ANNEX E IMPLEMENTATION SCHEDULE

EIA Reference	EM&A Manual	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or		plemer Sched	ale	Maintenance Agency	Implementation Status
Water Qua	Reference				Requirement	D	С	О		
water Qua	iity									
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 ARFR Marine access channel	Airport Authority	TMEIA		Y		N/A	Pending
6.4		The work rate for dredging should not exceed 4,000 m ³ /hr for the TSHD and 7,000 m ³ /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	EM&A	Environmental Protection Measures	Location/	Implementation	Relevant	Im	-		tion		Implementation
Reference	Manual Reference		Timing	Agent	Standard or Requirement	D		i <mark>edul</mark> C	e O	Agency	Status
6.7	6.8.1	Barges and hopper dredgers shall have	Dredged areas/	Contractor	TMEIA Marine			<u>Y</u>		N/A	Pending
***	*****	tight fittings seals to their bottom	Pipeline		Fill Committee			_		- 1,	
		openings to prevent leakage of material.	Dredging		Guidelines.						
			0 0		DASO permit						
					conditions						
6.7	6.8.1	Any pipe leakages shall be repaired	Dredged areas/	Contractor	TMEIA Marine		•	Y		N/A	Pending
		quickly. Plant should not be operated	Pipeline		Fill Committee						
		with leaking pipes	Dredging		Guidelines.						
					DASO permit						
					conditions						
6.7	6.8.1	Loading of barges and hoppers shall be	Dredged areas/	Contractor	TMEIA Marine			Y		N/A	Pending
		controlled to prevent splashing of	Pipeline		Fill Committee						
		dredged material to the surrounding	Dredging		Guidelines.						
		water. Barges or hoppers shall not be			DASO permit						
		filled to a level which will cause			conditions						
		overflow of materials or pollution of									
		water during loading or transportation.		_							
6.7	6.8.1	Excess material shall be cleaned from the		Contractor	TMEIA Marine			Y		N/A	Pending
		decks and exposed fittings of barges and	-		Fill Committee						
		hopper dredgers before the vessel is	Dredging		Guidelines.						
		moved.			DASO permit conditions						
6.7	6.8.1	Adequate freeboard shall be maintained	Dredged areas/	Contractor	TMEIA Marine		,	Y		N/A	Pending
0.7	0.0.1	on barges to reduce the likelihood of	Pipeline	Contractor	Fill Committee			1		IN/ A	1 enumg
		decks being washed by wave action.	Dredging		Guidelines.						
		decks being washed by wave action.	Dreaging		DASO permit						
					conditions						
6.7	6.8.1	All vessels shall be sized such that	Dredged areas/	Contractor	TMEIA Marine		•	Y		N/A	Pending
		adequate clearance is maintained	Pipeline		Fill Committee					,	O
		between vessels and the sea bed at all	Dredging		Guidelines.						
		states of the tide to ensure that undue	0 0		DASO permit						
		turbidity is not generated by turbulence			conditions						
		from vessel movement or propeller									
		wash.									

EIA Reference	EM&A Manual	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or	Im	-	ment nedu		Maintenance Agency	Implementation Status
Reference	Reference		Tilling	Agent	Requirement	D		C	O	Agency	Status
6.7	6.8.1	The works shall not cause foam, oil, grease, letter 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 onsite 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	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or		-	che	edul		Maintenance Agency	Implementation Status
6.7	Reference 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	Requirement TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards	D		Y		O	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	<u>′</u>		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	<u>{</u>		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) o nsite 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	<u>'</u>		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	<u>'</u>		N/A	Ongoing

EIA Reference	EM&A Manual	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or	In	-		ntat dule		Maintenance Agency	Implementation Status
Reference	Reference		Timing	Agent	Requirement	D	5	C		O	Agency	Status
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.	·	Contractor	TMEIA ProPECC Note 1/94. WPCO TM on Effluent Standards			Y			N/A	Ongoing

EIA Reference	EM&A Manual	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or	In	-	men hedu	tation	Maintenance Agency	Implementation Status
Reference	Reference		Timing	rigent	Requirement	D	50	C	O	rigericy	Status
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	EM&A	Environmental Protection Measures	Location/	Implementation	Relevant	In	plementa			Implementation
Reference	Manual Reference		Timing	Agent	Standard or Requirement	D	Schedul C	e O	Agency	Status
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

EM&A	Environmental Protection Measures	Location/	Implementation	Relevant	Im	-		Maintenance	Implementation
		Timing	Agent		_			Agency	Status
					D	C			
Section 6	0 11	Tank farm	Franchisee				Y	Franchisee	Pending
	=								
				for Oil					
				Installations,					
	to deal with spillages.			1992					
Section 6	Valves shall be installed within the storm	Tank farm	Franchisee	TMEIA		Y		Franchisee	Pending
	drainage system to facilitate the retention								
	of spillages.								
Section 6	Water quality monitoring shall be	Design	Contractor	EM&A Manual		Y		N/A	Pending
	undertaken for suspended solids,	monitoring							
	turbidity, and dissolved oxygen.	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							
	Manual Reference Section 6	Manual Reference 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. Section 6 Valves shall be installed within the storm drainage system to facilitate the retention of spillages. Section 6 Water quality monitoring shall be undertaken for suspended solids,	Manual Reference 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 Section 6 Valves shall be installed within the storm drainage system to facilitate the retention of spillages. Tank farm 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	Manual Reference Timing Agent 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 Section 6 Valves shall be installed within the storm drainage system to facilitate the retention of spillages. Tank farm Franchisee Section 6 Water quality monitoring shall be undertaken for suspended solids, turbidity, and dissolved oxygen. Design Contractor EM&A Manual, section 6. Construction period when dredging takes place within 1000m of 1000m of Marine Park and along entire length of the 1000m of the 1000m of the 1000m of the	Manual ReferenceTiming ReferenceAgent RequirementSection 6 ReferenceContingency 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 FranchiseeTMEIA Hong Kong Code of Practice for Oil Installations, 1992Section 6 Valves shall be installed within the storm drainage system to facilitate the retention of spillages.Tank farm FranchiseeTMEIA TMEIASection 6 Water quality monitoring shall be undertaken for suspended solids, 1 turbidity, and dissolved oxygen.Design Contractor EM&A Manual	Manual Reference Timing Agent Standard or Requirement Do Requirement De Requirement De Requirement De Requirement De Requirement De Requirement TIMEIA Section 6 Contingency procedures shall be drawn up to ensure containment and safe up to ensure contain and safe up to ensure cont	Manual Reference 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, Installa	Manual Reference Timing Agent Standard or Requirement % Chellers Conditingency 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 Y Y Section 6 Valves shall be installed within the storm drainage system to facilitate the retention of spillages. Tank farm Franchisee TMEIA Y Y Y Section 6 Water quality monitoring shall be undertaken for suspended solids, turbidity, and dissolved oxygen. Design Contractor EM&A Manual, section 6. EM&A Manual, section 6. EM&A Manual, section 6. Construction period when dredging takes place within 1000m of Marine Park and along entire length of the Hong the drawn of the process	Manual Reference Timing Agent Standard or Requirement Schedures Agency Section 6 Reference Contingency procedures shall be drawn up to ensure containment and safe disposal of any fuel lost from tanks or pipework. Suitable absorbent materials to deal with spillages. Tank farm Franchisee Hong Kong Code of Practice From Coll (Franchisee) Franchisee To Oil (Franchisee) Franchisee Franchisee To NEIA Y Franchisee Franchisee To NEIA Y Franchisee Franchisee Franchisee To NEIA Y Y Franchisee Franchisee Franchisee To NEIA Y Y N/A N/A<

EIA	EM&A	Environmental Protection Measures	Location/	Implementation	Relevant	Im	plement	ation	Maintenance	Implementation
Reference	Manual		Timing	Agent	Standard or		Schedu	le	Agency	Status
	Reference				Requirement	D	C	O		
6.10	Section 6	Routine water quality monitoring in the	Operational	Franchisee	EM&A Manual			Y	N/A	Pending
		vicinity of the PAFF site to check the	phase.							
		effectiveness of the proposed	Location and							
		precautionary measures implemented	frequency to be							
		for on-site spill control. The details of	determined and							
		the monitoring to be undertaken will be	agreed with							
		prepared by the Franchisee as part of the	relevant							
		PAFF Operations Manual and the details	authorities							
		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.								
Ecology										
7.8	5.3	Undertake post construction dolphin	Construction	Contractor	TMEIA		Y		N/A	Pending
		abundance monitoring.								
7.8	5.3	A 250m dolphin exclusion zone shall be	250m around	Contractor	TMEIA		Y		N/A	Pending
		implemented and dredging shall not	dredger/throug							
		begin until the observer has confirmed	hout dredging							
		that the area has been clear for 30	in Marine Park							
		minutes.	and along the							
			length of							
			pipeline							

EIA	EM&A	Environmental Protection Measures	Location/	Implementation	Relevant	Im	-	entation		Implementation
Reference	Manual Reference		Timing	Agent	Standard or Requirement	D	Sche C	dule O	Agency	Status
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
Landscape										
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

EIA Reference	EM&A Manual	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or	-	lementa Schedul		Maintenance Agency	Implementation Status
Reference	Reference		16	rigent	Requirement	D	C	О	rigency	Status
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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	Im D	plemen Schedu C	Maintenance Agency	Implementation Status
Cultural He	eritage								
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:	Within vicinity of SS1 and SS2	Franchisee	TMEIA		Y	N/A	Pending
		 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; 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 							

EIA Reference	EM&A Manual	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or	Im		entation dule	Maintenance Agency	Implementation Status
Kererence	Reference		Tilling	Agent	Requirement	D	C		Agency	Status
		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.								
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
Fuel Spill I	Risk	1								
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	EM&A	Environmental Protection Measures	Location/	Implementation	Relevant	Imp	olement	ation	Maintenance	Implementation
Reference	Manual		Timing	Agent	Standard or		Schedul	le	Agency	Status
	Reference				Requirement	D	C	Ο		
11.4.1	10.2	An integrated leak detection system shall	Pipelines/	Franchisee	TMEIA	Y			N/A	Pending
		be installed to all pipelines to provide	Design Phase							
		early detection of any leak.								
11.4.1	10.2	An automatic shut-off system shall be	Pipelines/	Franchisee	TMEIA	Y			N/A	Pending
		implemented for pipelines.	Design Phase							
11.4.1	10.2	A workboat shall be on standby at the	Jetty/ During	Franchisee	TMEIA	Y		Y	N/A	Pending
		jetty during tanker berthing.	Tanker Berth							
11.4.1	10.2	Skimmers shall be available for quick	Jetty/ During	Franchisee	TMEIA	Y		Y	N/A	Pending
		deployment in case of a spill.	Tanker Berth							
11.4.1	10.2	An emergency response plan shall be	Jetty/ During	Franchisee	TMEIA	Y		Y	N/A	Pending
		prepared prior to the operation of the	Tanker Berth							
		PAFF.								
11.4.1	10.2	Operator-training programme shall be	Jetty/ During	Franchisee	TMEIA	Y		Y	N/A	Pending
		implemented.	Tanker Berth							
11.6	10.4	During the planning of the later phase of	During	Franchisee	TMEIA			Y	N/A	Pending
		the tank farm development, in order to	planning stage							
		ensure that the required mitigation	for future tank							
		measures are undertaken at that time,	construction							
		review the EIA report only if the latest								
		technology, industrial standards and								
		statutory requirements have changed by								
		that time.								

EIA Reference	EM&A Manual	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or	Im	plement Schedu		Maintenance Agency	Implementation Status
	Reference		J	S	Requirement	D	C	O	5 ,	
11.6	10.4	Regular inspections and audits will be undertaken by the Franchisee during the operational phase of the facility:	Operation	Franchisee	TMEIA			Y	N/A	Pending
		 Two inspections every year of the tank farm, jetty and pipelines including one undertaken pursuant to the Joint Inspection Group (JIG) explained above; 								
		• Inspection of the whole sub sea pipelines every 5 to 10 years;								
		 Health, Safety and Environmental audit of the facility once every 3 years; and, 								
		 Inspection of the structural integrity of the tanks once per year. 								
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.		Franchisee	TMEIA			Y	N/A	Pending
Land Conta	nmination	-								
13.5.1	10.2	Bunding 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

EIA	EM&A	Environmental Protection Measures	Location/	Implementation	Relevant				Maintenance	Implementation
Reference	Manual		Timing	Agent	Standard or		Schedu		Agency	Status
	Reference				Requirement	D	С	О		
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.	0	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 rood 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.		Franchisee	TMEIA	Y	Y	Y	N/A	Pending
13.5.5	10.2	Tank overfill 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

EIA	EM&A	Environmental Protection Measures	Location/	Implementation	Relevant	Imp	lement	ation	Maintenance	Implementation
Reference	Manual		Timing	Agent	Standard or	9	Schedu	le	Agency	Status
	Reference				Requirement	D	C	O		
13.5.5	10.2	Pipe leakages shall be routinely checked	Tank farm /	Franchisee	TMEIA	Y	Y	Y	N/A	Pending
		for by means of a pressure sensitive leak detection system and routine inventory control.	Design							
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
Waste Man	agement									
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

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or		-	emen chedu C		Maintenance Agency	Implementation Status
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	Requirement TMEIA, Land (Miscellaneous Provisions) Ordinance (Cap 28); Waste Disposal Ordinance (Cap 354); Dumping at Sea Ordinance (Cap 466); Water Pollution Control Ordinance.	D		Y	0	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	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

EIA Reference	EM&A Manual	Environmental Protection Measures	Location/ Timing	Implementation	Relevant Standard or	Im	plement Schedul		Maintenance	Implementation Status
Reference	Reference		Timing	Agent	Requirement	D	C	O	Agency	Status
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	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

EIA	EM&A	Environmental Protection Measures	Location/	Implementation	Relevant	Im	ıple	ment	ation	Maintenance	Implementation
Reference	Manual		Timing	Agent	Standard or		Sc	hedul	le	Agency	Status
	Reference				Requirement	D		C	O		
14.7.2	8.3.1	Stockpiles shall be covered by tarpaulin	All areas /	Contractor	TMEIA, Public			Y		N/A	Ongoing
		and/or watered as required.	throughout		Health and						
			construction		Municipal						
			period,		Services						
			particularly		Ordinance (Cap						
			during dry		132) and the						
			season		Public						
					Cleansing and						
					Prevention of						
					Nuisances						
					(Regional						
					Council) By-						
					laws						
14.7.2	8.3.1	Storage of material on site should be kept	All areas /	Contractor	TMEIA, Public			Y		N/A	Ongoing
		to a minimum.	throughout		Cleansing and						
			construction		Prevention of						
			period		Nuisances						
			-		(Regional						
					Council) By-						
					laws						

EIA Reference	EM&A Manual	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or		Sche		Maintenance Agency	Implementation Status
14.7.2	Reference 8.3.1	Excavated material in trucks shall be covered by tarpaulins.	All areas, particularly at site exits / throughout construction period	Contractor	Requirement TMEIA, Reduce the potential for spillage and dust. Public Health and Municipal Services Ordinance (Cap 132) and the Public Cleansing and Prevention of Nuisances	D	C	O	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	(Regional Council) By- laws 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	EM&A	Environmental Protection Measures	Location/	Implementation	Relevant	In	-		ation	Maintenance	Implementation
Reference	Manual		Timing	Agent	Standard or	_		edul		Agency	Status
	Reference				Requirement	D		C	О		
14.7.2	8.3.1	A licensed contractor shall be employed	Chemical waste	Contractor	TMEIA, Code of			Y		N/A	Ongoing
		to collect chemical waste for delivery to a			Practice on the						
		licensed treatment facility.	facility at Tsing		Packaging,						
			Yi / throughout		Labelling and						
			construction		Storage of						
			period		Chemical						
					Wastes. A						
					Guide to the						
					Chemical Waste						
					Control Scheme					/.	
14.7.2	8.3.1	Temporary storage areas for general	All areas/	Contractor	TMEIA, Public			Y		N/A	Ongoing
		refuse should be enclosed to avoid	throughout		Health and						
		environmental impacts.	construction		Municipal						
			period		Services						
1470	0.0.1		A 11 /	C	Ordinance			.,		NT / A	
14.7.2	8.3.1	for storage of waste.	All areas/	Contractor	TMEIA, Public			Y		N/A	Ongoing
			throughout		Cleansing and Prevention of						
			construction period	JII	Nuisances						
					Ordinance						
					(Regional Council) By-						
					laws, Public						
					Health and						
					Municipal						
					Services						
					Ordinance						
14.7.2	8.3.1	General refuse should be cleared daily	All areas,	Contractor	TMEIA,			Y		N/A	Ongoing
11.7.2	0.5.1	and should be disposed of to the nearest	WENT landfill	Contractor	Sanitation and			-		14/11	Chigonia
		licensed facility.	or NWNT		Conservancy						
		neersea raemey.	refuse transfer		(Regional						
			stations/		Council) By-						
		thr	throughout		laws	-					
			construction]	-20						
			period								
			r								

EIA Reference	EM&A Manual Reference	Environmental Protection Measures	Location/ Timing	Implementation Agent	Relevant Standard or Requirement	In D	-	lementati Schedule C	on O	Maintenance Agency	Implementation Status
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	In D	Scł	mentation hedule C O	Maintenance Agency	Implementation Status
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:	PAFF site/ throughout construction	Contractor	TMEIA			Y	N/A	Ongoing
		• Clearly labelled;	period							
		• Enclosed on at least 3 sides;								
		 Have impermeable floor and bunding sufficient to fully retain any spillage or leakages; 								
		• Ventilated; and,								
		 Covered to prevent rainfall from entering. 								
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 an 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	EM&A	Environmental Protection Measures	Location/	Implementation	Relevant	Im	Implementation		Maintenance	Implementation
Reference	Manual		Timing	Agent	Standard or		Schedu	le	Agency	Status
	Reference				Requirement	D	C	O		
14.7.2	8.3.1	EM&A of waste handling, storage,	All areas/	Contractor	TMEIA		Y		N/A	Ongoing
Section 5		transportation, disposal procedures and	throughout							
		documentation through the site audit	construction							
		programme shall be undertaken.	period							