

## Permanent Aviation Fuel Facility (EP-262/2007)

Twelfth Monthly Environmental Monitoring and Audit Report – October 2007

9<sup>th</sup> November 2007

**Environmental Resources Management**

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# Permanent Aviation Fuel Facility (EP-262/2007) Twelfth Monthly Environmental Monitoring and Audit Report – October 2007

9<sup>th</sup> November 2007

Prepared by: Bill Tsang/Craig A Reid

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For and on behalf of Environmental Resources Management	
Approved by:	Craig A Reid
Signed:	
Position:	Environmental Team Leader
Date:	9 <sup>th</sup> November 2007

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## Permanent Aviation Fuel Facility for Hong Kong International Airport

### Environmental Certification Sheet EP-262/2007

#### Reference Document/Plan

Document/Plan to be Certified/ Verified:	Interim Baseline Monitoring Report
Date of Report:	7 <sup>th</sup> November 2007
Date received by ET:	7 <sup>th</sup> November 2007
Date received by IEC:	7 <sup>th</sup> November 2007

#### Reference EP Condition

Environmental Permit Condition:	Condition No.: 5.2
Content:	<i>EMS&amp;A for the Project</i>
5.3	Four hard copies and one electronic copy of the Baseline Monitoring Report for the Project shall be submitted to the Director at least 2 weeks before commencement of construction of the sub-sea pipelines of the Project. The submissions shall be certified by the ET Leader and verified by the IEC before submission to the Director. Additional copies of the submission shall be provided upon request by the Director.

#### ET Certification

I hereby certify that the above referenced document/ <del>plan</del> complies with the above referenced condition of EP-262/2007	
Craig A Reid, Environmental Team Leader:	Date: 7 <sup>th</sup> November 2007

#### IEC Verification

I hereby verify that the above referenced document/ <del>plan</del> complies with the above referenced condition of EP-262/2007	
Dr Guiyi Li, Independent Environmental Checker:	Date: 12/11/2007

Notes: EP-262/2007 has replaced the former EP-139-2002/A for the PAFF project after the resubmission of revised EIA Report.

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## *EXECUTIVE SUMMARY*

The construction works for the Permanent Aviation Fuel Facility resumed on 9<sup>th</sup> July 2007. This **twelfth** monthly Environmental Monitoring and Audit (EM&A) report presents the EM&A works carried out during the period from **1<sup>st</sup> October to 31<sup>st</sup> October 2007** in accordance with the EM&A Manual.

### *Breaches of all Action and Limit Levels*

No breaches of action or limit levels occurred during the reporting month as no monitoring was undertaken.

### *Complaint Log*

No environmental complaint was received during the reporting period.

### *Notifications of any Summons and Successful Prosecutions*

No environmental summon or prosecutions were received in this reporting period.

### *Reporting Changes*

There were no reporting changes in the reporting period.

### *Future Key Issues*

- Baseline water quality monitoring was conducted between 24 October and 30 October 2007 for the commencement of dredging works. The Baseline Monitoring Report is being prepared and by the ET and will be submitted to the EPD accordingly;
- Dust release and suppression; and
- Commencement of dredging activities.

Leighton Contractors (Asia) Limited (LCAL) has appointed ERM-Hong Kong, Limited (ERM) as the Environmental Team (ET) to implement the Environmental Monitoring and Audit (EM&A) programme for the Permanent Aviation Fuel Facility (the Project) during construction works.

The construction works for PAFF commenced in November 2005 based upon the previous EIA (*EIAO Register Number AEIAR-062-2002*) conducted and the Environmental Permit *EP-139/2002* granted on the 28<sup>th</sup> August 2002. Due to minor changes to the detailed layout of the site and the site boundary, application for Variation to the Environmental Permit (VEP) (*VEP-133/2004*) was submitted to the Director of Environmental Protection (DEP) for approval. The variation to the EP (*EP-139/2002/A*) was granted by EPD in February 2004.

However, the decision by EPD to grant the above Environmental Permit was subject to a Judicial Review. The Judicial Review sided in the favour of the DEP, as did the subsequent Judgement from the Court of Appeal from the High Court for Judicial Review in March 2005. However, the DEP's decision to grant the EP was quashed by the Judgement of the Court of Final Appeal of July 2006.

The construction works were stopped following the Judgement of the Court of Final Appeal of July 2006. As such, in order to continue with the construction of the project, the project went through the statutory procedures under the EIAO again with a new design in order to obtain an environmental permit. The revised EIA was submitted in 2007 and the environmental permit (*EP-262/2007*) was granted in May 2007.

The construction works and EM&A requirements were resumed on 9<sup>th</sup> July 2007 following the latest requirements of the *EP-262/2007* and EM&A Manual. Details regarding the EM&A requirements and changes should refer to the updated EM&A Manual. For the marine works, all piling activities were completed before the previous suspension of construction works in 2006.

## **1.1**

### **PURPOSE OF THE REPORT**

This is the **twelfth** EM&A Report which summarizes the monitoring results and audit findings for the EM&A programme during the reporting period from **1<sup>st</sup> October to 31<sup>st</sup> October 2007**.

## 2 ENVIRONMENTAL STATUS

### 2.1 PROJECT AREA

The project area is in Area 38 of Tuen Mun and the pipelines are located in Urmston Road between Tuen Mun Area 38 and Sha Chau. The site is illustrated in *Annex A*.

### 2.2 ENVIRONMENTAL SENSITIVE RECEIVERS

No air and noise sensitive receivers were identified close to the project area. However, water sensitive receivers and ecological sensitive receivers were identified in the EIA study, and are shown in *Annex B*.

### 2.3 MAJOR CONSTRUCTION ACTIVITIES

A summary of the major works undertaken in this reporting period is shown in *Table 2.1*.

*Table 2.1 Summary of Works Undertaken During the Reporting Period*

Area	Works undertaken
Tuen Mun Area 38	Tank Farm and Bund Wall Construction Permanent Drainage Construction Operational & Fire Services Buildings Construction Jetty Works (Non-piling)

### 2.4 MONITORING SCHEDULE OF THE REPORTING MONTH

No monitoring was conducted during the reporting period. Water monitoring during pipe-laying activities are expected to commence towards November 2007.

### 2.5 STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS

A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project since July 2007 is presented in *Table 2.2*.

**Table 2.2** *Summary of Environmental Licensing, Notification and Permit Status*

<b>Permit/ Licenses/ Notification</b>	<b>Reference</b>	<b>Validity Period</b>	<b>Remarks</b>
Environmental Permit	<i>EP-262/2007</i>	Throughout Project	Issued on 31 May 2007 ( <i>EP-139/2002</i> originally granted on 28 August 2002 and <i>EP-139/2002/A</i> granted on 24 February 2004 were superseded)
Chemical Waste Producer Registration	<i>WPN 5111-421-L2174-25</i>	Throughout Project	Issued on 10 November 2005
Notification of Construction Works under Air Pollution Control (Construction Dust) Regulation	<i>H2104/U1D/5542/DG/DH/PL</i>	Throughout Project	Notification on 6 July 2007
Construction Noise Permit	<i>GW-RW0372-07</i>	25 July 2007 to 24 January 2008	For air compressors, breakers, excavators, wheeled loaders, mobile cranes, concrete lorry mixers, hand-held pokers, bar benders/cutters, wood saws, grinders, submarine water pump, lorries with crane, dump trucks, rollers, ventilation fans and generators
	<i>GW-RW0427-07</i>	28 August 2007 to 27 February 2008	For concrete pump derrick barges, hand-held grinders, generators, air compressors, boring machines, water pumps, tug boat, grout mixers and grout pumps
Wastewater Discharge License	<i>EP760/421/011399/1</i>	15 March 2006 to 31 March 2011	Issued on 15 March 2006

## 2.6

### *COMMUNITY LIAISON GROUP MEETING*

According to the EP requirements, a Community Liaison Group (CLG) shall be established within three months after commencement of construction of the Project. The major duty of CLG is to advise on and monitor the proper design, construction and operation of the Project. The CLG comprises representatives from Airport Authority, members of Tuen Mun community and academics. During the reporting month, the CLG held a meeting cum site visit on 5 October 2007.

The details of PAFF CLG (including Membership and its Terms of Reference) and the meeting minutes can be found on the Project website ([www.paffhk.com](http://www.paffhk.com)).



2.7

**SUMMARY OF NON-COMPLIANCE WITH THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS**

*Summary of Environmental Non-compliance*

No environmental non-compliance was found during the reporting period.

*Summary of Environmental Complaints*

No environmental complaints were received during the reporting period. A summary of environmental complaints since project commencement is presented in *Annex D*.

*Summary of Environmental Summons*

No summons were received in this reporting period. A summary of legal proceeding since project commencement is presented in *Annex D*.

### 3.1 PREVIOUS ENVIRONMENTAL DEFICIENCIES AND FOLLOW-UP ACTIONS

As no environmental complaint was received over the last reporting period, no follow-up action was required.

Weekly site inspections were carried out by the ET on 5<sup>th</sup>, 11<sup>th</sup>, 18<sup>th</sup> and 26<sup>th</sup> October 2007. Overall, the site was in good orderly manner and no non-compliance was found. Environmental deficiencies and follow-up actions/mitigation measures were identified during the inspections, as follows:

#### *Air Quality*

- During the site inspection on 5<sup>th</sup> October 2007, the excavated materials near Tank 3 were not properly covered with tarpaulin sheets to avoid dust generation. Corrective action was taken by the Contractor in the reporting period.
- During the site inspection on 18<sup>th</sup> October 2007, debris and mud were found to be left in the wheel washing facilities at the site entrance. The Contractor was recommended to remove the materials which might reduce the efficiency of the facilities. Corrective action was taken by the Contractor in the reporting period.
- Water tankers were used regularly to wet the road surface to minimize dust emission.
- Site entrance was paved and wheel-washing facility was provided to avoid dust deposit on the public road.
- Main access road within the site (between site office and exit) was paved to avoid dust emission. Other sections of the major access road in the construction area were paved with stones.

#### *Noise*

- No noisy activities were conducted during the audit.
- All air compressors on site were operated with a valid noise label.

#### *Water Quality*

- During the site inspection on 5<sup>th</sup> October 2007, ponding of rainwater was observed along the hoarding near the site entrance. The Contractor was recommended to provide sufficient pumps to remove the water via the temporary drainage system particularly after rainstorm. Corrective action was taken by the Contractor in the reporting period.

- Site toilets were provided on site. A soil soakaway system with holding tanks was installed to treat the sewage from the toilets. No effluent discharge out of the site was made.
- The site canteen is no longer in operation and hence no waste water is generated.

#### *Waste Management*

- During the site inspection on 5<sup>th</sup> October 2007, refuse was observed to be scattering around the smoking area near Tank 6. The Contractor was recommended to remove the refuse and provide sufficient rubbish bins at the area. Corrective action was taken by the Contractor in the reporting period.
- Disposal of stockpiled construction waste to public fill bank was not undertaken during the reporting period. The Contractor was recommended to regularly spray the excavated materials at the stockpiling area with water to avoid fugitive dust generation.

#### *Landscape and Visual*

- The transplanted trees at the new site were in good and healthy condition; and,
- The berm was habilitated by vegetation.

Overall, the site was in a good orderly manner. The ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

### **3.2 IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS**

The implementation status of environmental mitigation measures and requirements as stated in the EIA Report, Environmental Permits and EM&A Manual during the reporting period is summarized in *Annex C*.

### **3.3 ENVIRONMENTAL MONITORING**

#### **3.3.1 Air and Noise**

Air and Noise monitoring was not required for the project.

#### **3.3.2 Water Quality**

Water quality monitoring was not required during this reporting period as no dredging activity had taken place.

According to the Wastewater Discharge License (Industrial Trade Effluent) issued by the EPD on 15<sup>th</sup> March 2006, the Contractor is required to conduct grab sampling/analysis on total suspended solids at the designated discharge point(s) **quarterly** to ensure the quality of treated effluent at the designated discharge point(s) complies with the requirements of discharge license. The last water sample was conducted on 28 September 2007 and the results were reported in the respective EM&A Report.

### **3.3.3** *Waste Management*

The Contractor's revised Waste Management Plan (Revision 4) (WMP) was submitted to EPD on 20<sup>th</sup> September 2007.

### **3.3.4** *Cultural Heritage*

As no dredging activity was conducted along the pipe trench during the reporting period, marine archaeological monitoring was not required.

### **3.3.5** *Landscape and Visual*

According to the EIA report and EM&A Manual, mitigation measures and site inspection are required during the landscaping/planting works. The berm/landscaping bund was habilitated by vegetation which was grown during the project suspension period. The transplanted trees were in good and healthy condition.

The weekly site inspections included audits on landscape and visual issues to ensure that the site was in orderly acceptable manner.

### **3.3.6** *Land Contamination, Hazard to Life and Fuel Spill Risk*

According to the EIA report and EM&A Manual, mitigation measures and design phase audit are required to minimise the risk of fuel spill and hazards. The Contractor will submit the updated design audit plan according to the EP requirements.

Pursuant to *Condition 3.5* of the EP, the Contractor submitted three design drawings which address the specific sub-clauses on *Condition 3.5a* of the EP concerning the containment systems of aviation fuel storage tank farm. The ET and the IEC have provided certification and verification to the drawings respectively and the drawings were submitted to the EPD on 7 November 2007.

Weekly site inspection covered the waste management aspects which included measures to prevent land contamination by chemical wastes.

### 3.3.7 *Ecology*

#### *Dolphin Visual Monitoring*

No dolphin monitoring was conducted as there were no dredging activities during the reporting period.

### 3.3.8 *EM&A Manual*

The EM&A Manual for the Project has been updated by the ET to include the detailed arrangements of setting up a Community Liaison Group, carrying out design audit, and monitoring of Persistent Organic Pollutants during construction of the Project. The EM&A Manual was submitted to EPD on 18<sup>th</sup> October 2007.

The EPD provided the first round of comment to the ET on 24<sup>th</sup> October 2007 concerning the inclusion of analysing DDT instead of TBT in the POPs monitoring programme and the lowering of reporting limits for POPs analysis. The ET will keep track on subsequent comments received from the EPD, if any, and update the EM&A Manual accordingly.

### 3.3.9 *Baseline Water Quality Monitoring*

Baseline water quality monitoring was conducted between 24 October and 30 October 2007 at six designated monitoring stations (three impact stations and three control stations) established for the Project in accordance with the *EM&A Manual*. The monitoring was carried out on a daily basis, at mid-flood and mid-ebb tides, at three depths (surface, middle and bottom), for 1 week prior to the commencement of construction of the sub-sea pipelines of the Project. No major marine activities in relation to the Project were undertaken during the baseline monitoring.

Through communications with EPD, an Interim Baseline Monitoring Report presenting the results of suspended solid and all *in situ* analysis would be submitted in early November. POPs results would be provided in mid November as a supplement to the Report once the results from the laboratory become available.

## 4 *FUTURE KEY ISSUES*

### 4.1 *KEY ISSUES FOR THE NEXT ONE MONTH*

Key issues to be considered in the next one month will include:

- Baseline water quality monitoring was conducted between 24 October and 30 October 2007 for the commencement of dredging works. The Baseline Monitoring Report is being prepared and by the ET and will be submitted to the EPD accordingly;
- Dust release and suppression; and,
- Commencement of dredging activities.

### 4.2 *IMPACT PREDICTION FOR THE NEXT ONE MONTH*

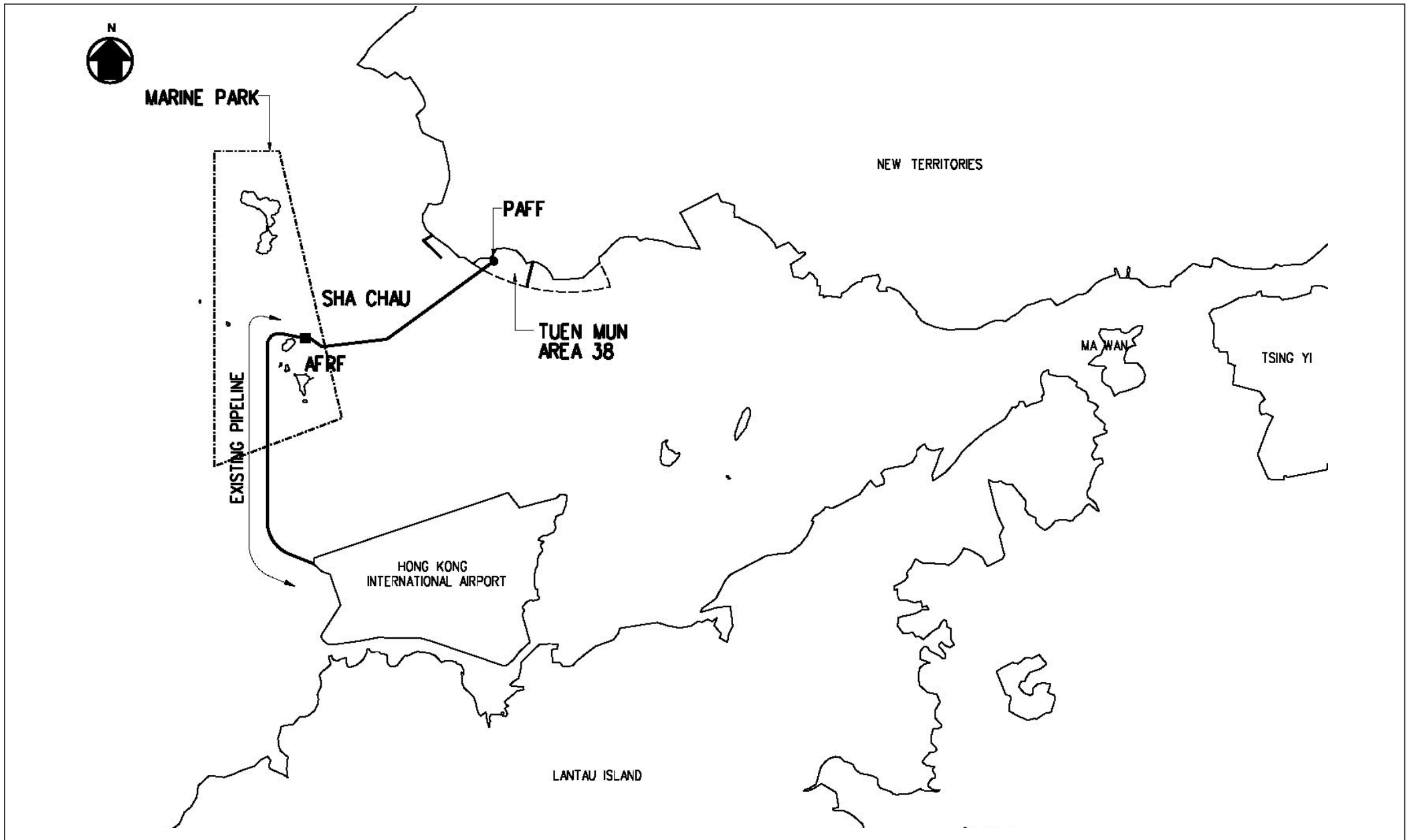
Provided that environmental mitigation measures including good on-site practises are properly implemented, it is not expected that unacceptable adverse impacts will arise.

### 4.3 *WORKS AND MONITORING SCHEDULE FOR THE NEXT ONE MONTH*

Work programme for the next one month includes jetty platform works (non-piling) and site works (construction works for tank farm, operational and fire services buildings, drainages, bund wall, security wall etc). Weekly site inspections will be undertaken. Dredging work is scheduled to commence at the end of November. Water quality and archaeology monitoring will be undertaken in accordance with the *EM&A Manual*.

Annex A

## Project Location



Annex A

Location of PAFF

FILE: 0018105bb1  
DATE: 12/11/2007

Environmental  
Resources  
Management










Annex B

Water Quality Monitoring  
Stations, Water Quality and  
Ecological Sensitive  
Receivers

**KEY**

-  Control Stations
-  Impact Stations
-  Marine Park
-  Proposed Pipeline
-  Potential IMO1 & IMO2 Monitoring Zone

Marine Park  
(Water Sensitive Receiver)

C2 (NM5)

C1 (NM3)

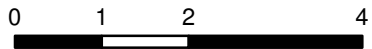
MPB1

MPB2

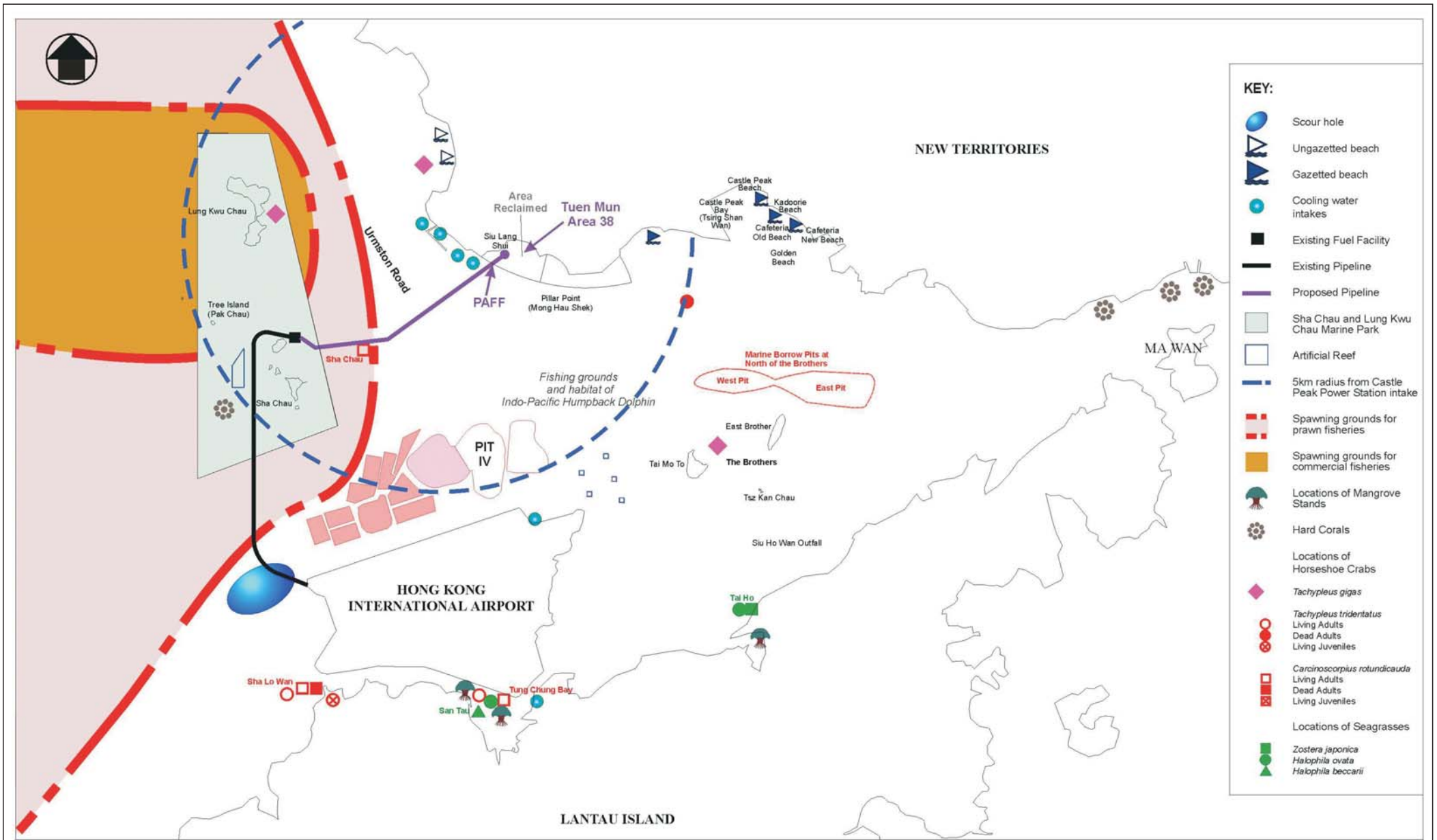
C3 (NM6)



Kilometers



### Water Sensitive Receiver and Water Quality Monitoring Locations



Annex B

Water Quality and Ecological Sensitive Receivers

FILE: C2475aa  
DATE: 12/11/2007

(Source : PAFF for Hong Kong International Airport EIA, Mouchel 2002)

Environmental  
Resources  
Management



Annex C

## Implementation Programme of Mitigation Measures

## ANNEX C IMPLEMENTATION SCHEDULE

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
<b>Water Quality</b>										
6.7	6.8.1	There should be no access to the shore or working from land within the Marine Park. No marine anchors shall be used within the Marine Park.	Marine Park / Pipeline Dredging	Contractor	TMEIA		Y		N/A	Pending
6.7	6.8.1	No hydraulic dredging within Marine Park.	Marine Park / Pipeline Dredging	Contractor	TMEIA		Y		N/A	Pending
6.7	6.8.1	Dredging for pipeline trench should be timed to coincide with maintenance dredging for Sha Chau AFRF marine access channel if relevant.	Sha Chau AFRF Marine access channel	Airport Authority	TMEIA		Y		N/A	Pending
6.4		The work rate for dredging should not exceed 4,000 m <sup>3</sup> /hr for the TSHD and 7,000 m <sup>3</sup> /day for the grab dredger.	Marine Park / Pipeline Dredging	Contractor	TMEIA		Y		N/A	Pending
6.7	6.8.1	Standard good dredging practice measures shall be written in the dredging contract.	Marine Park / Pipeline Dredging	Franchisee	TMEIA		Y		N/A	Pending
6.7	6.8.1	Use of Lean Material Overboard (LMOB) systems shall be prohibited. No mud overflow is to be permitted for dredging using TSHD.	Dredged areas/ Pipeline Dredging	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y		N/A	Pending
6.7	6.8.1	Mechanical grabs shall be designed and maintained to avoid spillage and should seal tightly while being lifted.	Dredged areas/ Pipeline Dredging	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y		N/A	Pending

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
6.7	6.8.1	Barges and hopper dredgers shall have tight fittings seals to their bottom openings to prevent leakage of material.	Dredged areas/ Pipeline Dredging	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y		N/A	Pending
6.7	6.8.1	Any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes	Dredged areas/ Pipeline Dredging	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y		N/A	Pending
6.7	6.8.1	Loading of barges and hoppers shall be controlled to prevent splashing of dredged material to the surrounding water. Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation.	Dredged areas/ Pipeline Dredging	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y		N/A	Pending
6.7	6.8.1	Excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved.	Dredged areas/ Pipeline Dredging	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y		N/A	Pending
6.7	6.8.1	Adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action.	Dredged areas/ Pipeline Dredging	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y		N/A	Pending
6.7	6.8.1	All vessels shall be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.	Dredged areas/ Pipeline Dredging	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y		N/A	Pending

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
6.7	6.8.1	The works shall not cause foam, oil, grease, silt or other objectionable matter to be present in the water within and adjacent to the works site.	Dredged areas/ Pipeline Dredging	Contractor	TMEIA Marine Fill Committee Guidelines. DASO permit conditions		Y		N/A	Ongoing
6.7	6.8.1	Placement of pipeline trench backfill should be undertaken in a controlled manner to minimise impacts. Backfilling with rock should be undertaken either down pipe or by a reverse grab operation or other controlled technique to ensure that this material does not mound on the seabed	Pipeline trench/ Pipeline Dredging	Contractor	TMEIA Minimise disturbance		Y		N/A	Pending
6.7	6.8.1	Wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	6.8.1	Sewage effluent and discharges from on-site kitchen facilities shall be directed to Government sewer in accordance with the requirements of the WPCO or collected for disposal offsite. The use of soakaways shall be avoided.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	6.8.1	Storm drainage should be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sandbag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
6.7	6.8.1	Silt removal facilities, channels and manholes shall be maintained and any deposited silt and grit shall be removed regularly, including specifically at the onset of and after each rainstorm.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	6.8.1	Temporary access roads should be surfaced with crushed stone or gravel.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	6.8.1	Rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	6.8.1	Measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	6.8.1	Open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	6.8.1	Manholes (including any newly constructed ones) should always be adequately covered and temporarily sealed so as to prevent silt, construction materials or debris from getting into the drainage system, and to prevent storm run-off from getting into foul sewers.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing



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6.7	6.8.1	Discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	6.8.1	All vehicles and plant should be cleaned before they leave the construction site to ensure that no earth, mud or debris is deposited by them on roads. A wheel washing bay should be provided at every site exit.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	6.8.1	Wheel wash overflow shall be directed to silt removal facilities before being discharged to the storm drain.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	6.8.1	The section of construction road between the wheel washing bay and the public road should be surfaced with crushed stone or coarse gravel.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	6.8.1	Wastewater generated from concreting, plastering, internal decoration, cleaning work and other similar activities, shall be screened to remove large objects.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	6.8.1	Vehicle and plant servicing areas, vehicle wash bays and lubrication facilities shall be located under roofed areas. The drainage in these covered areas shall be connected to foul sewers via a petrol interceptor in accordance with the requirements of the WPCO or collected for off site disposal.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
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6.7	6.8.1	The contractors shall prepare oil/chemical cleanup plan and ensure that leakages or spillages are contained and cleaned up immediately.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	6.8.1	Waste oil should be collected and stored for recycling or disposal, in accordance with the Waste Disposal Ordinance.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	6.8.1	All fuel tanks and chemical storage areas should be provided with locks and be sited on sealed areas. The storage areas should be surrounded by bunds with a capacity equal to 110% of the storage capacity of the largest tank.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	6.8.1	Surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system.	Land site/ Throughout construction period	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	6.8.1	Wastewater from pipe commissioning dewatering exercises shall be stored on site and for chemical analysis and safe disposal in accordance with the WPCO.	Tank Farm/Tank farm commissioning	Franchisee	TMEIA WPCO TM on Effluent Standards		Y		N/A	Ongoing
6.7	Section 6	All construction works shall be subject to routine audit to ensure implementation of all EIA recommendations and good working practice.	Land site/ Throughout construction period	Contractor	EM&A Manual		Y		N/A	Ongoing
6.7	Section 6	Submarine section of aviation fuel pipeline shall be covered with rock armour protection which shall not protrude above the level of the adjacent natural seabed.	Submarine pipeline	Franchisee	TMEIA Rock armour to minimum thickness of 1m	Y	Y		Franchisee	Pending

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
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6.7	Section 6	Detailed emergency response procedures shall be drawn up. These will include requirements to maintain floating oil booms, absorbent materials and skimmers on site at all times.	All facilities	Franchisee	TMEIA Industry Standards e.g. Oil Companies International Marine Forum			Y	Franchisee	Pending
6.7	Section 6	Coupling points on the jetty will be protected with slop collection utilities.	Jetty	Franchisee	TMEIA Rock armour to minimum thickness of 1m			Y	Franchisee	Pending
6.7	Section 6	Auxiliary tanks shall be permanently maintained at the tank farm for recovered fuel and slops.	Tank farm	Franchisee	TMEIA			Y	Franchisee	Pending
6.7	Section 6	Oily drainage systems and slop collection systems will connect to an oil/water separator.	Tank farm	Franchisee	TMEIA Industry Standards e.g. Oil Companies International Marine Forum			Y	Franchisee	Pending
6.7	Section 6	All tanks shall be bunded to a capacity of at least 150% of the largest individual tank in each compound by 2040. Tank pits shall be protected by an impermeable bed (e.g. geotextile sheeting) to prevent seepage of aviation fuel to ground. A leak detection system shall be installed beneath the containment membrane.	Tank farm	Franchisee	TMEIA Hong Kong Code of Practice for Oil Installations, 1992			Y	Franchisee	Pending
6.7	Section 6	There shall be no direct outlet from the bund. A collection pump shall be included in the base. Removal of accumulated rainwater shall be activated manually and discharged to storm drain via an oil/water separator.	Tank farm	Franchisee	TMEIA			Y	Franchisee	Pending

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
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6.7	Section 6	Contingency procedures shall be drawn up to ensure containment and safe disposal of any fuel lost from tanks or pipework. Suitable absorbent materials (e.g. sand or earth) shall be kept on site to deal with spillages.	Tank farm	Franchisee	TMEIA Hong Kong Code of Practice for Oil Installations, 1992			Y	Franchisee	Pending
6.7	Section 6	Valves shall be installed within the storm drainage system to facilitate the retention of spillages.	Tank farm	Franchisee	TMEIA		Y		Franchisee	Pending
6.10	Section 6	Water quality monitoring shall be undertaken for suspended solids, turbidity, and dissolved oxygen.	Design monitoring stations as defined in EM&A Manual, section 6. Construction period when dredging takes place within 1000m of Marine Park and along entire length of the pipeline	Contractor	EM&A Manual		Y		N/A	Pending

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6.10	Section 6	Routine water quality monitoring in the vicinity of the PAFF site to check the effectiveness of the proposed precautionary measures implemented for on-site spill control. The details of the monitoring to be undertaken will be prepared by the Franchisee as part of the PAFF Operations Manual and the details will be agreed with the relevant authorities within 3 months of the commencement of operation of the PAFF. Monitoring should include but not be limited to the parameters of TPH and PAH and reference should be made to the existing monitoring programme undertaken for the fuel tank farm on the HKIA platform.	Operational phase. Location and frequency to be determined and agreed with relevant authorities	Franchisee	EM&A Manual		Y	N/A	Pending	
<b>Ecology</b>										
7.8	5.3	Undertake post construction dolphin abundance monitoring.	Construction	Contractor	TMEIA		Y	N/A	Pending	
7.8	5.3	A 250m dolphin exclusion zone shall be implemented and dredging shall not begin until the observer has confirmed that the area has been clear for 30 minutes.	250m around dredger/throughout dredging in Marine Park and along the length of pipeline	Contractor	TMEIA		Y	N/A	Pending	

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7.8	5.3	Works will be restricted to a daily maximum of 12 hours within daylight hours.	Throughout dredging in Marine Park and along the length of the pipeline except for the section crossing Urmston Road Channel	Contractor	TMEIA		Y		N/A	Pending
7.8	5.3	Avoidance of dolphin main calving season between March and August.	Throughout dredging in Marine Park and along the length of the pipeline	Contractor	TMEIA		Y		N/A	Pending
<b>Landscape &amp; Visual</b>										
8.10	7.2.1	The construction programme for the PAFF should be reduced to the shortest possible period.	PAFF site / throughout construction period	Contractor	TMEIA	Y	Y		N/A	Ongoing
8.10	7.2.1	The extent and periphery of the works areas should be managed so that they are as small as possible and do not appear cluttered, untidy and unattractive, particularly to road traffic along Lung Mun Road.	PAFF site / throughout construction period	Contractor	TMEIA		Y	Y	N/A	Ongoing
8.10	7.2.1	Temporary hoarding barriers should be of a recessive visual appearance in both colour and form.	PAFF site / throughout construction period	Contractor	TMEIA	Y	Y		N/A	Ongoing
8.10	7.2.1	Materials should be stored in areas with the least obstruction to residents, pedestrians and traffic.	PAFF site / throughout construction period	Contractor	TMEIA		Y	Y	N/A	Ongoing

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8.10	7.2.1	All material stockpiles should be covered with an impermeable material and sandbagging diversions should be placed around exposed soil.	PAFF site / throughout construction period	Contractor	TMEIA		Y	Y	N/A	Ongoing
8.10	7.2.1	Conservation of existing and imported soil resources.	PAFF site / throughout construction period of fuel tank expansion	Contractor	TMEIA			Y	N/A	Ongoing
8.10	7.2.1	A landscape perimeter bund comprising containment bund-wall, access road and planting buffer shall be built and maintained around the tank farm.	PAFF site / throughout construction period	Project Proponent	TMEIA	Y	Y	Y	Franchisee	Ongoing
8.10	7.2.1	The design of the PAFF should incorporate materials, details and textures which are visually recessive.	PAFF site / design	Project Proponent	TMEIA	Y	Y		N/A	Ongoing
8.10	7.2.1	Colours should be of low chromatic intensity to reduce the potential contrast between the structure and their background.	PAFF site tanks / design	Project Proponent	TMEIA	Y	Y		N/A	Ongoing
8.10	7.2.1	Visually permeable security fencing should be used around the perimeter.	Site perimeter	Project Proponent	TMEIA	Y	Y	Y	N/A	Ongoing
8.10	7.2.1	Minimum amount of lighting for the tanks shall be used, only applied for safety at the key access points and staircases.	Tanks / Operational phase	Project Proponent	TMEIA	Y	Y	Y	N/A	Ongoing
8.10	7.2.1	Limited lighting intensity on the site.	PAFF site / Operational phase	Project Proponent	TMEIA	Y	Y	Y	N/A	Ongoing
8.10	7.2.1	Directional down lighting is suggested to minimise light spill to the surrounding area.	PAFF site / Operational phase	Project Proponent	TMEIA	Y	Y	Y	N/A	Ongoing

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<b>Cultural Heritage</b>										
9.8.1	9.2.1	Undertake a watching brief during dredging of the pipeline within 25m either side of anomalies SS1 and SS2. This should comprise: <ul style="list-style-type: none"> <li>Dredge operators to be made aware of the potential presence of cultural heritage material. The operators would be required to report to the AMO any unusual resistance and/or recovery of timbers, anchors or other wreck related material. Any obstacles encountered during the dredging that are of timber should be reported to the marine archaeologist. The obstacle should be avoided and not removed until it has been assessed by the marine archaeologist as to whether the obstacle is of cultural heritage importance;</li> <li>A marine archaeologist shall be on board the dredging barge during dredging within 25m either side of SS1 and SS2 in the event of any unusual resistance occurring or blockages which requires the dredge head to be brought on deck for cleaning and examination; and,</li> </ul>	Within vicinity of SS1 and SS2	Franchisee	TMEIA		Y		N/A	Pending



EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
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		<ul style="list-style-type: none"> <li>Dredging to cease in the nominated area SS1 after 3 meters of sediment removal and after 1 metre for SS2. A dive survey will then be undertaken to examine the trench for possible cultural remains.</li> </ul>								
9.8.2	9.2.1	During the course of the watching brief, if the targets are identified as being potentially archaeologically important, then an immediate marine archaeological impact assessment in accordance with EIAO TM Annex 19 will be required to be undertaken by a qualified marine archaeologist.	With vicinity of SS1 and SS2	Franchisee	TMEIA		Y		N/A	Pending
9.8.4	9.2.1	Any changes, additions or alterations to the dredging method and alignment should be further assessed by marine archaeologist to determine if any further assessment is required.	Pipeline alignment	Franchisee	TMEIA		Y		N/A	Pending
<b>Fuel Spill Risk</b>										
11.4.1	10.2	Tank farms will be constructed in a bunded area surrounding the tanks which will have collection capacity of 150% of the maximum content of the largest tank.	Tank farm / Design Phase	Franchisee	TMEIA		Y		N/A	Pending
11.4.1	10.2	Emergency shut down valves shall be installed within the wider site storm drainage system.	Tank farm / Design Phase	Franchisee	TMEIA		Y		N/A	Pending
11.4.1	10.2	An impermeable membrane shall be installed in the tank foundation beneath the tank bottom.	Tank farm / Design Phase	Franchisee	TMEIA		Y		N/A	Pending
11.4.1	10.2	Pipeline to be covered with a protective rock armour layer.	Pipelines/ Design Phase	Franchisee	TMEIA		Y		Franchisee	Pending

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
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11.4.1	10.2	An integrated leak detection system shall be installed to all pipelines to provide early detection of any leak.	Pipelines/ Design Phase	Franchisee	TMEIA	Y			N/A	Pending
11.4.1	10.2	An automatic shut-off system shall be implemented for pipelines.	Pipelines/ Design Phase	Franchisee	TMEIA	Y			N/A	Pending
11.4.1	10.2	A workboat shall be on standby at the jetty during tanker berthing.	Jetty/ During Tanker Berth	Franchisee	TMEIA	Y		Y	N/A	Pending
11.4.1	10.2	Skimmers shall be available for quick deployment in case of a spill.	Jetty/ During Tanker Berth	Franchisee	TMEIA	Y		Y	N/A	Pending
11.4.1	10.2	An emergency response plan shall be prepared prior to the operation of the PAFF.	Jetty/ During Tanker Berth	Franchisee	TMEIA	Y		Y	N/A	Pending
11.4.1	10.2	Operator-training programme shall be implemented.	Jetty/ During Tanker Berth	Franchisee	TMEIA	Y		Y	N/A	Pending
11.6	10.4	During the planning of the later phase of the tank farm development, in order to ensure that the required mitigation measures are undertaken at that time, review the EIA report only if the latest technology, industrial standards and statutory requirements have changed by that time.	During planning stage for future tank construction	Franchisee	TMEIA			Y	N/A	Pending

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11.6	10.4	Regular inspections and audits will be undertaken by the Franchisee during the operational phase of the facility: <ul style="list-style-type: none"> <li>Two inspections every year of the tank farm, jetty and pipelines including one undertaken pursuant to the Joint Inspection Group (JIG) explained above;</li> <li>Inspection of the whole sub sea pipelines every 5 to 10 years;</li> <li>Health, Safety and Environmental audit of the facility once every 3 years; and,</li> <li>Inspection of the structural integrity of the tanks once per year.</li> </ul>	Operation	Franchisee	TMEIA			Y	N/A	Pending
11.6	10.4	Prepare an Environmental Management Plan to ensure the on-going adequacy of the fuel spill contingency plan and that it is being implemented as required and that the above mitigation measures have been incorporated and are effective.	Within 3 months of start of operation of the PAFF with audits every 24 months	Franchisee	TMEIA			Y	N/A	Pending
<b>Land Contamination</b>										
13.5.1	10.2	Bundling shall be provided by all fuel storage areas to at least 150% of largest individual tank in each compound.	Tank farm / Design	Franchisee	TMEIA	Y			N/A	Pending
13.5.1	10.2	Relevant design standards for storage tanks, pipework, containment and drainage shall be adhered to.	Tank farm / Design	Franchisee	TMEIA	Y			N/A	Pending
13.5.1	10.2	Plant inspections and maintenance shall be undertaken once per month.	Tank farm / Design	Franchisee	TMEIA	Y	Y	Y	N/A	Pending

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13.5.1	10.2	Impermeable lining shall be provided for all tank pits.	Tank farm / Design	Franchisee	TMEIA	Y			N/A	Pending
13.5.1	10.2	Leak detection systems shall be provided to all valves.	Tank farm / Design	Franchisee	TMEIA	Y			N/A	Pending
13.5.1	10.2	Surface drainage shall be contained and treated prior to discharge.	Tank farm / Design	Franchisee	TMEIA	Y	Y	Y	N/A	Pending
13.5.1	10.2	Emergency spill response plans shall be prepared.	Tank farm / Design	Franchisee	TMEIA	Y		Y	N/A	Pending
13.5.1	10.2	Spill control materials and equipment shall be provided on site.	Tank farm / Design	Franchisee	TMEIA	Y		Y	N/A	Pending
13.5.1	10.2	Runoff from the roof of site buildings and landscaped areas shall be conveyed in closed drains to the nearest storm water drain to prevent the generation of excessive quantities of surface water which may be polluted.	Tank farm / Design	Franchisee	TMEIA	Y		Y	N/A	Pending
13.5.5	10.2	Suitable absorbent materials (e.g. sand or earth) shall be kept on site to deal with spills. Chemical dispersants shall not be employed.	Tank farm / Design	Franchisee	TMEIA	Y			N/A	Pending
13.5.5	10.2	The facility shall be designed, constructed, operated and maintained in full accordance with the Code of Practice for Oil Installations, 1992.	Tank farm / Design	Franchisee	TMEIA	Y	Y	Y	N/A	Pending
13.5.5	10.2	Tank pressure testing shall be carried out routinely to check for possible tank leaks. Product inventory monitoring shall be integrated into site management procedures to check for any abnormal or unexpected product loss.	Tank farm / Design	Franchisee	TMEIA	Y	Y	Y	N/A	Pending
13.5.5	10.2	Tank overflow monitoring systems shall be installed and regularly tested. Inlet valves shall be designed to automatically shutdown on exceedance of "high-high level" to prevent over-filling.	Tank farm / Design	Franchisee	TMEIA	Y	Y	Y	N/A	Pending

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13.5.5	10.2	Pipe leakages shall be routinely checked for by means of a pressure sensitive leak detection system and routine inventory control.	Tank farm / Design	Franchisee	TMEIA	Y	Y	Y	N/A	Pending
13.5.5	10.2	Drainage from areas of hardstanding shall be treated by means of oil/water separators prior to discharge to storm drain. All surface drainage shall be fitted with closure valves to provided additional containment and facilitate clean up of any leaks.	Tank farm / Design	Franchisee	TMEIA	Y	Y	Y	N/A	Pending
13.5.5	10.2	The delivery pipeline from the jetty and the supply line to the airport shall be fitted with pressure sensitive leak detectors.	Tank farm / Design	Franchisee	TMEIA	Y	Y		N/A	Pending
<b>Waste Management</b>										
14.7.2	8.3.1	The Contractor shall identify a coordinator for the management of waste.	Contract mobilisation	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	The waste coordinator shall prepare and implement a Waste Management Plan which specifies procedures such as ticketing system, to facilitate tracking of loads and to ensure that illegal disposal of waste does not occur, and protocols for the maintenance of records of the quantities of wastes generated, recycled and disposal.	Contract mobilisation	Contractor	TMEIA, Works Branch Technical Circular No. 5/99 for the Trip-ticket System for Disposal of Construction and Demolition Material		Y		N/A	Ongoing

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14.7.2	8.3.1	The Contractor shall apply for and obtain the appropriate licenses for the disposal of public fill, chemical waste and effluent discharges.	Contract mobilisation	Contractor	TMEIA, Land (Miscellaneous Provisions) Ordinance (Cap 28); Waste Disposal Ordinance (Cap 354); Dumping at Sea Ordinance (Cap 466); Water Pollution Control Ordinance.		Y		N/A	Ongoing
14.7.2	8.3.1	No waste shall be burnt on site.	PAFF Site throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	Excavated material shall be used on site for purposes of landscaping or formation of bund walls as far as possible.	All site / throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	All material shall be reused on site as far as practicable, including formwork plywood, topsoil and excavated material.	All site / throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	Suitable provisions shall be included in the construction contract to ensure that the Contractor sorts and recycles waste.	Contract preparation stage	HyD	TMEIA	Y			N/A	Ongoing

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14.7.2	8.3.1	Re-use and recycling of waste must always be considered first. Waste disposal shall only be undertaken in the last resort. Any surplus material generated shall be sorted on site into construction and demolition (C&D) waste and the public fill fraction. A sorting facility shall be set up on the site.	All areas / throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	The site and surroundings shall be kept tidy and litter free.	All areas / throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	The C&D waste shall be disposed of at a licensed landfill or deposited at an authorised waste transfer facility and the material suitable for public fill delivered to a public filling area, public filling barging point or public fill stockpile area after obtaining the appropriate licence.	CEDD pubic fill stockpile in Mui Wo, North Lantau or Mui Wo refuse transfer stations / Throughout construction	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	Stockpile material shall avoid vegetated areas.	All areas / throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing

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14.7.2	8.3.1	Stockpiles shall be covered by tarpaulin and/or watered as required.	All areas / throughout construction period, particularly during dry season	Contractor	TMEIA, Public Health and Municipal Services Ordinance (Cap 132) and the Public Cleansing and Prevention of Nuisances (Regional Council) By-laws		Y		N/A	Ongoing
14.7.2	8.3.1	Storage of material on site should be kept to a minimum.	All areas / throughout construction period	Contractor	TMEIA, Public Cleansing and Prevention of Nuisances (Regional Council) By-laws		Y		N/A	Ongoing



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14.7.2	8.3.1	Excavated material in trucks shall be covered by tarpaulins.	All areas, particularly at site exits / throughout construction period	Contractor	TMEIA, Reduce the potential for spillage and dust. Public Health and Municipal Services Ordinance (Cap 132) and the Public Cleansing and Prevention of Nuisances (Regional Council) By-laws		Y		N/A	Ongoing
14.7.2	8.3.1	Wheel washing facilities shall be used by all trucks leaving the site to prevent the transfer of mud onto public roads.	Site entrances and exits / throughout construction period	Contractor	TMEIA, Public Cleansing and Prevention of Nuisances (Regional Council) By-laws		Y		N/A	Ongoing
14.7.2	8.3.1	Suitable chemical waste storage areas should be formed at the works site for temporary storage pending collection.	Works site / throughout construction period	Contractor	TMEIA, Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. A Guide to the Chemical Waste Control Scheme		Y		N/A	Ongoing

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
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14.7.2	8.3.1	A licensed contractor shall be employed to collect chemical waste for delivery to a licensed treatment facility.	Chemical waste treatment facility at Tsing Yi / throughout construction period	Contractor	TMEIA, Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes. A Guide to the Chemical Waste Control Scheme		Y		N/A	Ongoing
14.7.2	8.3.1	Temporary storage areas for general refuse should be enclosed to avoid environmental impacts.	All areas/ throughout construction period	Contractor	TMEIA, Public Health and Municipal Services Ordinance		Y		N/A	Ongoing
14.7.2	8.3.1	Sufficient dustbins should be provided for storage of waste.	All areas/ throughout construction period	Contractor	TMEIA, Public Cleansing and Prevention of Nuisances Ordinance (Regional Council) By-laws, Public Health and Municipal Services Ordinance		Y		N/A	Ongoing
14.7.2	8.3.1	General refuse should be cleared daily and should be disposed of to the nearest licensed facility.	All areas, WENT landfill or NWNT refuse transfer stations/ throughout construction period	Contractor	TMEIA, Sanitation and Conservancy (Regional Council) By-laws		Y		N/A	Ongoing

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
14.7.2	8.3.1	Waste oils, chemicals or solvents shall not be disposed of to drain.	PAFF site/ throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	Good site practice shall be implemented to avoid waste generation and promote waste minimisation.	PAFF site/ throughout construction period	Contractor	TMEIA		Y			Ongoing
14.7.2	8.3.1	Waste materials such as paper, metal, timber and waste oil shall be recycled as far as practicable.	PAFF site/ throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	Temporary structures used during construction shall be provided in the form of proprietary Protakabin type units sited on areas of permanent hard paving units as far as practicable.	PAFF site/ throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	Dredged marine mud shall be disposed of in a gazetted marine disposal ground under the requirements of the Dumping at Sea Ordinance.	PAFF site/ throughout construction period				Y		N/A	Ongoing
14.7.2	8.3.1	All waste containers shall be in good condition and fitted with lids or covers to prevent waste from escaping or the ingress of water.	PAFF site/ throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	All waste containers shall be in a secure area on hardstanding.	PAFF site/ throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	Emergency equipment to deal with any spillage or fire shall be kept on site.	PAFF site/ throughout construction period		TMEIA		Y		N/A	Ongoing

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
14.7.2	8.3.1	All containers used for storage of chemical waste shall be maintained in good condition and clearly labelled in both English and Chinese.	PAFF site/ throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	All storage areas for chemical waste shall be: <ul style="list-style-type: none"> <li>Clearly labelled;</li> <li>Enclosed on at least 3 sides;</li> <li>Have impermeable floor and bunding sufficient to fully retain any spillage or leakages;</li> <li>Ventilated; and,</li> <li>Covered to prevent rainfall from entering.</li> </ul>	PAFF site/ throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	All types of asbestos including sources (such as clutch linings) shall be treated as chemical waste. Asbestos containing wastes shall be kept separate from other wastes.	PAFF site/ throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	All leaking containers shall be contained and removed from site as soon as is reasonably practicable.	PAFF site/ throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing
14.7.2	8.3.1	Training shall be provided to workers about the concepts of site cleanliness and appropriate waste management procedures, including waste reduction, reuse and recycling.	PAFF site/ throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location / Timing	Implementation Agent	Relevant Standard or Requirement	Implementation Schedule			Maintenance Agency	Implementation Status
						D	C	O		
14.7.2 Section 5	8.3.1	EM&A of waste handling, storage, transportation, disposal procedures and documentation through the site audit programme shall be undertaken.	All areas/ throughout construction period	Contractor	TMEIA		Y		N/A	Ongoing

Annex D

## Cumulative Complaints Statistics

*Summary of Environmental Complaints*

Reporting Period	Complaint Statistics		
	Frequency	Cumulative	Complaint Nature
Before construction works	1	1	Dust
18/11/05 - 15/12/05	1	2	Dust
15/12/05 - 14/01/06	0	2	Nil
15/01/06 - 14/02/06	0	2	Nil
15/02/06 - 14/03/06	0	2	Nil
15/03/06 - 14/04/06	0	2	Nil
15/04/06 - 14/05/06	0	2	Nil
15/05/06 - 14/06/06	0	2	Nil
15/06/06 - 14/07/06	0	2	Nil
Re-commencement of construction works on 9 <sup>th</sup> July 2007			
09/07/07 - 31/07/07	0	2	Nil
01/08/07 - 31/08/07	0	2	Nil
01/09/07 - 30/09/07	0	2	Nil
01/10/07 - 31/10/07	0	2	Nil

*Summary of Environmental Summons*

Reporting Period	Environmental Summons		
	Frequency	Cumulative	Summon Nature
18/11/05 - 15/12/05	0	0	Nil
16/12/05 - 14/01/06	0	0	Nil
15/01/06 - 14/02/06	0	0	Nil
15/02/06 - 14/03/06	0	0	Nil
15/03/06 - 14/04/06	0	0	Nil
15/04/06 - 14/05/06	0	0	Nil
15/05/06 - 14/06/06	0	0	Nil
15/06/06 - 14/07/06	0	0	Nil
Re-commencement of construction works on 9 <sup>th</sup> July 2007			
09/07/07 - 31/07/07	0	0	Nil
01/08/07 - 31/08/07	0	0	Nil
01/09/07 - 30/09/07	0	0	Nil
01/10/07 - 31/10/07	0	0	Nil

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