

## APPENDIX C RESOURCES

### EMERGENCY CONTROL ROOM EQUIPMENT

Sr. No	Equipment
1.	Emergency Lights and torches
2.	Radio
3.	Computer
4.	Printer
5.	Telephone-one for in; other for outgoing calls
6.	White board and colored marker pens
7.	Flip charts
8.	Portable PA sets
9.	Walkie Talkies
10.	Binoculars
11.	Copy of EAP
12.	Table –seating
13.	Tables for equipment
14.	Chairs

### KPL FIRE FIGHTING RESOURCES

#### C2.1 Fire protection facilities in KPL.

Sr. No	Description	Specification		Place	Location
		Capacity	Power		
1	Fire Engine - I	376 M3/Hr	340HP	Pump House	Main Jetty Entrance
2	Fire Engine - II	376 M3/Hr	340HP		
3	Fire Engine - III	376 M3/Hr	340HP		
4	Fire Engine - IV	720 M3/Hr	680HP		
5	Fire Engine - V	720 M3/Hr	680HP		
6	Fire Engine - VI	720 M3/Hr	680HP		
5	Jockey Pump - I	25 M3/Hr	40 HP	Pump House	Main Jetty Entrance
6	Jockey Pump - II	25 M3/Hr	40HP		
7	Foam Pump - I	18 M3/Hr	15 KW	Pump House	Main Jetty Entrance
8	Foam Pump - II	18 M3/Hr	15 KW		
9	Foam Tank	33 KL	N/A	Pump House	East Entrance
<b>MONITOR</b>					
10	Tower Monitor - AI	360 M3/ Hr	0.5 HP	Main Jetty	Hose tower end
11	Tower Monitor - A2	360M3/H r	0.5 HP	Main Jetty	MLA end
12	Tower Monitor - B1	180 M3/Hr	0.25 HP	Main Jetty	North End

13	Tower Monitor - B2	180M3/Hr	0.25 HP	Main Jetty	South End
14	Base Water Monitor - 1	360 M3/Hr	N/A	Main Jetty	North End
15	Base Water Monitor - 2	360 M3/Hr	N/A	Main Jetty	P/L Bridge - 2
16	Base Water Monitor - 3	360 M3/Hr	N/A	Main Jetty	Hose Tower
17	Base Water Monitor - 4	360 M3/Hr	N/A	Main Jetty	MLT IA
18	Base Water Monitor - 5	360 M3/Hr	N/A	Main Jetty	P/L Bridge - 3
19	Base Water Monitor - 6	360 M3/Hr	N/A	Main Jetty	MLT IC
20	Base Water Monitor - 7	360 M3/Hr	N/A	Main Jetty	South End
<b>CURTAIN</b>					
21	Jumbo Water Curtain - 1	Max Air Supply 2.5 - 10 bar	N/A	Main Jetty	Near Hose Tower
22	Jumbo Water Curtain - 2		N/A	Main Jetty	Near CBFS MLA
23	Jumbo Water Curtain - 3		N/A	Main Jetty	Near LPG MLA
<b>PORTABLE EXTINGUISHERS</b>					
24	Trolley Fire Extinguisher - 1	75 kg	N/A	Pump House	Fire Engines
25	Trolley Fire Extinguisher - 2	75 kg	N/A	Main Jetty	Hose tower
26	Trolley Fire Extinguisher - 3	75 kg	N/A	Main Jetty	MLA
27	Trolley Fire Extinguisher - 4	75 kg	N/A	Main Jetty	Store end
28	DCP Extinguisher - 1	10 kg	N/A	Pump House	Electrical panel
29	ABC Extinguisher - 2	9 kg	N/A	Main Jetty	Hose Tower
30	ABC Extinguisher - 3	9 kg	N/A	Main Jetty	Container
31	ABC Extinguisher - 4	9 kg	N/A	Main Jetty	Container
32	ABC Extinguisher - 5	9 kg	N/A	Main Jetty	Container
33	DCP Extinguisher - 6	10 kg	N/A	Main Jetty	Container
34	ABC Extinguisher - 7	9 kg	N/A	Main Jetty	Admin
35	CO2 Extinguisher	6.5 Kg	N/A	Main Jetty	Hose tower
36	CO2 Extinguisher	6.5 Kg	N/A	Main Jetty	LPG panel
37	CO2 Extinguisher	6.5 Kg	N/A	Pump house	FPH
38	CO2 Extinguisher	2 kg	N/A	Office	Control room

39	CO2 Extinguisher	4.5 kg	N/A	Office	Control room
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Note: Tower Monitors and Jumbo curtains can be operated with Remote controls from Control Room.

### C 2.2 Fire Fighting and Fire Extinguisher capacity and their locations

Sr. NO	Type	Capacity	Location
1	Storage type DCP	5 Kg	Guest house
2	Storage type DCP	5 Kg	
3	Storage type DCP	2 Kg	
4	Storage type DCP	2 Kg	
5	Storage type DCP	5 Kg	Duty Officer Room
6	Storage type DCP	5 Kg	Pass room
7	CO <sub>2</sub>	4.5 Kg	Substation
8	CO <sub>2</sub>	4.5 Kg	
9	Storage type DCP	5 Kg	
10	Storage type DCP	5 Kg	Signal station 6 <sup>th</sup> Floor
11	Storage type DCP	2 Kg	
12	Storage type DCP	2 Kg	Signal station 4 <sup>th</sup> Floor
13	Storage type DCP	2 Kg	
14	Storage type DCP	5 Kg	D.G. Room Admin building
15	Mechanical Foam	9 Kg	
16	Mechanical Foam	9 Kg	
17	Cartridge type DCP	5 Kg	
18	Storage type DCP	5 Kg	
19	Storage type DCP	2 Kg	Canteen PIO Building
20	Cartridge type DCP	5 Kg	
21	Cartridge type DCP	5 Kg	OHS PIO Building
22	Mechanical Foam	9 Kg	
23	Storage type DCP	5 Kg	CISF guard Quarters
24	Cartridge type DCP	5 Kg	
25	Storage type DCP	2 Kg	CISF quarter stores
26	Storage type DCP	5 Kg	
27	Storage Pressure DCP	5 Kg	CISF Asst. Comm. Office
28	Storage Pressure DCP	5 Kg	
29	Storage Pressure DCP	5 Kg	CISF canteen
30	Storage Pressure DCP	5 Kg	
31	Storage Pressure DCP	5 Kg	CISF room in main gate
32	Storage Pressure DCP	5 Kg	
			Admin building 1 <sup>st</sup> floor reception



33	Storage Pressure DCP	2 Kg	Admin building 1 <sup>st</sup> floor
34	Storage Pressure DCP	2 Kg	
35	Storage Pressure DCP	2 Kg	Admin building board room
36	Storage Pressure DCP	2 Kg	GM Room (MS) Admin Building
37	Storage Pressure DCP	2 Kg	CVO Room Admin Building
38	Storage Pressure DCP	2 Kg	Dir(C) room Admin building
39	Storage Pressure DCP	2 Kg	CMD Room Admin Building
40	Storage Pressure DCP	5 Kg	Admin Building entrance
41	Storage Pressure DCP	5 Kg	Admin Building ground floor
42	Storage Pressure DCP	5 Kg	
43	Storage Pressure DCP	5 Kg	
44	Storage Pressure DCP	2 Kg	
45	Storage Pressure DCP	2 Kg	Admin Building Canteen

### C 2.3 Chettinad International Bulk Terminal Pvt. Ltd.

Fire Fighting Equipment	Nos	Capacity &/ Specifications
Main Pump	1	137 m3/hr @70 mwc
Diesel Tank	1	125 ltr
Diesel engine running hours		Min 2 hrs
Water Tank	1	130 KL
Tank discharge time		60 min
Hydrant min flow		600 LPM
Hydrant min pressure		3.5 bar
Hydrants	16	Coverage - 45 mtr

### C 2.4 AECTPL

Fire Fighting Equipment	Nos
Hydrant Point	58
Water Monitor	4
Fire Water tank (465 cum.m)	2

### C 2.5 IOLPL

S N	Fire Protection Equipment	Size / Capacity	Nos
1	Clean agent system for electrical main substantial building	74 Cylinders @300 BAR	01W + 01S
2	Clean agent system for main control building	12 Cylinders @300 BAR	01W + 01S
3	Clean agent system for Jetty control building	8 Cylinders @300 BAR	01W + 01S
4	Clean agent system for	9 Cylinders @300 BAR	01W + 01S

	CPP building		
5	DCP skid for jetty	1500kg + two nos. 25 Kg/sec DCP monitor	01
6	Fire extinguisher DCP	10 Kg	79
7	Fire extinguisher DCP	75 Kg	
8	Fire extinguisher DCP	50 Kg	14
9	Fire extinguisher CO2	4.5 Kg	56
10	Fire extinguisher CO2	22.5 + 22.5 Kg	5
11	Foam extinguisher	9 Ltr	10
12	Extinguisher ABC type	6 Kg	23
13	Deluge valves	2" Electric / Pneumatic	1
14		3" Electric / Pneumatic	3
15		4" Electric / Pneumatic	5
16		6" Electric / Pneumatic	1
17		2" Electric	2
18		6" Electric	2
19		8" Electric	7
20	MV Nozzles	K – FACTOR 41	234
21		K – FACTOR 30	128
22		K – FACTOR 18	8
23		K – FACTOR 22	74
24		K – FACTOR 51	42
25	HV Nozzles	K – FACTOR 18	22
26		K – FACTOR 22	6
27		K – FACTOR 26	102
28	QBD (Total MV Nozzles + HV Nozzles)	Temp Rating 79 DEG C	346
29	Alarm Check valve	6"	1
30		4"	5
31	Sprinkler	K-FACTOR 115, temp rating 141 deg c	119 upright
32		K-FACTOR 80, temp rating 79 deg c	320 upright+ 60 pendant
33	Double headed with pumper connection fire hydrant	100 mm	43
34	Double headed Fire hydrant	100 mm	104
35	Self-oscillating water monitor	3800 LPM	6
36	Lever Manual Operated foam monitor	3800 LPM	2
37	Lever Manual Operated foam monitor	2400 LPM	2
38	Elevated motor operated Long Range Monitor	6000 LPM	4

39	Low expansion skid	38.2 m <sup>3</sup> /Hr	1
40	Low expansion foam ratio propotioner	6000 LPM	4
41		2839 LPM	2
42	High Expansion Foam Skid	200 LTR	2
43	High Expansion Foam Generator	124 LPM	1
44		162 lpm	1
45	International Shore Connection	63 mm	2
46	Water curtain nozzle	K-Factor 98	36
47	Jumbo Nozzle	6000 LPM	4
48	Safety Shower With Eye Wash	75.7 LPM + 1.5 LPM	4
49	Eye Wash	1.5 LPM	2
50	- Hose cabinet		75
	- Fire Hose	DN 65, 20m	4 per cabinet
	- Fire Hose	DN 40, 20m	4 per cabinet
	- Y Reduction Pieces	DN65 Male X DN40 Female	2 per cabinet
	- Reduction Pieces	DN65 Male X DN40 Female	2 per cabinet
	- Wrench Keys Sets	DN 65 , DN 40	2 per cabinet
	- Water Jet Nozzles	DN 65 , DN 40	2 per cabinet
	- Jet Fog Nozzles	DN 65 , DN 40	2 per cabinet
	- Hose Reel	25 mm, 30 mm	24

### RESOURCES FOR COMBATING OILSPILLKPL

Sr. No	Items	Quantity	Weight/Dimensions
1.	Boom (Internal Rectangular type Foam filled boom)	1000m (40 sec)	
2.	Boom Reel	04	
3.	Boom repair kit	2 sets	
4.	Skimmer	4	Recovery capacity ranging from 20 to 25 TPH
.	Equivalent power pack for skimmers, equivalent valve and spark arrestor set	4	
6.	Sorbent boom pack	50 pieces ( each pack contain 5 pieces)	5" dia x 10 feet length
7.	Sorbent pads	35boxes (25pieces in abox)	1.4 x 1.3 feet (+/- 0.2)
8.	Flex barge (Floating oil bladder LFT)	4 nos	5 KL
9.	Repair kit for Flex barge	2 sets	



10.	Oil spill dispersant concentrate	4500 L	Type II & III
11.	Container to store OSR equipment	2	20 feet

### MLT Terminal

Sr. No	Description	Quantity	
1.	Oil Containment Boom Globe Model ED- 24 in 30.5 m sections with slide end connectors as per ASTM 'Z' specifications	1 no.	
	Total Height		24"
	Total Length		600 mtrs
	Draft		12"
	Freeboard		12"
	Fabric Type		PVC-85 Oz/Sq. Yd. PVC Coated Polyester base
	Ballast Type- Chain		3/8"
	Float diameter		14"
	Tensile strength		38400 LBS
	Weight		3.5 LBS/ft
	Volume per 100'		160
2.	Oil Skimmer	1 no	
	Make & Capacity		Morris MI-2E & 2 MT cap
	Overall height -254mm		254 mm
	Free water pick up		2%
	Drive		Electrical 12 V
	Weight		21 kg
	Width		660 mm
3.	Portable Compressor	1 no	
	Make		Ingersoll Rand
	Capacity		20 cfm
	Drive		Electrical
4.	Pneumatic Air Pump	1 no	
	Make		Sandpiper
	Capacity		53 KL/hr
	Model		Warren S-30
	Inlet/Outlet		3"
	Type		Diaphragm
5.	Oil Spill dispersant	1000 ltrs	
	Type		II & III
	Make		Novo Chemicals
	Approved		NIO & Coastguard
	Specific Gravity		0.95
	Shelf Life		10 yrs
	Colour		Light Amber
	Solubility		Soluble in water

	Toxicity	Non- Toxic	
6.	OSD Spray Pump – hand Operated		1 no
	Capacity	2 KL/hr	
7.	Oil Absorbent Pad		
	Size	18"x18"	15 nos
	Size	5'x5'	6 nos
8.	Oil Absorbent Boom		18 nos
	Size	8"dia	
	Length	10 ft	
9.	Saw dust -Fine		300 kg
10.	Sand Bags		500 kg
	Size	0.001 to 1 microm	
	Capacity	50 kg	
11.	Containment Tray		6 nos
	Material	GI	
	Capacity	100 ltrs	
12.	Slop receipt tank		2200 KL capacity
	Tank capacity	Mild Steel	
	No. of tanks	2	
	Capacity of each tank	1100 KL	
13.	Slop tank pit		20 KL
	Capacity	10 KL	
	No. of pits	2	

#### KPL - Fire station Manpower

Fireman	Nos
Fire Servicemen (on contract)	20

#### KPL – Response tug

Craft Name	Engine Make	Bollard Pull	Speed	Response capability
Ocean Star	Caterpillar	50 T	12 knots (approx)	Fire Response
Ocean Success	Caterpillar			Fire Response
Ocean Liberty	Niigata			Fire and Oil Spill Response
Ocean Thunder	Niigata			60 T

#### KPL - IMO OPRC level trained Responders

Following Officers of KPL attended the training and exercise conducted by Indian coast Guard as shown below.

Name	Designation	IMO Level Training
Capt. Pankaj Jain	Senior Manager	II
Capt. Nirbhik Singh	Senior Manager	II
Mr. M. Vijayan	Deputy Manager	II



Capt. C Umashankar	Senior Manager	I
Capt. S P Desikamani	Senior manager	I
Mr. G Krishna Raj	AssistantManager (Marine)	I
Mr. Palani Kumar	Technician	I

### First AidPost

First Aid Post	
Post Number	Location
First Aid Post (Occupational Health Centre)	Near Canteen

### OSRO Particulars(Outsourced)

<b>Operators Name</b>	ABS Marine Services Pvt. Ltd.
<b>Address</b>	No.15, Valliammal Road, Vepery, Chennai -600007
<b>Phone No</b>	044-42914141
<b>Email</b>	absadmin@absmarine.com

### School

Name Of School	Tel No	Address
Kattupalli School	---	Kattupalli, Tamil Nadu 600120
Pudhunager Government School	---	Athipattu Pudunagar, Tamil Nadu 600120

### Food SupplyAgency

Sr. No	Name of the Food Supply Agency	Tel No.
1	New Vasantha Bhavan No 426, Thiruvottiyur High Rd, Minjur, Tamil Nadu 601203	044 2793 3903

### Port Vehicle and HiredVehicle

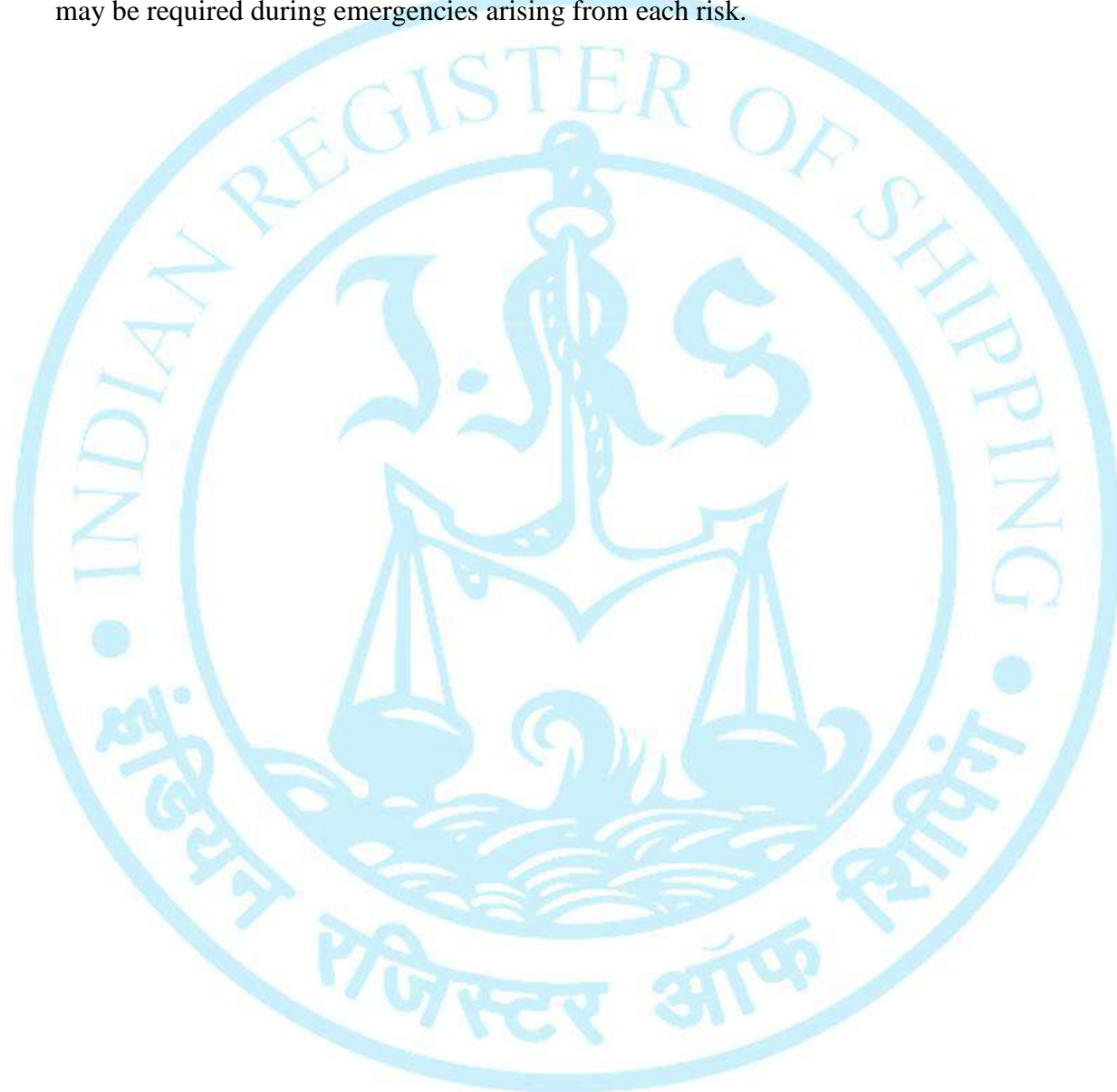
PORT VEHICLES			
Vehicle	Qty	Details	Contact No & Email
Car	5	Indica	CM (Projects)/DM (Operations)
Jeep	10	Sumo	9940045590, nagarajan@kplmail.in / 9597088333, lingam@kplmail.in
HIRED VEHICLES			
Bus	-	-	-
Car & Jeep	-	-	-
Mini Lorry	-	-	-

**Institution to whom vehicle (ambulance) belongs**

No	Name of the Institution to whom vehicle belongs	Phone
1	Port ambulance	9840467288
2		

**Required resources for the identified Emergencies:**

The following table shows the risks identified in this plan and the key resources that may be required during emergencies arising from each risk.



Identified Risk	First Aid/ Medical equip- ment	Lifting equipment/ Fork lift	Cranes	High angle rescue equipment	Boats/ Vessels	Fire Fighting equip- ment	Communica tions	Oil Containment/ cleanup equipment	Others
Marine casualty (Collision/Grounding)	√				√		√		PPE, Ambulance
Fire or Explosion on a vessel at berth	√	√	√		√	√	√		Ambulance, vehicles, PPE, Equipment for cordoning, torch light
Fire or Explosion on a vessel on the water	√				√	√	√		Ambulance, vehicles, PPE, Equipment for cordoning, torch light
Oil Spill					√		√	√	PPE
Utility Failure							√		PPE, Generator, Lightings, torch light
Dangerous Goods spill (other than oil)	√				√	√	√	√	PPE, Dangerous good container/cleanup equipment, Equipment for cordoning, torch light
Gas dispersion	√					√	√		PPE, Equipment for cordoning, torch light
Crane Collapse/Container fall	√	√	√	√	√		√		PPE, Equipment for cordoning, torch light
Terrorist incident	√	√	√	√	√	√	√		Ambulance ,vehicles, Equipment for cordoning, torch light
Bomb Threat	√					√	√		
Cyclone /Severe Storm/Tsunami	√	√	√	√	√	√	√		
Flooding	√	√			√		√		
Earthquake	√	√				√	√	√	PPE, torch light, ambulance, vehicles