	(iv)	It is indicated in Section 2.5.1 that low noise road surfacing and 3m barriers are recommended to the provided to Route 16 near the Lai Wan Interchange, hence, this recommendation should be indicated in the implementation schedule in Section 11 (the amendments should also be applied to the relevant sections of the EM&A Manual and Executive Summary).	Agreed and incorporated in Section 11.
	(>)	The EIA should define the development constraints on Site 10 in the implementation schedule (the mitigated noise contribution from Route 9 on Site 10 would exceed the criterion of 70dB(A) L10) and record the current the current planned layout of Site 10. The development constraints (e.g. setback and noise tolerant structure) should be illustrated in a drawing. The implementation schedule should also note that further investigation during the detailed design stage should be carried out a assess the potential of adopting building layout plans including use of blank facades, self protection, screening or suitable building orientation to eliminate the residual traffic noise impact from Route 9. Indirect technical remedies in the form of acoustic insulation and air conditioning should be recommended only when practical measures are exhausted. The amendments should also be applied to the relevant sections of the EM&A Manual and the Executive Summary.	Agreed and incorporated in Section 11 and Figures 3.8-3.11.
	Sectic Updat	Section 2.1.6 and 3.5.3 Update the maximum traffic scenario.	Agreed and updated.
	Section 2 Amend trelocated	Section 2.2.2  Amend the paragraph as Kai Tak airport has already been relocated.	Agreed and amended.

Concerned Party	Comment	Response/ Actions have been taken
	Section 2.2.3	
	The quoted background noise level at Tsing Yi shall be deleted unless a detailed background noise measurement has been conducted there.	Agreed.
	Tables 2.5 – 2.8	
	The noise levels presented in these tables should be rounded up to the nearest whole number.	Agreed and amended.
	Section 2.4.13	
	For clarity, the 1st sentence shall be revised to read " has	Amended.
;	incorporated well gasketted good quality windows plus air conditioning, at the worst-affected sensitive rooms."	
	Section 2.4.14	
	The noise exceedance of up to 4 dB(A) at QTC-1 does not concur	Amended.
	with that indicated in Table 2.5 (3dB(A)). The report should be	
	amended.	And the second s
	Section 2.4.25	
	Amend "82dB(A)" in 1st sentence.	Amended.
	Section 2.4.27	
	As there was an EIA study for WKE, the 1st sentence shall be	Agreed and amended.
	deleted and the 2 <sup>nd</sup> sentence should be amended to read "Traffic nosie will increase after opening of R16," to avoid confusion.	
	Section 2.5.1	
	The statement "subject to cost considerations" shall be deleted from the 4th bullet.	Deleted.
	Section 2.5.3	
		Amended.
	"All recommended mitigation measures shall be" The	
	amendments should also be applied to the relevant sections of the	
	Section 11.	

Concerned Party	Comment	Response/ Actions have been taken
	Section 2.5.4	
	Amend as "As the eastern area of Mei Foo is within70dB(A). The major traffic noise contribution is form existing roads. These properties would not be eligible for indirect remedies under the ExCo criteria (Clause 3)." Please delete the last sentence	Amended.
	"Mitigation reduces KMB site."	
	The EIA should confirm in one of these sections that the residual	Confirmed in Section 2.5.7.
	impacts form the Route 9 for all affected NSRs would not contribute more than 1dB(A) of the total noise levels, that the	
	recommended measures would mitigate the noise impacts from	
	Route 9 and the all effective direct measures on Route 9 are	
	Cention 2 5 6	
	CHOH 2.3.0	T 3 Carolino O ani bobanam A
	(1) Amend the /" & 8" lines to read 110wever, as	Amended in Section 2.3.7.
	-	
	from existing road sections, on-site mitigation"	
	(ii) Provide the number of flats exposed to noise levels over	Added in Section 2.5.6.
	(both existing and planned) protected by and benefits	
	form the proposed direct technical remedies.	
	Figures	
	Amend relevant figures for latest layouts for Site 6 and 10.	Amended as in Figures 3.8 – 3.11.
	Section 3.5.2 and 3.5.3	
	State the requirement for the adoption of the EURO III standard.	Added in Section 3.5.4.
	Sections 3.5.4, 3.6.10, 3.7.4 and Tables 3.5 & 3.6	
	Re-write the text and tables including correcting the predicted	All sections have been amended.
	exposure concentration levels at the air sensitive receivers to tally	
	with the revised assessment and contour diagrams for the updated	
	trailic ligures and to take account of the Euko III standard.	
	Section 3.8	
	Stipulate the 25m at grade setback for Site 6 as a result of the	Noted.
	revised air quality impact form Koute 9 for the updated traffic	
	ligures.	

Concerned Party	Comment	Response/ Actions have been taken
	Section 5	
	The section on landscape and visual assessment shall be amended in accordance with comments sent separately by Director of Planning to fully reflect the conclusions of the separate Outline Landscaping and Visual Assessment Report (report reference CE/2746/OR0026-01) (District Planning Office/Tsuen Wan, Kwai Tsing & Sham Shui Po memo ref. PD/IKS S/ITI/16 VIII dated 23.4.99 refers).	Amended.
	Section 6.3.6 Amend the 2 <sup>nd</sup> sentence as "The lower slopes of the planted woodland or the low scrub grassland will be removed for the proposed works".	Amended.
	Section 6.3.8 and 6.4.12 Add the dates of survey specified for the Western Portal area.	Date added.
	Section 6.3.10  Delete the phrase "if the above road scenario is chosen".	Deleted.
	Section 6.4.7 Add "With careful construction working methods, it should be possible to avoid impact on the three trees. This is not considered to be a key ecological issue." at the end of the paragraph.	Section 6.4.7 amended.
	Section 6.4.8  (i) Delete "woodland" form the first sentence.  (ii) Include the significance of impact (e.g. high, moderate or low) on the losses of trees and scrubland at or near the Eastern Portal.	Agreed. Section 6.4.8 amended.
	Section 6.4.8 Amend "scrub land" as "scrubland".	Amended.
	Section 6.4.19  Delete "but whereas it is difficult on the avi-fauna" and "Temporary or permanent for birds local to the portal."	Amended.
	Section 6.4.20  Delete the last sentence "It is recommended that disturbance during construction."	Amended.

Concerned Party	Comment	Response/ Actions have been taken
	Section 6.4.23	
	Indicate in Figure 6.1 the location of two ponds mentioned here.	Figure 6.1 amended
	Sections 6.5.2, 6.5.3 and 6.5.4	
	Delete these sections.	Sections deleted.
	Section 6.5.5	
	Rephrase the second sentence to clarify.	Rephased as Section 6.5.2.
	Section 6.5.9	
	Remove this section and put after Section 6.5.1 and Section 6.5.5	Relocated as Section 6.5.3.
	Section 6.5	
	Include a summary to elaborate the significance (e.g. high,	Agreed and incorporated in Section 6.5.7.
	moderate, low) of each impact under this section such as:	
	(i) "less than I hectare of scrubland which is commonly	
	found in Hong Kong will be lost."	
	(ii) "the upper section of the transient stream with only	
	common aquatic fauna will be routed."	
	(iii) "areas needed for the construction of access, haul roads,	
	storage and works place.	
	Section 6.5.7 (2 <sup>nd</sup> bullet)	
	Amend "aquatic fauna will be-routed."	Amended.
	Section 6.5.8	
	Delete this section and retain this in Section 6.5.7	Amended.
	Section 6.6.3	
	Provide a quantitative estimate of the potential areas available for	Amended.
	rehabilitation and replanting (or delete the requirement for	
	replanting).	
	Section 6.6.4	
	Indicate which species are native/exotic and which species was	Detailed in Table 6.4.
The state of the s	recorded on site.	
	Section 6.6.5	
	Provide a few examples to elaborate the meaning of "standard	Provided in Section 6.6.5.
	control .	

Concerned Party	Comment	Response/ Actions have been taken
	Section 6.6.6	
	Delete this section.	Deleted.
	Section 6.7.2	
	Delete "and are worthy of retention" (line 2).	Deleted.
	Section 6.7.4	
	Delete this section.	Deleted.
	Table 6.5	
	Amend as per the summary of Section 6.5.	Table 6.5 updated as per Section 6.5.7.
	Table 6.5	
	Amend the Table as follows:	Amended.
	Potential Impact Mitigation	
	Less than 1 ha scrubland loss Replanting and avoid damage	
	during construction phase.	
	Low impact on stream at Minimizing damage through	
	eastern portal design and good site nactice during construction	
	;	
	General Damage to habitats Good site practice and during noise construction.	
	Section 7.5.14	
	Provide the worst scenario and a package of mitigation measures	Additional cumulative construction noise impacts are given in
	to demonstrate the extent of cumulative construction noise	Table 7.5.
	impacts and the feasibility/practicability of noise mitigation.	
	Section 7.7.6	
	As monitoring of the marine water is not necessary, delete the	Deleted as Section 7.8.6.

Concerned Party	Comment	Response/ Actions have been taken
	Section 7.8	
	(i) Include the uncertainty of the quantities of estimated wastes such as tunnel spoil by giving an appropriate	Included in Section 7.9.8 and 7.9.9.
	range.	
	(ii) Include the estimated amount of various wastes that could	1
	be reused of site, especially the tunnel spoil.	meluded in Section 7.9.10.
	(iii) Include an estimate of the quantity and disposal time of	
	"vegetation wastes" in the EIA report. The impact caused	Included in Section 7.9.6.
	by handling, collection, and disposal routes shall be	
	addressed in details and appropriate mitigation measures	
	Section 7.9	
	Include the following mitigation meanures:	It has been included in Table 7.0
		It has occid moducu in Table 7.0.
	a. Legislative requirements and guidelines:	
	Different types of wastes should be segregated, stored,	
	transported and disposed of in accordance with the relevant	
	legislative requirements and guidelines.	
	b. Training:	
	Training and instruction for construction staff will be given	
	on site to increase their awareness on waste management	
	issues and the need to minimize waste generation.	
	c. On-site separation:	
	On-site waster separation of both municipal solid wastes and	
	construction and demolition waste should be conducted as far	
	as possible in order to minimize the amount of solid waste	
	requiring disposal at the landfills.	
	d. Temporary storage area:	
	The separated waste should be stored in different containers,	
	skips or stockpiles to enhance reuse or recycling of materials	
	and their proper disposal.	

Concerned Party	Comment	Response/ Actions have been taken
	e. Records of wastes: Records of quantities of wastes generated, recycled and disposed (locations) should be properly kept.  f. Trip-ticket system: In order to monitor the disposal of solid waste at the landfills and control fly-tipping, it is recommended to apply a tripticket system on all solid waste transfer/disposal operations. The trip-ticket system should be included as one of the contractual requirements, and monitored by an Environmental Team and audited by an Independent Checker (Environment).	
	Section 8 A chapter on construction waste issues should be included.	Section 8.5 covers this issue.
	Section 8.3.4  (i) Delete "Mei Foo Sun Chun" in the 2 <sup>nd</sup> sentence.  (ii) Amend the last sentence as "The details of noise monitoring shall be subject to detailed monitoring plan deposited to the Director of Environmental Protection as per Section 8 of the Environmental Monitoring and Auditing Manusl."	The wording "Site 10" has been deleted. Amended.
	Section 8.5  Add "The details of noise monitoring shall be subject to the detailed monitoring plan deposited to the Director of Environmental Protection as per Section 8 of the Environmental Monitoring and Auditing Manual."	It has been included in Section 8.4.3.
	Section 8.4 As monitoring of the marine water is not necessary, delete the requirement in this section.	Deleted.

Concerned Party	Comment	Response/ Actions have been taken
Environmental Protection Department ref. () in EP2/N3/28 dated 19 April 1999 Risk Assessment Section 9 of EIA	Section 2,2  The population data used in the study should be provided in tabulated form for two time periods including day and night. This should include population in the nearby industrial sites, roads and new developments including CT9. Reference should also be made to the source of the population data for each area. In addition, a map showing the population areas defined in the study including the population or Route 9 should be shown for clarity.	The whole risk assessment report has been incorporated into the EIA Report Chapter9.  Population data for day, night and peak travel times was estimated from available data, including nearby sites, Route 9 and Route 3 and CT9. The source is shown in Section 9.2.2. second last paragraph of the Report.  Initially a total of 8 population files were created for the societal risk calculations.  These were for the four PHI sites, each excluding the PHI site's own population in order to reflect the risk to surrounding populations only. Four files were created without Route 9 traffic and toll plaza population and four with Route 9 populations.  In the more detailed study of the Caltex site, three periods were also considered, i.e.  2.Day off-peak  3.Night  In the original report only part of these files were shown as Table 7.3. They are spreadsheet generated ASCI files. Population data is given in Appendix 9E. For the Caltex societal risk, the internal population in Caltex is ignored. For the earlier runs for Shell, Esso and CRC the day population was used as the basis. A presence factor of 0.5 applied as a default value for the 24 hour average, except where 1.0 was considered more appropriate, e.g. Sai Tso Wan Road.

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Concerned raise		Nespouse/ Actions have deen taken
		The justification for the use of the 0.5 presence factor in the
		Shell, Esso and CRC runs was that this provided an approximate
		daily average. Factors considered were:
		(a) very limited data was available for night time
		populations,
		(b) during peak hours when people are commuting, they can
		not all be at work, at the same time
		(c) there is usually a fraction of people absent from their
		work site during working hours for various reasons.
		(d) A significant of Indoor workers would be shielded from
		exposure to heat radiation or flash fire,
		(e) The working day is only 0.238 of the hours in a week
		but the activities, which would affect risk to surrounding
		populations, i.e. activity at the LPG terminals and
		ignition sources would tend to coincide with the working
		day. Accordingly the average daily presence factor
		would be expected to lie between 0.238 and 1.0 but be
		substantially less than 1.0 for reasons (b), (c) and (d),
		(f) the study was conducted at a coarse level and aimed to
		provide a reasonable approximation to the previous
		detailed QRA studies on the sites.
		The sensitivity work on the Caltex site indicates that this
		assumption was reasonable given the brief and time scale for the
		study. Use of the population and meteorological data for the
		three daily time periods resulted in reduction in risk of
		approximately 12% for events effecting less than 30 people with
		almost no difference for the larger events.
		Population data files in Appendix 9E explain the respective
		columns of data. The full data was used by Riskprof in the
		study. The program cannot run without full data and the total
		population and calculated population after inclusion of presence
		factor is shown in the results files as verification of the data file.

Concerned Party	Comment	Response/ Actions have been taken
	Table 7.2 & 7.3	
	(i) Provide sample calculations to show how the values of See above. Full Tables of data are provided.	See above. Full Tables of data are provided.
	population listed in the second, third, forth and fifth table are	
	derived and the relationship of how those figures relate with	
	the population file in table 7.3.	
	(ii) Provide justification for using 1.6 people/vehicle during	
	peak hour and 2.2 people/vehicle during off-peak hour	
	considering that there would be buses using the route.	
	(iii) Provide an explanation of using a presence factor of 0.5	
	in table 7.3	
	Section 4.3	
	Delete " The expected increase due to Route 9, will be The statement deleted.	The statement deleted.
	somewhat marginal".	
	Section 5.2.1	
	The requirement in the section paragraph that "it will be It is included in Section 9.9.9.	It is included in Section 9.9.9.
	necessary to provide procedures and event action plans to cover	
	rapid cessation of construction activities" should be included in	
	Section 9.9 – Recommendations.	

Concerned Party	Comment	Response/ Actions have been taken
	Section 6.2	
	Provide a justification for the statement "A 600 tonne release	The statement on the 600 tonne release at Shell not being
	from the closest LPG facility. Shell Mounded storage, is not	credible was based on the factors given in the following page of
	credible due to the containment and insulation provided by the	the report which mentions the protection given by the sand
	building." Taking into account that cold catastrophic failure	mounding and containment structure.
	could cause a vessel to release its content instantaneously or over	The risk of cold catastrophic failure is raised in the comment.
	a very short period of time. LPF could then pass through the	The protection provided by the mounding eliminates major
	drains or concrete to form a passive cloud. The following failure	external causes of cold catastrophic failure with the residual risk
	cases for the Shell PFG terminal should be included:	being mainly those of inherent material defect, corrosion or
		operation outside the vessel design limits. These factors are
	Failure Case Initial phase Failure	considered to be low risk considering the applicable standards
		for construction of LPG tanks, the high standards applied within
	Catastrophic Failure (Full) Liquid 2.63E-	Shell, the provision of pressure relief valves, and the product
		temperatures involved.
	Catastrophic Failure (Half Full) Liquid 1.23E-	monitoring exetens before any leakage could occur. In the
	6/year/vessel	event of a leak developing this would normally be from a
	Catastrophic Failure (20% Full) Liquid 2.63E-	pinhole initially which would be detected before any major
	6/year/vessel	release developed. The vessel contents would be transferred to
		other storage to minimise release, and steps taken to prevent
		ignition as normal emergency responses. The risk of
		metallurgical or manufacturing defect, contamination or
		inadequate low temperature ductility leading to brittle failure is
		the most significant risk. However, measures are taken in
		design, material specification, manufacture and testing and in
		operation to address these factors.

	In the event of a "cold" failure, the potential release of LPG is limited by the heat available for vapourisation. The provision of sand mounding, which is a good insulator, provides insulation from external heat sources. In the extreme event of a catastrophic rupture in which the vessel may be fully or partially ejected from the mound, a substantial amount of liquid from the mound. This would burn as a pool fire rather than be consumed in the fireball. A pool fire would have lesser hazard distances than the fireball.  After full consideration of failure frequencies, and probabilities of LPG content levels, and release fractions, the instantaneous release of the total contents of 600 tonne was therefore considered non-credible in the initial study.  At the suggestion of the E&MSD, the three failure cases have been included and further results obtained.
Table 7.3  Provide a sample calculation to shown how the population values are derived and present the population modeled on a drawing with co-ordinates shown for clarity. The number of people assumed to be present on Route 9 should also be included.	
Section 9.9  (i) "Sai Tso Road" should be revised to "Sai Tso Wan Road".  (ii) State which parties will be responsible for implementing and monitoring the recommendations (this should also be include in both the EIA report and the EM&A Manual).	(i) Agreed and amended.  (ii) Responsibility for implementation is included in Section 11.
Appendix A Include the failure cases for Shell and Esso and the details concerning the release inventory, initial phase, release duration and so forth in the table.	Failure case details for Shell and Caltex are detailed in Appendix 9A. Failure case details for ESSO and CRC are detailed in Appendix 9B.

Concerned Party	Comment	Posnanco/ Actions have been token
	Others	ACSPOINS, ACHORS HAVE DECH TARCH
	Include the individual risk contours for the four terminals in the report.	Individual risk contours and combined risk contours for the four terminals are given in Figures 9.8.1 to 9.8.7.
	Section 11 Include the same mitigation measures as for Section 7.9 of the EIA Report.	Agreed and amended.
	Section 11, Item 6 "Construction", activities for "All plant activity" & "Plant maintenance"  Add the recommended construction noise mitigation measures as	Added
	incorporated in the Action Plan for Construction Noise of the EM&A Manual.	
	Appendix I, figures on traffic data  (i) Include a blow-up plan showing traffic data such as traffic flows and % of heavy vehicles for each alignment	Included in Appendix 1.
	in and around Lai Wan Interchange.  (ii) Amend the title in accordance with Section 8.3.4. That is "% of heavy vehicles" should have been used.	Included in Appendix 1.
	Appendix 1, Figures A1 to A4 Provide the scales of the figures.	Figures amended with scales.
	Figure 1.5 Indicate representative NSRs such as MF1 and KMB1 and the adopted layout for Sites 10 and 6.	Figure 1.5 amended.
	Figure 2.1 & 2.2  (i) Correct the 2 scales shown on each figure.  (ii) Indicate on a 1:2000 plan clearly the recommended noise barriers, with chainage, near the Lai Wan Interchange.	Figure 2.1 & 2.2 amended.
	Figure 2.3 Indicate the distance from the barrier and the nearest lane and provide a typical detail of the recommended 3m noise barriers.	Figure 2.3 amended.
	Figure 2.4  Correct the location and the noise levels of the NSRs as per Tables 2.7 and 2.10.	Figure 2.4 amended.

Concerned rariy	Comment	Response/ Actions have been taken
99	General comments on Sites 6 and 10 of WKR	
$\Omega_{\mathbf{r}}$	odate the assessment in accordance with Housing Department	Jpdate the assessment in accordance with Housing Department   Relevant sections (2.4.20 – 2.4.26), (3.7.6 – 3.7.8) and Figures
lat	latest layout plans and to recommend adequate mitigation 3.8 - 3.11 have been updated.	3.8 – 3.11 have been updated.
me	measures for the adopted layouts.	















