LIST OF PMSC RISK ASSESSMENTS

RISK ASSESSMENT	KISK ASSESSMENT	Review at
Number	Name	PMSC Liaison Meeting
FP PMSC RA (F)1	Forth River Passage - Standard Vessel	PMC 08th May 2017
FP PMSC RA (F)2	Port of Leith - Arrival / Sailing Leith Approach Buoy to Berth	PMC 08th May 2017
FP PMSC RA (F)3	Port of Rosyth - Arrival/Sailing No.1 Rosyth Channel Buoy to Berth	PMC 08th May 2017
FP PMSC RA (F)4	Port of Methil - Arrival/Sailing Methil Pilot Station to Berth	PMC 08th May 2017
FP PMSC RA (F)5	Methil SE Berth - Arrival/Sailing Methil Pilot Station to Berth	PMC 08th May 2017
FP PMSC RA (F)6	Port of Kirkcaldy - Arrival/Sailing Close Approaches of Dock to Berth	PMC 08th May 2017
FP PMSC RA (F)7	Port of Burntisland - Arrival/Sailing Close Approaches of Dock to Berth	PMC 08th May 2017
FP PMSC RA (F)8	Inverkeithing - Arrival/Sailing Saint Davids Beacon to Berth	PMC 08th May 2017
FP PMSC RA (F)9	Braefoot Jetty - Arrival/Sailing Eastern Limits to Berth	PMC 08th May 2017
FP PMSC RA (F)10	Port of Grangemouth - Arrival/Sailing Hen & Chickens to Berth	PMC 08th May 2017
FP PMSC RA (F)11	Crombie Berthing/Sailing	PMC 08th May 2017
FP PMSC RA (F)12	Hound Point - Arrival/Sailing Eastern Limits to Berth	PMC 08th May 2017
FP PMSC RA (F)13	Cruise Vessels at Anchorage	PMC 08th May 2017
FP PMSC RA (F)14	Forth - River Transit and Berthings/Sailings small comerical craft (tugs, workboats, pilot boats etc.)	PMC 08th May 2017
FP PMSC RA (F)15	Bridge Construction Operations	PMC 08th May 2017
FP PMSC RA (F)16	Cruise Vessel Tender Operations (Hound Point / Newhaven)	PMC 08th May 2017
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FP PMSC RA (T)1	Tay River Passage - Standard Vessels	Dundee - May 2015
FP PMSC RA (T)2	Port of Dundee - Arrival/Sailing Port Approaches to River Berth	Dundee - May 2015
FP PMSC RA (T)4	Tay Large Vessel Movement - Arrival/Sailing	Dundee - June 2018
FP PMSC RA (T)5	Port of Dundee - Oil Rigs - Arrival/Sailing Port Limits to Berth	Dundee - Feb 2018
FP PMSC RA (T)6	Tay - River Transit and Berthings/Sailings small comerical craft (tugs, workboats, pilot boats etc.)	Dundee - May 2015
		,
FP PMSC RA (F&T)1	Forth & Tay - Vessel at Anchor	PMC - 06th Sept 2017
FP PMSC RA (F&T)2	Forth & Tay - Towage Operations	Inner Forth - 06th Feb 2018
FP PMSC RA (F&T)3	Forth & Tay - Immobilised Vessels	PMC - 06th Sept 2017
FP PMSC RA (F&T)4	Forth & Tay - Bunkering Operations in Dock	PMC - 06th Sept 2017
FP PMSC RA (F&T)5	Forth & Tay - Bunkering Operations in Tidal Waters	PMC - 06th Sept 2017
FP PMSC RA (F&T)6	Forth & Tay - NAABSA Berths	PMC - 06th Sept 2017
FP PMSC RA (F&T)7	Forth & Tay - Diving Operations	Inner Forth - 09th Oct 2018
FP PMSC RA (F&T)8	Forth & Tay - Recreational Events	Inner Forth - 09th Oct 2018
FP PMSC RA (F&T)9	Forth & Tay - Underwater Cables & Pipelines	PMC, Fife/BF-HP/LTH/GMTH PMSC March/April 2015
FP PMSC RA (F&T)10	Forth & Tay - Marine Pollution (Tidal Waters)	(PMC 01/09) ALL PMSC's
FP PMSC RA (F&T)11	Forth & Tay - Marine Pollution (Enclosed Dock)	(PMC 01/09) ALL PMSC's
	Red indicates last Reviewed	

PMSC RISK ASSESSMENT - RISK RANKING

PMS	CRISK ASSESSMENT - RISK RANKING		
Rank	HazardID	Hazard What can go wrong (Event leading to a consequence)	Hazard Scoring
3	FP PMSC RA (F&T) 02 - 1.3 Contact	Contact	7.75
	FP PMSC RA (F) 10 - 1.2 Contact	Contact Contact	7.375
1	FP PMSC RA (F) 12 - 1.2 Contact FP PMSC RA (F&T) 01 - 1.1 Dragging Anchor	Dragging Anchor	7.25 7.875
9	FP PMSC RA (F&T) 06 - 1.4 Hull Damage	Hull Damage	6.875
6	FP PMSC RA (T) 01 - 1.3 Grounding	Grounding	7.25
8	FP PMSC RA (T) 02 - 1.2 Contact	Contact	7
	FP PMSC RA (T) 01 - 1.4 Sinking / Capsize	Sinking / Capsize	6.875
12	FP PMSC RA (F) 07 - 1.1 Collision FP PMSC RA (F) 10 - 1.5 Fire / Explosion	Collision Fire / Explosion	6.875
	FP PMSC RA (F) 10 - 1.3 File / Explosion	Contact	6.75
	FP PMSC RA (T) 02 - 1.5 Fire / Explosion	Fire / Explosion	6.625
	FP PMSC RA (F) 15 - 1.5 Fire / Explosion	Fire / Explosion	6.5
	FP PMSC RA (F&T) 02 - 1.1 Capsizing / Flooding	Capsizing / Flooding	6.375
	FP PMSC RA (F) 04 - 1.2 Contact	Collinian	6.375
	FP PMSC RA (F) 02 - 1.1 Collision FP PMSC RA (F) 02 - 1.3 Grounding	Collision Grounding	6.375 6.25
	FP PMSC RA (F) 03 - 1.3 Grounding	Grounding	6.25
	FP PMSC RA (F&T) 06 - 1.3 Fire	Dundee - Feb 2018	6.25
	FP PMSC RA (F) 07 - 1.2 Contact	Contact	6.125
	FP PMSC RA (F&T) 05 - 1.1 Collision with bunker vessel and receiving vessel	vessel	6.125
	FP PMSC RA (F) 02 - 1.2 Contact	Contact	7.875
25	FP PMSC RA (F) 11 - 1.2 Contact FP PMSC RA (F) 05 - 1.2 Contact	Contact Contact	6
	FP PMSC RA (T) 04 - 1.5 Fire / Explosion	Fire / Explosion	6
	FP PMSC RA (F) 05 - 1.3 Grounding	Grounding	5.875
	FP PMSC RA (F&T) 02 - 1.2 Fire	Fire	5.875
	FP PMSC RA (F) 12 - 1.5 Fire / Explosion	Fire / Explosion	5.875
	FP PMSC RA (F) 10 - 1.3 Grounding	Grounding	5.75
	FP PMSC RA (F) 14 - 1.2 Contact	Contact	5.75
32	FP PMSC RA (F) 16 - 1.2 Contact FP PMSC RA (F) 15 - 1.4 Sinking / Capsize	Contact Sinking / Capsize	5.75 5.75
—	FP PMSC RA (F) 07 - 1.4 Siliking / Capsize FP PMSC RA (F) 07 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	5.75
	FP PMSC RA (F&T) 01 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	6
37		Grounding	5.625
39	FP PMSC RA (F) 03 - 1.2 Contact	Contact	5.5
39	FP PMSC RA (F) 15 - 1.3 Grounding	Grounding	5.5
	FP PMSC RA (F) 13 - 1.3 Grounding	Grounding Fire / Explosion	6.25
39	FP PMSC RA (F) 13 - 1.5 Fire / Explosion FP PMSC RA (T) 06 - 1.1 Collision	Collision	5.5 5.5
	FP PMSC RA (F&T) 05 - 1.3 Loss of Containment (Oil Products)	Loss of Containment (Oil Product)	5.5
	FP PMSC RA (F) 14 - 1.5 Fire / Explosion	Fire / Explosion	5.375
45	FP PMSC RA (F) 14 - 1.1 Collision	Collision	5.375
	FP PMSC RA (F) 16 - 1.1 Collision	Collision	5.375
45	TT T MOOT AT (17 TO THOTHO	Fire	5.375
45	FP PMSC RA (F&T) 10 - 1.1 Loss of Containment (Oil Product) FP PMSC RA (F) 04 - 1.1 Collision (Fishing/Leisure Vessel)	Loss of Containment (Oil Product) Collision (Fishing/Leisure Vessel)	5.375
	FP PMSC RA (F) 04 - 1.1 Collision (Fishing/Leisure Vessel) FP PMSC RA (F) 06 - 1.1 Collision (Fishing/Leisure Vessel)	Collision (Fishing/Leisure Vessel)	5.25 5.25
50		Collision	5.25
50	FP PMSC RA (F) 06 - 1.3 Grounding Refer Also to: FP PMSSC RA (F&T)7	Grounding	5.25
50	11 1 MOO TO TIL CONTACT	Contact	5.25
	FP PMSC RA (T) 06 - 1.2 Contact	Contact	5.25
39	FP PMSC RA (F&T) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 10 - 1.1 Collision	Fire / Explosion Collision	5.25
59	FP PMSC RA (F) 10 - 1.1 Collision FP PMSC RA (F) 05 - 1.1 Collision	Collision	5.5
	FP PMSC RA (F) 05 - 1.1 Contact	Contact	5
59	FP PMSC RA (F) 09 - 1.5 Fire / Explosion	Fire / Explosion	5
59	FP PMSC RA (F) 11 - 1.1 Collision	Collsion	5
59	FP PMSC RA (F) 13 - 1.4 Sinking / Capsize	Sinking / Capsize	5
59 59	FP PMSC RA (T) 05 - 1.5 Fire / Explosion	Fire / Explosion	5
59	FP PMSC RA (F&T) 01 - 1.2 Contact FP PMSC RA (F) 11 - 1.5 Fire / Explosion	Contact Fire / Explosion	5
59	FP PMSC RA (T) 04 - 1.4 Sinking / Capsize	Sinking / Capsize	5
—	FP PMSC RA (F&T) 01 - 1.4 Sinking / Capsize	Sinking / Capsize	4.875
69	FP PMSC RA (F) 15 - 1.2 Contact	Contact	4.875
4	FP PMSC RA (F) 08 - 1.2 Contact	Contact	7.375
58	TT T MOO TO (T) OT T.O THE 7 EXPLOSION	Fire / Explosion	5.125
71	FP PMSC RA (F) 09 - 1.1 Collision FP PMSC RA (F&T) 04 - 1.3 Loss of Containment (Oil Products)	Collision Loss of Containment (Oil Product)	4.75
71	FP PMSC RA (F&T) 04 - 1.3 Loss of Containment (Oil Products) FP PMSC RA (F&T) 09 - 1.4 Loss of Containment / Power / Communication	Loss of Containment (Oil Product) Loss of Containment / Power / Communication	4.75
	FP PMSC RA (T) 06 - 1.4 Sinking / Capsize	Sinking / Capsize	4.75
71	FP PMSC RA (T) 04 - 1.2 Contact	Contact	4.75
75		Loss of Dock Level (Lock Gate Operations)	4.625
77	FP PMSC RA (F) 08 - 1.1 Collision (Fishing/Leisure Vessel)	Collision (Fishing/Leisure Vessel)	4.5
77	11 - 1 MOO TUT (1 / OO TO CHOCH all grades / MOO TO CHOCK AT (1 OCT)	Grounding Sinking / Capsize	4.5
77	FP PMSC RA (F) 01 - 1.4 Sinking / Capsize FP PMSC RA (F) 01 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	4.5 4.5
77		Sinking / Capsize	4.5 4.5
77	FP PMSC RA (F) 09 - 1.4 Siliking / Capsize FP PMSC RA (F) 09 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	4.5
77		Sinking / Capsize	4.5
77	11 T MOO TO (17 TE TIT OF MAINS / OAPOIES	Sinking / Capsize	4.5
77	FP PMSC RA (F) 12 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	4.5

PF PRISC RA (PERT) 02 - 1.3 Creations Comparing				
PRINCE RAN (PRINCE) - 1.2 Careau Expectation	154	FP PMSC RA (T) 06 - 1.5 Fire / Explosion	Fire / Explosion	3.125
PRINCE RELIEF 1971 - 1.4 Street Company	37	FP PMSC RA (F&T) 02 - 1.5 Grounding	Grounding	5.625
Page	77	FP PMSC RA (F&T) 06 - 1.2 Capsize / Flooding	Cansizing / Flooding	4.5
PF PRISC RA DIT C - 1.4 Service Coparing	75			
77 PRISC RATION - 12 Comment BE EPARSIC RATION - 13 Comment BE EPARSIC RATION - 13 Comment BE EPARSIC RATION - 14 COMMENT BE				
March Control				4.5
PP PISC RA PI 1 - 1.4 Selberg Capatize Shring Capatize Pi PI PISC RA PI 2 - 1.4 Selberg Capatize Shring Capatize Pi PI PISC RA PI 2 - 1.4 Selberg Capatize Shring Capati	77	FP PMSC RA (T) 05 - 1.2 Contact	Contact	4.5
PP PMSC RA F1 10 - 1.4 Stellar Casarier	89	FP PMSC RA (T) 02 - 1.4 Sinking / Capsize	Sinking / Capsize	4.375
## PPINSC RAP (10.1.1.4 Stellar) Classifies ## PPINSC RAP (20.1.4 Stella	89	FP PMSC RA (F) 14 - 1.4 Sinking / Capsize	Sinking / Capsize	4.375
PP PASC RA (F) 10.1-1.4 Sentent Capazine PP PASC RA (F) 10.5-1.4 Sentent Capazine PP PASC RA (F) 10.5-1.5				
PP PMSC RA F1 03 - 1.4 Selving Capates				
PPASC RA (F) 65.1.4 Several Capative Several Ca				4.375
19 PPASC RA (FRT 16. 1.1 Contents 9 PPASC RA (FRT 16. 1.1 Contents 19 PPASC RA (FRT 16. 1.1 Contents 10 PPAS	89	FP PMSC RA (F) 03 - 1.4 Sinking / Capsize	Sinking / Capsize	4.375
130 PSSC RAT (10 - 1.4 February Capsone)	89	FP PMSC RA (F) 05 - 1.4 Sinking / Capsize	Sinking / Capsize	4.375
B F P PASC RA (FAT 10 - 1.1 Content B F P PASC RA (FAT 10 - 1.1 Content B F P PASC RA (FAT 10 - 1.1 Content B F P PASC RA (FAT 10 - 1.1 Content B F P PASC RA (FAT 10 - 1.1 Content B F P PASC RA (FAT 10 - 1.1 Content B F P PASC RA (FAT 10 - 1.1 Content B F P PASC RA (FAT 10 - 1.1 Content B F P PASC RA (FAT 10 - 1.1 Content B F P PASC RA (FAT 10 - 1.1 Content B F P PASC RA (FAT 10 - 1.1 Content B F PA	110	ED DMSC DA (T) 05 - 1.4 Sinking / Cansize	Sinking / Cansize	
## PPMSC RA (FRT 10 - 1.1 Context ## PPMSC RA (FRT 10 - 1.1 Context ## PPMSC RA (FRT 10 - 1.1 Loss of Contament (OL Product) ## PPMSC RA (FRT 10 - 1.1 Loss of Contament (OL Product) ## PPMSC RA (FRT 10 - 1.1 Loss of Contament (OL Product) ## PPMSC RA (FRT 10 - 1.1 Loss of Contament (OL Product) ## PPMSC RA (FRT 10 - 1.1 Loss of Contament (OL Product) ## PPMSC RA (FRT 10 - 1.1 Loss of Contament (OL Product) ## PPMSC RA (FRT 10 - 1.1 Loss of Contament (OL Product) ## PPMSC RA (FRT 10 - 1.1 Contament (OL Product) ## PPMSC RA (FRT 10 - 1.1 Contament (OL Product) ## PMSC RA (FRT 10 - 1.1 Contament (OL Product) ## PMSC RA (FRT 10 - 1.1 Contament (OL Product) ## PMSC RA (FRT 10 - 1.2 Service) ## PMSC RA (FRT 10 - 1.3 Service) ## PMSC RA (FRT 10 - 1.4				
Public R. R. R. 10 - 1.1 Contect			-	4.375
Ser PENSES RAY, 175 1-18 Lease of Contamental COM Products) Ser PENSES RAY, 175 1-18 Lease of Contamental COM Products) Ser PENSES RAY, 175 1-18 Lease of Contamental COM Products) Ser PENSES RAY, 170 1-13 -13 Fire / Explosion Fire / Explosion	89	FP PMSC RA (F&T) 06 - 1.1 Contact	Contact	4.375
By PANSC RA (FS.11 to 1.1 Less of Contamerant (CI Product) BY PANSC RA (FS.11 to 1.1 Less of Contamerant (CI Product) BY PANSC RA (F) (10 to 1.1 Sev P Episoson Fire / Explosion BY PANSC RA (F) (10 to 1.1 Sev P Episoson Fire / Explosion BY PANSC RA (F) (10 to 1.1 Collision with businer vessal and receiving vessal BY PANSC RA (FS.10 to 1.1 Collision with businer vessal and receiving vessal BY PANSC RA (FS.10 to 1.1 Collision with businer vessal and receiving vessal BY PANSC RA (FS.10 to 1.1 Collision with businer vessal and receiving vessal BY PANSC RA (FS.10 to 1.1 Collision with businer vessal and receiving vessal BY PANSC RA (FS.10 to 1.1 Collision with businer vessal and receiving vessal BY PANSC RA (FS.10 to 1.1 Collision with businer vessal and receiving vessal BY PANSC RA (FS.10 to 1.1 Collision with businer vessal and receiving vessal BY PANSC RA (FS.10 to 1.1 Collision with businer vessal and receiving vessal BY PANSC RA (FS.10 to 1.1 Collision with businer vessal and receiving vessal BY PANSC RA (FS.10 to 1.1 Collision with businer vessal and receiving vessal v	89	FP PMSC RA (F&T) 09 - 1.1 Contact	Contact	4.375
Fig. PPASC RA (F) 16 - 1 Street (Exposer) Fig. Exposer)	89	FP PMSC RA (F&T) 10 - 1.1 Loss of Containment (Oil Product)	Loss of Containment (Oil Product)	
PMOD RAN FOR PLANS OF THE PERSONNEL CONTRICTOR			· · · · ·	
1900 PP MSC RA (F) 14 - 13 Grounding 1901 PP MSC RA (F) 18 - 14 Loss of Containment (cil product) 1907 PP MSC RA (F) 18 - 16 Loss of Containment (cil product) 1907 PP MSC RA (F) 18 - 16 Loss of Containment (cil product) 1907 PP MSC RA (F) 18 - 16 Loss of Containment (cil product) 1908 PP MSC RA (F) 18 - 16 Loss of Containment (cil product) 1909 PP MSC RA (F) 18 - 16 Loss of Containment (cil product) 1909 PP MSC RA (F) 18 - 16 Loss of Containment (cil product) 1909 PP MSC RA (F) 18 - 11 C STORE (F) 18 PMSC RA (F) 18 - 11 C STORE (F) 18 PMSC RA (F) 18 - 11 C STORE (F) 18 PMSC RA (F) 18				
Section Sect		FP PMSC RA (F) 08 - 1.5 Fire / Explosion	Fire / Explosion	4.375
100 PP PMSC RAT (81 10 1.1 Collision with bouter vessel and receiving vessel 101 PP PMSC RAT (91 4.1 1.1 Loss of Consisteners (10 Product) 102 PP PMSC RAT (91 1.1 1.4 String) Colleges 103 PP PMSC RAT (91 1.1 1.4 String) Colleges 104 PP PMSC RAT (91 1.1 1.4 String) Colleges 105 PP PMSC RAT (91 1.1 1.4 String) Colleges 105 PP PMSC RAT (91 1.1 1.4 String) Colleges 106 PP PMSC RAT (91 1.1 1.4 String) Colleges 107 PP PMSC RAT (91 1.1 1.4 String) Colleges 108 PP PMSC RAT (91 1.1 1.4 String) Colleges 109 PP PMSC RAT (91 1.1 1.4 String) 109 PP PMSC RAT (91 1.1 1.4 String) PMSC RAT (91 1.1 1.4 String) 100 PP PMSC RAT (91 1.1 1.4 String) PMSC RAT (91 1.1 1.4 String) 100 PP PMSC RAT (91 1.1 1.4 String) PMSC RAT (91 1.1 1.4 String) 101 PP PMSC RAT (91 1.1 1.4 String) PMSC RAT (91 1.1 1.4 String) 101 PP PMSC RAT (91 1.1 1.4 String) 102 PP PMSC RAT (91 1.1 1.4 String) 103 PP PMSC RAT (91 1.1 1.4 String) 103 PP PMSC RAT (91 1.1 1.4 Colleges 103 PP PMSC RAT (91 1.1 1.4 Colleges 104 PMSC RAT (91 1.1 1.4 Colleges 105 PMSC RAT (91 1.1 1.4 Colleges 106 PMSC RAT (9	101	FP PMSC RA (F) 04 - 1.3 Grounding	Grounding	4.25
1906 PRINSE RATE 14 - 1. Loss of Containment (OI Products) Loss of Containment (OI Products) 190 PRINSE RATE 15 - 1. Loss of Containment (OI Products) 190 PRINSE RATE 15 -	101		vessel	4.25
190 PP PASC RA FI 11-1.4 SINGLY Capitals 190 PP PASC RA FI	_			
Inc. PENSC RA (F) 11-1.1 & Selectory (Cognete)				
September Comment Co				4.25
191 PP PMSC RA (FS 10 -1.1 Stroumling) 191 PP MSC RA (FS 10 -1.1 Strou	101	FP PMSC RA (F) 11 - 1.4 Sinking / Capsize	Sinking / Capsize	4.25
PP MSC RA (FST) 01 - 1.2 Grounding 19 PP MSC RA (FST) 03 - 1.2 Grounding State Asto to PP PMSC RA (FST) 1 10 PP MSC RA (FST) 03 - 1.2 Grounding State Asto to PP PMSC RA (FST) 1 10 PP MSC RA (FST) 03 - 1.4 Collision Col	101		Collision	4.25
PP PMSC RA (FATIOL -12 Concention Refer Also to FP PMSC RA (F&T) 1				-1.25
PP PMSC RA (FR 10 -1.4 femic Purplos) PP PMSC RA (FR 10 -1.4 femic Purplos)				5
Inc. Inc. Inc. A Collision		The most with all the many toler most to the most with all the		4.25
190 PP PMSC RA (FT) 0.1 -1 (Contact Refer Also to FP PMSC RA (FET) 1.	101	FP PMSC RA (F&T) 04 - 1.4 Fire/Explosion	Fire / Explosion	4.25
19 P PMSC RAL FT 04 - 17 Allision	101	FP PMSC RA (F&T) 02 - 1.4 Collision	Collision	4.25
110 EP PARSC RA (PR 10 -1.1 Centest Refer Also to EP PARSC RA (PR 1) Contest				
Mile PP PMSC Rd, PD 1-12 Collision Col				
114 FP PMSC RA (F) 10 - 1.7 Loss of Dock Level (Lock Gate Operations) Loss of Dock Level (Lock Gate Operations)				4.125
114 FP PMSC RA (F) 10 -1.2 Contact Conta		FP PMSC RA (F) 15 - 1.1 Collision		4.125
11 FP PMSC RA (F) 04 - 1.7 Loss of Dock Level (Lock Gate Operations) Loss of Dock Level (Lock Gate Operations)	114	FP PMSC RA (F) 07 - 1.7 Loss of Dock Level (Lock Gate Operations)	Loss of Dock Level (Lock Gate Operations)	4
International Content Inte	114		Loss of Dock Level (Lock Gate Operations)	4
14 FP PMSC RA (F) 10 - 1.7 Loss of Dock Level Loss of Containment (Oil Product) Loss of Containment (Oil Product)				
11				4
148 PP PMSC RA (F) 12-1.3 (Grounding Forduct) Refer also to FP PMSC RA (Fs. Loss of Containment (Oil Product)	114	FP PMSC RA (F) 10 - 1.7 Loss of Dock Level		4
114 FP PMSC RA (F) 12-1.3 (counting)	114	FP PMSC RA (F) 11 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	4
14 FP PMSC RA (F1 13 - 1.6 Loss of Containment (oil product)	114	FP PMSC RA (F) 12 - 1.3 Grounding	Grounding	4
114 FP PMSC RA (FS 109 - 1.2 Pipeline / Cable Damage	114		-	
134 FP PMSC RA (F) 14 - 1.3 Grounding Grounding Grounding Grounding 135 FP PMSC RA (F) 16 - 1.3 Grounding Grounding Grounding 135 FP PMSC RA (FXT) 05 - 1.2 Contact				4
125 FP PMSC RA (F) 16 - 1.3 Grounding	114	FP PMSC RA (F&T) 09 - 1.2 Pipeline / Cable Damage	Pipeline / Cable Damange	4
125 FP PMSC RA (F8T) 04 - 1.2 Contact	114	FP PMSC RA (F) 14 - 1.3 Grounding	Grounding	4
125 FP PMSC RA (F8T) 04 - 1.2 Contact	114	FP PMSC RA (F) 16 - 1.3 Grounding	Grounding	4
125 FP PMSC RA (FB 10 - 1.2 Contact 1.8	435			
125 FP PMSC RA (F) 01 - 1.5 Fire / Explosion		ED PMSC PA (F&T) 04 - 1.2 Contact	Contact	2 075
125 F. P. PMSC, RA. (F) 02 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 181 125 F. P. PMSC, RA. (F) 03 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 182 F. P. PMSC, RA. (F) 03 - 1.5 Loss of Containment Loss of Containment Loss of Containment 183 125 F. P. PMSC, RA. (F) 04 - 1.5 Loss of Containment Loss of Containment Loss of Containment 185 125 F. P. PMSC, RA. (F) 10 - 1.5 Loss of Containment (Oil Product) Loss of Containment (Oil Product) 125 F. P. PMSC, RA. (F) 04 - 1.5 Loss of Containment (Oil Products) Loss of Containment (Oil Products) 126 F. P. PMSC, RA. (F) 04 - 1.5 Loss of Containment (Oil Products) Loss of Containment (Oil Products) 136 F. P. PMSC, RA. (F) 04 - 1.5 Loss of Containment (Oil Products) Loss of Containment (Oil Products) 136 F. P. PMSC, RA. (F) 04 - 1.5 Loss of Containment (Oil Product) Loss of Containment (Oil Product) 136 F. P. PMSC, RA. (F) 07 - 1.5 Fire / Explosion Collision Loss of Containment (Oil Product) 136 F. P. PMSC, RA. (F) 07 - 1.5 Fire / Explosion Fire / Explosion Fire / Explosion Loss of Containment (Oil Product) 136 F. P. PMSC, RA. (F) 07 - 1.5 Fire / Explosion Grounding Grounding Grounding Loss of Containment (Oil Product) Loss of Containment (Oil Prod				3.875
1215 F.P. PMSC RA (F) 03 - 1.6 Loss of Containment (Oil product) 1816 1916 1	125	FP PMSC RA (F&T) 05 - 1.2 Contact	Contact	3.875 3.875
125 P. PMSC RA (F) 03 - 1.8 Loss of Containment (oil product) 126 P. PMSC RA (F) 09 - 1.3 Grounding 138 125 P. PMSC RA (F) 09 - 1.3 Grounding 138 125 P. PMSC RA (F) 10 - 1.6 Loss of Containment 138 125 P. PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) 128 P. PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) 128 125 P. PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) 128 125 P. PMSC RA (F) 04 - 1.6 Loss of Containment (oil products) 128 P. PMSC RA (F) 04 - 1.6 Loss of Containment (oil Products) 128 P. PMSC RA (F) 04 - 1.1 Collision 128 P. PMSC RA (F) 04 - 1.1 Collision 128 P. PMSC RA (F) 04 - 1.1 Collision 128 P. PMSC RA (F) 04 - 1.1 Collision 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 07 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 08 - 1.4 Sinking / Capsize 128 P. PMSC RA (F) 08 - 1.4 Sinking / Capsize 128 P. PMSC RA (F) 08 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 08 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 08 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 08 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 08 - 1.5 Fire / Explosion 128 P. PMSC RA (F) 08 - 1.5 Fire /	125	FP PMSC RA (F&T) 05 - 1.2 Contact	Contact	
125 FP PMSC RA (F) 90 + 1.3 Grounding	125 125	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion	Contact Fire / Explosion	3.875 3.875
125 FP PMSC RA (FBT) 06 - 1.5 Loss of Containment Coll Product) Sab Sep PMSC RA (T) 04 - 1.1 Collision Colli	125 125 125	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product)	Contact Fire / Explosion Loss of Containment (Oil Product)	3.875 3.875 3.875
125 FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 185 FP PMSC RA (T) 04 - 1.1 Collision Coll	125 125 125 125	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product)	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product)	3.875 3.875 3.875 3.875
Solution	125 125 125 125 125	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding	3.875 3.875 3.875 3.875 3.875
125 FP PMSC RA (T) 04 - 1.6 Loss of Containment (Oil Products) Loss of Containment (Oil Products) 3.85	125 125 125 125 125 125	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F&T) 06 - 1.5 Loss of Containment	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment	3.875 3.875 3.875 3.875
125 EP PMSC RA (T) 04 - 1.6 Loss of Containment (Oil Products) Loss of Containment (Oil Products) 318 EP PMSC RA (T) 02 - 1.1 Collision Co	125 125 125 125 125 125	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F&T) 06 - 1.5 Loss of Containment	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment	3.875 3.875 3.875 3.875 3.875
136 FP PMSC RA (T) 02 - 1,1 Collision	125 125 125 125 125 125 125	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product). FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product). FP PMSC RA (F) 09 - 1.3 Grounding. FP PMSC RA (F&T) 06 - 1.5 Loss of Containment. FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product).	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment (Oil Product)	3.875 3.875 3.875 3.875 3.875 3.875
125 EP PMSC RA (T) 05 - 1.1 Collision	125 125 125 125 125 125 125 125 50	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F&T) 06 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision	3.875 3.875 3.875 3.875 3.875 3.875 3.875 5.25
136 EP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 3.3 136 FP PMSC RA (T) 02 - 1.5 Fire / Explosion Fire / Explosion Fire / Explosion 3.6 137 FP PMSC RA (T) 04 - 1.3 Grounding Gro	125 125 125 125 125 125 125 125 125	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.6 Loss of Containment (oil Products)	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products)	3.875 3.875 3.875 3.875 3.875 3.875 3.875 5.25
136 FP PMSC RA (F) 07 - 1.5 Fire / Explosion	125 125 125 125 125 125 125 125 125 125	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.6 Loss of Containment (Oil Products) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision	3.875 3.875 3.875 3.875 3.875 3.875 3.875 5.25 3.875 5.25
136 FP PMSC RA (F) 07 - 1.5 Fire / Explosion	125 125 125 125 125 125 125 125 125 125	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 06 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.6 Loss of Containment (Oil Products) FP PMSC RA (T) 04 - 1.6 Loss of Containment (Oil Products) FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision	3.875 3.875 3.875 3.875 3.875 3.875 3.875 5.25
136 FP PMSC RA (T) 04 - 1.3 Grounding	125 125 125 125 125 125 125 125 125 125	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 06 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision	3.875 3.875 3.875 3.875 3.875 3.875 3.875 5.25 3.875 5.25
141 FP PMSC RA (F) 01 - 1.1 Collision Collision Collision 3.63 141 FP PMSC RA (F) 01 - 1.1 Collision Collision Collision 3.63 141 FP PMSC RA (F) 01 - 1.3 Grounding Grounding Grounding Grounding 3.63 145 FP PMSC RA (F) 01 - 1.3 Grounding Grounding Grounding 3.64 145 FP PMSC RA (F) 01 - 1.4 Sinking / Capsize Sinking / Capsize Sinking / Capsize 3.14 145 FP PMSC RA (F) 04 - 1.4 Sinking / Capsize Sinking / Capsize Sinking / Capsize 3.14 145 FP PMSC RA (F) 06 - 1.4 Sinking / Capsize Sinking / Capsize Sinking / Capsize 3.14 145 FP PMSC RA (F) 08 - 1.4 Sinking / Capsize Sinking / Capsize Sinking / Capsize 3.14 145 FP PMSC RA (F) 02 - 1.3 Grounding Grounding Grounding Grounding 3.15 150 FP PMSC RA (F) 02 - 1.5 Fire / Explosion Fire / Explosion Fire / Explosion Sinking / Capsize Si	125 125 125 125 125 125 125 125 125 125	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.6 Loss of Containment (Oil Products) FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product)	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Loss of Containment (Oil Products)	3.875 3.875 3.875 3.875 3.875 3.875 5.25 3.875 5.25 3.875 3.75
141 FP PMSC RA (T) 01 - 1.1 Collision 36.0 143 FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) 145 FP PMSC RA (F) 01 - 1.3 Grounding 36.1 145 FP PMSC RA (F) 01 - 1.3 Grounding 37.1 145 FP PMSC RA (F) 04 - 1.4 Sinking / Capsize 146 FP PMSC RA (F) 06 - 1.4 Sinking / Capsize 147 FP PMSC RA (F) 06 - 1.4 Sinking / Capsize 148 FP PMSC RA (F) 08 - 1.4 Sinking / Capsize 149 FP PMSC RA (F) 08 - 1.4 Sinking / Capsize 150 FP PMSC RA (F) 08 - 1.4 Sinking / Capsize 161 FP PMSC RA (F) 08 - 1.4 Sinking / Capsize 170 FP PMSC RA (F) 02 - 1.3 Grounding 170 FP PMSC RA (F) 02 - 1.5 Fire / Explosion 181 FP PMSC RA (F) 02 - 1.5 Fire / Explosion 182 FP PMSC RA (F) 02 - 1.5 Fire / Explosion 183 FP PMSC RA (F) 03 - 1.5 Fire / Explosion 184 FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) 185 FP PMSC RA (F) 05 - 1.5 Fire / Explosion 186 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 187 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 189 FP PMSC RA (F) 05 - 1.5 Fire / Explosion 180 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 180 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 181 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 181 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 181 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 181 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 181 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 182 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 183 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 184 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 185 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 185 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 186 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 187 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 189 FP PMSC RA (F) 04 - 1.5 Fire / Explosion 180 FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) 180 FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) 181 FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) 182 FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) 183 FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) 185 FP PMSC RA (F) 06 - 1.6 Loss of Containm	125 125 125 125 125 125 125 125 50 125 136 125 136	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 07 - 1.5 Fire / Explosion	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Loss of Containment (Oil Products) Collision Loss of Containment (Oil Product) Fire / Explosion	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75
141 FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 3-63 145 FP PMSC RA (F) 01 - 1.3 Grounding Groundi	125 125 125 125 125 125 125 125 50 125 136 125 136 136	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.5 Fire / Explosion FP PMSC RA (T) 04 - 1.5 Grounding	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Loss of Containment (Oil Products) Collision Collision Collision Grounding	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 5.255 3.875 3.875 3.75 3.75 3.75 3.75
145 FP PMSC RA (F) 04 - 1.4 Sinking / Capsize Sinking / Caps	125 125 125 125 125 125 125 125 125 125	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 06 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 01 - 1.1 Collision	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Loss of Containment (Oil Products) Fire / Explosion Grounding Collision	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.75 3.75 3.75
145 FP PMSC RA (F) 04 - 1.4 Sinking / Capsize Sinking / Caps	125 125 125 125 125 125 125 125 125 136 136 136 136 141	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.5 Loss of Containment FP PMSC RA (F) 06 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 02 - 1.6 Loss of Containment (Oil Products) FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (T) 01 - 1.1 Collision FP PMSC RA (T) 01 - 1.1 Collision	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Collision Collision	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 5.255 3.875 3.875 3.75 3.75 3.75 3.75
145 FP PMSC RA (F) 04 - 1.4 Sinking / Capsize Sinking / Caps	125 125 125 125 125 125 125 125 125 136 136 136 136 141	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.5 Loss of Containment FP PMSC RA (F) 06 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 02 - 1.6 Loss of Containment (Oil Products) FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (T) 01 - 1.1 Collision FP PMSC RA (T) 01 - 1.1 Collision	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Collision Collision	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.75 3.75 3.75
145 FP PMSC RA (F) 06 - 1.4 Sinking / Capsize Sinking / Caps	125 125 125 125 125 125 125 50 125 136 136 136 136 141	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 106 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (T) 01 - 1.1 Collision FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.3 Grounding FP PMSC RA (F) 04 - 1.5 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.1 Collision FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product)	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Collision Loss of Containment (Oil Product) Collision Collision Collision Collision Collision Collision Grounding Collision Collision Colloss of Containment (Oil Product) Fire / Explosion Grounding Collision Loss of Containment (Oil Product) Collision	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.25 3.75 3.75 3.75 3.75 3.75 3.75 3.75 3.7
145 FP PMSC RA (F) 08 - 1.4 Sinking / Capsize Sinking / Capsize Sinking / Capsize 3 145 FP PMSC RA (T) 02 - 1.3 Grounding	125 125 125 125 125 125 125 50 125 136 136 136 141 141 141	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (T) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (T) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.3 Grounding	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Collision Grounding Collision Collision Collision Grounding Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Loss of Containment (Oil Product) Grounding	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.75 3.625 3.625 3.625 3.625
145 FP PMSC RA (T) 02 - 1.3 Grounding	125 125 125 125 125 125 125 50 125 136 136 136 136 141 141 141 145	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 02 - 1.5 Fire / Explosion FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product)	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Loss of Containment (Oil Products) Collision Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Collision Loss of Containment (Oil Product) Grounding Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.75 3.75 3.75 3.75 3.
150 FP PMSC RA (T) 01 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 3.33 152 FP PMSC RA (F) 02 - 1.5 Fire / Explosion Fire / Explosion Fire / Explosion 3.3 153 FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 3.11 154 FP PMSC RA (F) 03 - 1.5 Fire / Explosion Fire / Explosion Fire / Explosion 3.12 154 FP PMSC RA (F) 04 - 1.5 Fire / Explosion Fire / Explosion Fire / Explosion 3.12 154 FP PMSC RA (F) 04 - 1.5 Fire / Explosion Fire / Explosion Fire / Explosion 3.12 154 FP PMSC RA (F) 06 - 1.5 Fire / Explosion Fire / Explosion Fire / Explosion 3.12 154 FP PMSC RA (F) 06 - 1.5 Fire / Explosion Fire / Explosion Fire / Explosion 3.12 154 FP PMSC RA (F) 01 - 1.2 Gontact Contact	125 125 125 125 125 125 125 125 50 125 136 136 136 141 141 141 141 141 145	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.5 Loss of Containment FP PMSC RA (F) 06 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product)	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.25 3.375 3.75 3.75 3.75 3.75 3.75 3.75 3.
150 FP PMSC RA (T) 01 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product)	125 125 125 125 125 125 125 125 125 136 136 141 141 141 141 141 145 145	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.5 Loss of Containment FP PMSC RA (F) 06 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product)	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.75 3.75 3.75 3.75 3.
152 FP PMSC RA (F) 02 - 1.5 Fire / Explosion Fi	125 125 125 125 125 125 125 125 125 136 136 141 141 141 141 141 145 145	FP PMSC RA (F8T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.5 Loss of Containment FP PMSC RA (F) 06 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (T) 01 - 1.1 Collision FP PMSC RA (T) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 01 - 1.3 Sinking / Capsize FP PMSC RA (F) 06 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize Sinking / Capsize	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.75 3.75 3.75 3.75 3.
132 FP PMSC RA (F) 05 - 1.5 Fire / Explosion Fire / Explosion Fire / Explosion State Fire / Explosion State Fire / Explosion Fire / Explosion Fire / Explosion State Fire / Explosion St	125 125 125 125 125 125 125 125 50 125 136 136 136 136 134 141 141 141 145 145 145	FP PMSC RA (F8T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product)	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Collision Grounding Grounding Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Grounding Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize Grounding	3.875 3.875 3.875 3.875 3.875 3.875 3.875 5.255 3.875 3.75 3.75 3.75 3.75 3.75 3.625 3.625 3.625 3.625 3.625 3.625 3.625 3.625 3.625 3.625 3.625 3.625 3.625
154 FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 3.12	1255 1251 1252 1252 1255 1255 1255 1255	FP PMSC RA (F&T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.5 Loss of Containment FP PMSC RA (F) 00 - 1.5 Loss of Containment FP PMSC RA (F) 01 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (T) 04 - 1.5 Fire / Explosion FP PMSC RA (T) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 01 - 1.6 Loss of Containment (oil product)	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Collision Grounding Grounding Collision Collision Grounding Collision Collision Sinking / Capsize Sinking / Capsize Sinking / Capsize Grounding Collision	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.75 3.75 3.625 3.625 3.625 3.625 3.53 3.5
154 FP PMSC RA (F) 03 - 1.5 Fire / Explosion Fire / Explosion Fire / Explosion Saturation	1255 1251 1251 1252 1252 1252 1252 1252	FP PMSC RA (F8T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 01 - 1.6 Loss of Containment FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 02 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.5 Fire / Explosion	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.625 3.625 3.625 3.55 3.55 3.55 3.55 3.55 3.55 3.55 3.
154 FP PMSC RA (F) 03 - 1.5 Fire / Explosion	1255 1251 1251 1252 1252 1252 1252 1252	FP PMSC RA (F8T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.5 Loss of Containment FP PMSC RA (F) 06 - 1.5 Loss of Containment FP PMSC RA (F) 01 - 1.6 Loss of Containment FP PMSC RA (F) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 04 - 1.4 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.4 Sinking / Capsize FP PMSC RA (F) 02 - 1.3 Fire / Explosion FP PMSC RA (F) 02 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Collision Loss of Containment (Oil Product) Collision Collision Collision Collision Collision Collision Grounding Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion Fire / Explosion Fire / Explosion Fire / Explosion	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.625 3.625 3.625 3.625 3.53 3.5 3.5
154 FP PMSC RA (F) 04 - 1.5 Fire / Explosion Fire / Explosion Fire / Explosion 3.12 154 FP PMSC RA (F) 06 - 1.5 Fire / Explosion Fire / Explosion Fire / Explosion 3.12 155 FP PMSC RA (F) 11 - 1.3 Grounding	1255 1251 1251 1252 1252 1252 1252 1252	FP PMSC RA (F8T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.5 Loss of Containment FP PMSC RA (F) 06 - 1.5 Loss of Containment FP PMSC RA (F) 01 - 1.6 Loss of Containment FP PMSC RA (F) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 04 - 1.4 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.4 Sinking / Capsize FP PMSC RA (F) 02 - 1.3 Fire / Explosion FP PMSC RA (F) 02 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Collision Loss of Containment (Oil Product) Collision Collision Collision Collision Collision Collision Grounding Collision Grounding Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Collision Loss of Containment (Oil Product) Grounding Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion Fire / Explosion Fire / Explosion Loss of Containment (Oil Product)	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.625 3.625 3.625 3.55 3.55 3.55 3.55 3.55 3.55 3.55 3.
154 FP PMSC RA (F) 06 - 1.5 Fire / Explosion Fire / Explosion Fire / Explosion 3.12 154 FP PMSC RA (F) 11 - 1.3 Grounding	1255 1255 1255 1255 1255 1255 1255 1366 1366 1366 1366 141 141 141 1455 1456 150 150 152 155 155 155 155 155 155 155 155 155	FP PMSC RA (F8T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 106 - 1.5 Loss of Containment FP PMSC RA (F) 107 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (T) 01 - 1.1 Collision FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (T) 02 - 1.3 Grounding FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Loss of Containment (oil product)	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Collision Loss of Containment (Oil Product) Collision Collision Collision Collision Collision Collision Grounding Collision Grounding Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Collision Loss of Containment (Oil Product) Grounding Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion Fire / Explosion Fire / Explosion Loss of Containment (Oil Product)	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.25 3.375 3.625 3.625 3.53 3.53 3.53 3.53 3.53 3.53 3.53 3.
154 FP PMSC RA (F) 11 - 1.3 Grounding	1255 1255 1255 1255 1255 1255 1255 1366 1366 1366 1414 1415 1445 1455 150 152 152 152 153 154 154 155 155 155 155 155 155 155 155	FP PMSC RA (F8T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 06 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.4 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 06 - 1.4 Sinking / Capsize FP PMSC RA (F) 06 - 1.4 Sinking / Capsize FP PMSC RA (F) 02 - 1.3 Grounding FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Collision Loss of Containment (Oil Product) Collision Collision Collision Collision Grounding Collision Collision Grounding Collision	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.75 3.75 3.75 3.75 3.
130 FP PMSC RA (T) 01 - 1.2 Contact 4.12 154 FP PMSC RA (T) 05 - 1.3 Grounding Grounding Grounding 3.13 154 FP PMSC RA (F&T) 07 - 1.2 - Collision / contact Collision / Contact Collision / Contact 3.14 156 FP PMSC RA (F&T) 07 - 1.1 - Swamping / turbulence / interaction Swamping / interaction / turbulence 3.3 156 FP PMSC RA (F&T) 02 - 1.6 Man Overboard / Personal Injury Man Overboard / Personal Injury 153 FP PMSC RA (F) 06 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 153 FP PMSC RA (F) 08 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 154 FP PMSC RA (T) 05 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 151 FP PMSC RA (T) 06 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 151 FP PMSC RA (T) 06 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 152 FP PMSC RA (FT) 08 - 1.1 - Collision / contact Collision / Contact 153 FP PMSC RA (T) 06 - 1.3 Grounding Grounding Grounding Contact Collision / Contact 154 FP PMSC RA (T) 06 - 1.3 Grounding Grounding Contact Collision / Contact Contac	1255 1251 1251 1252 1252 1252 1252 1252	FP PMSC RA (F8T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 02 - 1.5 Fire / Explosion FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.3 Grounding FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 06 - 1.4 Sinking / Capsize FP PMSC RA (F) 06 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Collision Collision Collision Collision Grounding Collision Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion Fire / Explosion Loss of Containment (Oil Product) Fire / Explosion Loss of Containment (Oil Product) Fire / Explosion	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.625 3.
154 FP PMSC RA (T) 05 - 1.3 Grounding 312 154 FP PMSC RA (F&T) 07 - 1.2 - Collision / contact Collision / Contact Collision / Contact 3.12 156 FP PMSC RA (F&T) 07 - 1.1 - Swamping / turbulence / interaction Swamping / interaction / turbulence 3.7 156 FP PMSC RA (F&T) 02 - 1.6 Man Overboard / Personal Injury Man Overboard / Personal Injury 153 FP PMSC RA (F) 06 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 154 FP PMSC RA (T) 05 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 154 FP PMSC RA (T) 05 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 154 FP PMSC RA (T) 06 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 155 FP PMSC RA (T) 06 - 1.0 Loss of Containment (oil product) Loss of Containment (Oil Product) 156 FP PMSC RA (T) 06 - 1.3 Grounding Grounding Grounding	1255 1251 1251 1252 1252 1252 1252 1252	FP PMSC RA (F8T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 01 - 1.6 Loss of Containment FP PMSC RA (F) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Collision Loss of Containment (Oil Product) Grounding Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion Fire / Explosion Loss of Containment (Oil Product) Fire / Explosion	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.875 3.75 3.75 3.75 3.625 3.625 3.625 3.53 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3
154 FP PMSC RA (T) 05 - 1.3 Grounding Grounding Grounding Grounding 3.12 154 FP PMSC RA (F&T) 07 - 1.2 - Collision / contact Collision / Contact Collision / Contact 3.12 136 FP PMSC RA (F&T) 07 - 1.1 - Swamping / turbulence / interaction Swamping / interaction / turbulence 3.7 137 FP PMSC RA (F&T) 02 - 1.6 Man Overboard / Personal Injury Man Overboard / Personal Injury 138 FP PMSC RA (F) 06 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 136 FP PMSC RA (F) 08 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 134 FP PMSC RA (T) 05 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 141 FP PMSC RA (T) 06 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 125 FP PMSC RA (FR) 08 - 1.1 - Collision / contact Collision / Contact 148 FP PMSC RA (T) 06 - 1.3 Grounding	1255 1255 1255 1255 1255 1255 1255 1366 1366 1366 1366 1366 141 141 141 1455 1450 150 152 152 153 154 145 145 145 145 145 145 145 145 145	FP PMSC RA (F8T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 106 - 1.5 Loss of Containment FP PMSC RA (F) 107 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (T) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosio	Contact Fire / Explosion Loss of Containment (Oil Product) Grounding Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Collision Collision Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize Sinking / Capsize Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.625 3.
FP PMSC RA (F&T) 07 - 1.2 - Collision / contact Collision / Co	1255 1255 1255 1255 1255 1255 1255 1366 1366 1366 1366 1366 141 141 141 1455 1450 150 152 152 153 154 145 145 145 145 145 145 145 145 145	FP PMSC RA (F8T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 106 - 1.5 Loss of Containment FP PMSC RA (F) 107 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (T) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosio	Contact Fire / Explosion Loss of Containment (Oil Product) Grounding Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Collision Collision Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize Sinking / Capsize Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.875 3.75 3.75 3.75 3.625 3.625 3.625 3.53 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3
136 FP PMSC RA (F&T) 07 - 1.1 - Swamping / turbulence / interaction Swamping / interaction / turbulence 3 3 FP PMSC RA (F&T) 02 - 1.6 Man Overboard / Personal Injury Man Overboard / Personal Injury Man Overboard / Personal Injury (163 FP PMSC RA (F) 06 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) (163 FP PMSC RA (F) 08 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) (154 FP PMSC RA (T) 05 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) (154 FP PMSC RA (T) 06 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) (155 FP PMSC RA (T) 06 - 1.6 Loss of Containment (Oil Product) (156 FP PMSC RA (T) 06 - 1.3 Grounding Grounding Grounding	1255 1255 1255 1255 1255 1255 1255 1366 1361 1361 1361 1361 1361 1361 13	FP PMSC RA (F8T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (T) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.3 Grounding FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 06 - 1.5 Fire / Explosion FP PMSC RA (F) 06 - 1.5 Fire / Explosion FP PMSC RA (F) 06 - 1.5 Fire / Explosion FP PMSC RA (F) 06 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 08 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.5 Fire / Explosion	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Collision Collision Collision Grounding Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion Fire / Explosion Loss of Containment (Oil Product) Fire / Explosion Fire / Explosion Fire / Explosion Fire / Explosion Grounding Contact	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.75 3.75 3.625
163 FP PMSC RA (FRT) 02 - 1.6 Man Overboard / Personal Injury Man Overboard / Personal Injury 163 FP PMSC RA (F) 06 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 163 FP PMSC RA (F) 08 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 154 FP PMSC RA (T) 05 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 141 FP PMSC RA (T) 06 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 125 FP PMSC RA (FRT) 08 - 1.1 - Collision / contact Collision / Contact 163 FP PMSC RA (T) 06 - 1.3 Grounding Grounding	1255 1251 1252 1252 1252 1252 1252 1252	FP PMSC RA (F8T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 04 - 1.3 Fire / Explosion FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 06 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 06 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 03 - 1.5 Fire / Explosion FP PMSC RA (F) 04 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product)	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Collision Grounding Collision Grounding Collision Coll	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.625 3.625 3.625 3.625 3.53 3.5 3.5 3.5 3.5 3.5 3.5 3.5 3.125 3.125 3.125 3.125
163 FP PMSC RA (F) 06 - 1.6 Loss of Containment (oil product) 163 FP PMSC RA (F) 08 - 1.6 Loss of Containment (oil product) 154 FP PMSC RA (T) 05 - 1.6 Loss of Containment (oil product) 155 FP PMSC RA (T) 06 - 1.6 Loss of Containment (oil product) 156 FP PMSC RA (T) 06 - 1.6 Loss of Containment (oil product) 157 FP PMSC RA (T) 06 - 1.6 Loss of Containment (oil product) 158 FP PMSC RA (T) 06 - 1.6 Loss of Containment (oil product) 159 FP PMSC RA (T) 06 - 1.1 Collision / contact 150 FP PMSC RA (T) 06 - 1.3 Grounding 150 FP PMSC RA (T) 06 - 1.3 Grounding 150 FP PMSC RA (T) 06 - 1.3 Grounding 151 FP PMSC RA (T) 06 - 1.3 Grounding 152 FP PMSC RA (T) 06 - 1.3 Grounding 153 FP PMSC RA (T) 06 - 1.3 Grounding	1255 1251 1251 1252 1252 1252 1252 1252	FP PMSC RA (F8T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.3 Grounding FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.3 Grounding FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 06 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.2 Contact FP PMSC RA (T) 01 - 1.3 Grounding FP PMSC RA (T) 01 - 1.3 Grounding FP PMSC RA (F) 07 - 1.2 Contact FP PMSC RA (T) 01 - 1.3 Grounding FP PMSC RA (T) 01 - 1.3 Grounding FP PMSC RA (F) 07 - 1.2 Contact FP PMSC RA (T) 01 - 1.3 Grounding FP PMSC RA (T) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 06 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.2 Contact FP PMSC RA (T) 05 - 1.3 Grounding FP PMSC RA (T) 05 - 1.5 Grounding FP	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Collision Collision Collision Grounding Collision Collision Collision Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Sinking / Capsize Sinking / Capsize Sinking / Capsize Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion Grounding Contact Grounding Collision / Contact	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.625 3.625 3.625 3.53 3.55 3.55 3.55 3.55 3.55 3.55 3.
163 FP PMSC RA (F) 08 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 154 FP PMSC RA (T) 05 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 141 FP PMSC RA (T) 06 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 125 FP PMSC RA (F&T) 08 - 1.1 - Collision / contact Collision / Contact 163 FP PMSC RA (T) 06 - 1.3 Grounding Grounding	1255 1255 1255 1255 1255 1255 1366 1367 1368 1368 1368 1368 1368 1368 1368 1368	FP PMSC RA (F8T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 106 - 1.5 Loss of Containment FP PMSC RA (F) 107 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.6 Loss of Containment (oil Products) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 04 - 1.5 Fire / Explosion FP PMSC RA (T) 04 - 1.5 Fire / Explosion FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.3 Grounding FP PMSC RA (F) 05 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 11 - 1.3 Grounding FP PMSC RA (F) 11 - 1.3 Grounding FP PMSC RA (F) 11 - 1.3 G	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Collision Collision Collision Grounding Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion Grounding Contact Grounding Collision / Contact Swamping / interaction / turbulence	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.75 3.75 3.75 3.75 3.
154 FP PMSC RA (T) 05 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 141 FP PMSC RA (T) 06 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 125 FP PMSC RA (F&T) 08 - 1.1 - Collision / contact Collision / Contact 163 FP PMSC RA (T) 06 - 1.3 Grounding Grounding	1255 1255 1255 1255 1255 1255 1255 1255	FP PMSC RA (F8T) 05 - 1.2 Contact FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.5 Loss of Containment FP PMSC RA (F8T) 06 - 1.5 Loss of Containment FP PMSC RA (F) 01 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.5 Fire / Explosion FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (F) 07 - 1.5 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 06 - 1.4 Sinking / Capsize FP PMSC RA (F) 06 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.1 - 2 Contact FP PMSC RA (F) 07 - 1.2 - Collision / contact FP PMSC RA (F8T) 07 - 1.1 - Swamping / turbulence / interaction FP PMSC RA (F8T) 07 - 1.1 - Swamping / turbulence / interaction FP PMSC RA (F8T) 07 - 1.1 - Swamping / turbulence / interaction FP PMSC RA (F8T) 07 - 1.1 - Swamping / turbulence / interaction FP PMSC RA (F8T) 07 - 1.1 - Swamping / turbulence / interaction	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Collision Grounding Collision Collision Grounding Gollision Collision Grounding Containment (Oil Product) Fire / Explosion Grounding Contact Grounding Contact Grounding Collision / Contact Swamping / interaction / turbulence Man Overboard / Personal Injury	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.75 3.625 3.625 3.625 3.53 3.53 3.53 3.53 3.51 3.52 3.125 3.125 3.125 3.125 3.125 3.125 3.125 3.125
154 FP PMSC RA (T) 05 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 3.12 141 FP PMSC RA (T) 06 - 1.6 Loss of Containment (oil product) Loss of Containment (Oil Product) 3.62 125 FP PMSC RA (F8 T) 08 - 1.1 - Collision / contact Collision / Contact 3.83 163 FP PMSC RA (T) 06 - 1.3 Grounding Grounding	1255 1251 1251 1252 1252 1252 1252 1252	FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.6 Loss of Containment (oil Products) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.3 Grounding FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Collision Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Collision Collision Collision Grounding Collision Collision Collision Collision Collision Collision Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize Sinking / Capsize Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion Grounding Contact Grounding Collision / Contact Swamping / Interaction / turbulence Man Overboard / Personal Injury Loss of Containment (Oil Product)	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.75 3.625 3.625 3.625 3.53 3.53 3.53 3.53 3.51 3.52 3.125 3.125 3.125 3.125 3.125 3.125 3.125 3.125
125 FP PMSC RA (F&T) 08 - 1.1 - Collision / contact Collision / Contact 3.87 163 FP PMSC RA (T) 06 - 1.3 Grounding Grounding	1255 1255 1255 1255 1255 1255 1366 1367 1367 1367 1367 1367 1367 1367	FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.8 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.8 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.8 Inking / Capsize FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.1 - 3 Grounding FP PMSC RA (F) 07 - 1.1 - 3 Grounding FP PMSC RA (F) 07 - 1.1 - 5 Wamping / turbulence / interaction FP PMSC RA (F) 07 - 1.1 - 5 Wamping / turbulence / interaction FP PMSC RA (F) 07 - 1.1 - 5 Wamping / turbulence / interaction FP PMSC RA (F) 07 - 1.1 - 5 Wamping / turbulence / interaction FP PMSC RA (F) 08 - 1.6 Loss of Containment (oil product)	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Collision Collision Grounding Collision Collision Collision Collision Collision Collision Collision Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize Sinking / Capsize Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion Fire / Explosion Loss of Containment (Oil Product) Fire / Explosion Fire / Explosion Containment (Oil Product) Fire / Explosion Grounding Contact Grounding Contact Grounding Contact Man Overboard / Personal Injury Loss of Containment (Oil Product)	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.75 3.625 3.625 3.625 3.53 3.53 3.53 3.53 3.51 3.52 3.125 3.125 3.125 3.125 3.125 3.125 3.125 3.125
125 FP PMSC RA (F&T) 08 - 1.1 - Collision / contact Collision / Contact 3.87 163 FP PMSC RA (T) 06 - 1.3 Grounding Grounding	1255 1255 1255 1255 1255 1255 1366 1367 1367 1367 1367 1367 1367 1367	FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.1 Collision FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.4 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 06 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.1 - Swamping / turbulence / interaction FP PMSC RA (F) 07 - 1.1 - Swamping / turbulence / interaction FP PMSC RA (F) 07 - 1.1 - Swamping / turbulence / interaction FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product)	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Collision Collision Collision Collision Collision Sinking / Capsize Grounding Sinking / Capsize Sinking / Capsize Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion Contact Grounding Contact Grounding Contact Swamping / interaction / turbulence Man Overboard / Personal Injury Loss of Containment (Oil Product)	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.75 3.625 3.625 3.625 3.53 3.53 3.53 3.53 3.51 3.52 3.125 3.125 3.125 3.125 3.125 3.125 3.125 3.125
163 FP PMSC RA (T) 06 - 1.3 Grounding Grounding	1255 1251 1251 1252 1252 1252 1252 1252	FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Collision Loss of Containment (Oil Product) Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.75 3.625 3.625 3.625 3.625 3.625 3.53 3.53 3.51 3.51 3.52 3.125
	1255 1251 1251 1252 1252 1252 1252 1252	FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Collision Loss of Containment (Oil Product) Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Loss of Containment (Oil Product) Fire / Explosion Grounding Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.75 3.75 3.75 3.75 3.
oramping i moracion i variation o variation i variatio	1255 1255 1255 1255 1255 1255 1265 1366 1366 1366 1366 1366 1366 1366 13	FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 10 - 1.6 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.6 Loss of Containment (oil Products) FP PMSC RA (T) 04 - 1.6 Loss of Containment (Oil Products) FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 05 - 1.1 Collision FP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.8 Grounding FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.8 Sinking / Capsize FP PMSC RA (F) 04 - 1.4 Sinking / Capsize FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.4 Sinking / Capsize FP PMSC RA (F) 08 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.1 - Swamping / turbulence / interaction FP PMSC RA (F) 07 - 1.1 - Swamping / turbulence / interaction FP PMSC RA (F) 07 - 1.1 - Swamping / turbulence / interaction FP PMSC RA (F) 07 - 1.1 - Swamping / turbulence / interaction FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 06 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 08 - 1.1 - Collision / contact	Contact Fire / Explosion Loss of Containment (Oil Product) Grounding Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Collision Grounding Collision Collision Collision Collision Collision Grounding Gollision Collision Loss of Containment (Oil Product) Grounding Sinking / Capsize Sinking / Capsize Sinking / Capsize Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion Fire / Explosion Fire / Explosion Fire / Explosion Containment (Oil Product) Fire / Explosion Fire / Explosion Grounding Contact Grounding Contact Grounding Contact Grounding Contact Man Overboard / Personal Injury Loss of Containment (Oil Product)	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.55 3.55 3.55 3.55 3.55 3.55 3.55 3.
	1255 1251 1252 1252 1252 1252 1252 1252	FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.5 Fire / Explosion FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 09 - 1.3 Grounding FP PMSC RA (F) 00 - 1.5 Loss of Containment FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product) FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 04 - 1.1 Collision FP PMSC RA (T) 02 - 1.5 Fire / Explosion FP PMSC RA (T) 04 - 1.3 Grounding FP PMSC RA (F) 07 - 1.5 Fire / Explosion FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.1 Collision FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 01 - 1.3 Grounding FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 05 - 1.5 Fire / Explosion FP PMSC RA (F) 07 - 1.1 - Swamping / turbulence / interaction FP PMSC RA (F) 07 - 1.2 - Collision / contact FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product) F	Contact Fire / Explosion Loss of Containment (Oil Product) Loss of Containment (Oil Product) Grounding Loss of Containment Loss of Containment Loss of Containment Loss of Containment (Oil Product) Collision Loss of Containment (Oil Products) Collision Collision Collision Grounding Grounding Collision Conunding Sinking / Capsize Sinking / Capsize Grounding Loss of Containment (Oil Product) Fire / Explosion Grounding Contact Grounding Contact Grounding Collision / Contact Swamping / interaction / turbulence Man Overboard / Personal Injury Loss of Containment (Oil Product) Collision / Contact Grounding	3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.875 3.75 3.75 3.75 3.625 3.75 3.75 3.75 3.75 3.75 3.75 3.75 3.7

FORTH PORTS LIMITED	Document ID	Original Date
	FP PMSC (R) 1/03	Jul-13
Risk Ranking	Review Due	Revised By / Date
_	Ongoing	MM / August 2015

PMSC RISK ASSESSMENT - RISK RANKING

			Most Likely Risk scored at Residual leve			ıal level	Risk	scored	d at Res	idual	
Rank		ard at can go wrong ent leading to a consequence)	People	Property	Environment	Business	People	Property	Environment	- 155	Hazard Scoring
			ď		Envir		P.	Pro	Envir	Bi	
3		ntact	5	10 10	5	10	6	10	8	10 10	7.75 7.375
6		ntact	4	8	4	8	6	10	8	10	7.25
1		agging Anchor	5	10	5	5	8	10	10	10	7.875
9		II Damage	3	9	6	9	4	8	8	8	6.875
6		ntact ounding	2	8	4	8	10	10	10	8 10	7.25
9		nking / Capsize	4	5	4	4	10	10	10	8	6.875
9		llision	4	9	6	6	8	8	6	8	6.875
12		e / Explosion ntact	4	4	4	4	10	10	8	10	6.75
14		e / Explosion	3	б	6	6	5	10	10	10	6.75 6.625
15		e / Explosion	10	10	5	10	5	5	3	4	6.5
16		psizing / Flooding	8	8	8	8	5	5	4	5	6.375
16	TT T MOOTH (T) OT THE COMMON	ntact	5	10	5	5	6	8	6	6	6.375
16 19		llision ounding	6	9	6	6	6	6	6	6	6.375
19		ounding	3	6	6	3	6	8	8	10	6.25
19	FP PMSC RA (F&T) 06 - 1.3 Fire Fire	e	4	4	2	4	10	10	6	10	6.25
23		ntact	5	10	5	5	4	8	6	6	6.125
23 25		Illision with bunker vessel and receiving vessel	9	9	6	6	4	5	5	5	6.125
25		e / Explosion ntact	8	8	6	6	5	5	5	5	6
1		ntact	5	10	10	10	6	8	6	8	7.875
25	FP PMSC RA (F) 05 - 1.2 Contact Cont	ntact	8	8	4	4	6	6	6	6	6
29		ounding	3	6	6	6	6	6	6	8	5.875
29 29	FP PMSC RA (F&T) 02 - 1.2 Fire Fire	e / Explosion	3	3	3	6	8	8	8	8	5.875
32		e / Explosion ounding	6	9	3	9	5	10	5	5 10	5.875 5.75
32		ntact	5	5	5	5	8	8	4	6	5.75
32		ntact	5	5	5	5	8	8	4	6	5.75
32	FP PMSC RA (F) 15 - 1.4 Sinking / Capsize Sinki	nking / Capsize	8	8	4	8	5	5	3	5	5.75
32 25		ss of Containment (Oil Product)	4	4	8	8	4	6	6	6	5.75
37		ss of Containment (Oil Product)	6	6	9	9	3	5	5	5	5.625
39	TT TWO TO TO GO GO GO GO	ntact	5	5	5	5	6	6	6	6	5.625
39		ounding	5	10	5	10	3	4	3	4	5.5
19		ounding	6	9	6	9	5	5	5	5	6.25
39 39		e / Explosion	6	6	6	6	5	5	5	5	5.5
39		Ilision ss of Containment (Oil Product)	3	6	6	3	8	6	4	8	5.5 5.5
45		e / Explosion	3	3	3	6	8	8	4	8	5.375
45		Illision	6	3	3	3	8	8	4	8	5.375
45		llision	6	3	3	3	8	8	4	8	5.38
45 45		e / Explosion ss of Containment (Oil Product)	3	3	10	6	8	8	4	8	5.38
50		Ilision (Fishing/Leisure Vessel)	5 4	5	10	5	10	6	6	6	5.375
50		Ilision (Fishing/Leisure Vessel)	4	2	4	2	6	6	6	5.25	5.25
50		ntact	6	6	4	6	5	5	5	5	5.25
50		e / Explosion	6	6	6	4	5	5	5	5	5.25
50 50		ntact Ilision	5	5	5	5	6	6	4	6	5.25
50		ounding	4	4	2	2	8	8	8	5.25	5.25 5.25
39		Ilision	6	6	6	6	5	5	5	5	5.5
59		nking / Capsize	5	5	5	5	5	5	5	5	5
59 59	TT TWO TO	Ilision	4	4	4	4	6	6	6	6	5
		e / Explosion	4	4	- 4	6	6	6	6	5	5
59		e / Explosion	6	6	3	6	5	5	4	5	5
59	FP PMSC RA (F) 13 - 1.4 Sinking / Capsize Sinki	nking / Capsize	5	5	5	5	5	5	5	5	5
59 59	TT TWO TO	Ilsion	4	6	6	6	5	5	4	4	5
59		ntact e / Explosion	4	6	4	6	5	5	5	5	5
69		·	4	5	5	5	5	5	5	5	4.875
	FP PMSC RA (F&T) 01 - 1.4 Sinking / Capsize Sinki	nking / Capsize				-	4	4	3	3	4.875
69	FP PMSC RA (F) 15 - 1.2 Contact Cont	ntact	5	10	5	- 5					
4	FP PMSC RA (F) 15 - 1.2 Contact Cont FP PMSC RA (F) 08 - 1.2 Contact Cont	ntact	5	10 9	5 9	9	6	8	6	6	7.375
4 58	FP PMSC RA (F) 15 - 1.2 Contact Cont FP PMSC RA (F) 08 - 1.2 Contact Cont FP PMSC RA (T) 01 - 1.5 Fire / Explosion Fire.	ntact ntact e / Explosion	5 6 6	10 9 6	5 9 6	9	6 5	5	6 5	6 5	5.125
4	FP PMSC RA (F) 15 - 1.2 Contact Cont FP PMSC RA (F) 08 - 1.2 Contact Cont FP PMSC RA (T) 01 - 1.5 Fire / Explosion Fire FP PMSC RA (F) 09 - 1.1 Collision Collis	ntact	5 6 6	10 9 6 6	5 9 6 2	9 3	6 5 5	5 5	5 5	5 5	
4 58 71 114 71	FP PMSC RA (F) 15 - 1.2 Contact Cont FP PMSC RA (F) 08 - 1.2 Contact Cont FP PMSC RA (T) 01 - 1.5 Fire / Explosion Fire. FP PMSC RA (F) 09 - 1.1 Collision Collision FP PMSC RA (F8 T) 04 - 1.3 Loss of Containment (Oil Products) Loss FP PMSC RA (F8 T) 09 - 1.4 Loss of Containment / Power / Communication Loss	ntact ntact e / Explosion Ilision	5 6 6 3	10 9 6 6 3	5 9 6 2 6	9 3 4 6	6 5 5 3	5 5 3	5 5 4 4	5 5 4	5.125
4 58 71 114 71 71	FP PMSC RA (F) 15 - 1.2 Contact Cont FP PMSC RA (F) 08 - 1.2 Contact Cont FP PMSC RA (F) 01 - 1.5 Fire / Explosion Fire FP PMSC RA (F) 09 - 1.1 Collision Colli FP PMSC RA (F&T) 04 - 1.3 Loss of Containment (Oil Products) Loss FP PMSC RA (F&T) 09 - 1.4 Loss of Containment / Power / Communication Loss FP PMSC RA (T) 04 - 1.2 Contact Cont	ntact ntact // Explosion Illision ss of Containment (Oil Product) ss of Containment / Power / Communication ntact	5 6 6 3 4	10 9 6 6 3 6	5 9 6 2 6 4	9 3 4 6 6	6 5 3 4	5 5 3 5	6 5 5 4 4 4	5 5 4 5	5.125 4.75 4 4.75 4.75
4 58 71 114 71 71 75	FP PMSC RA (F) 15 - 1.2 Contact Cont FP PMSC RA (F) 08 - 1.2 Contact Cont FP PMSC RA (F) 01 - 1.5 Fire / Explosion Fire FP PMSC RA (F) 09 - 1.1 Collision Colli FP PMSC RA (F&T) 04 - 1.3 Loss of Containment (Oil Products) Loss FP PMSC RA (F&T) 09 - 1.4 Loss of Containment / Power / Communication Loss FP PMSC RA (F) 04 - 1.2 Contact Cont FP PMSC RA (F) 02 - 1.7 Loss of Dock Level (Lock Gate Operations) Loss	ntact ntact ritact ritact ritact // Product // Product // Product // Power / Communication // Po	5 6 6 3 4 3	10 9 6 6 3 6 9	5 9 6 2 6 4 3	9 3 4 6 6 6 9	6 5 5 3 4 4	8 5 5 3 5 5 5	6 5 5 4 4 4 4	5 5 4 5 5	5.125 4.75 4 4.75 4.75 4.625
4 58 71 114 71 71	FP PMSC RA (F) 15 - 1.2 Contact	ntact ntact // Explosion Illision ss of Containment (Oil Product) ss of Containment / Power / Communication ntact	5 6 6 3 4 3 3	10 9 6 6 3 6 9 3	5 9 6 2 6 4 3 3 4	9 3 4 6 6 6 9	5 5 3 4 3 5	8 5 3 5 5 5	6 5 5 4 4 4 4 4	5 5 4 5 5 5	5.125 4.75 4 4.75 4.75 4.625 4.625
4 58 71 114 71 71 75 77	FP PMSC RA (F) 15 - 1.2 Contact Cont FP PMSC RA (F) 08 - 1.2 Contact Cont FP PMSC RA (F) 01 - 1.5 Fire / Explosion Fire FP PMSC RA (F) 09 - 1.1 Collision Colli FP PMSC RA (F8T) 04 - 1.3 Loss of Containment (Oil Products) Loss FP PMSC RA (F8T) 09 - 1.4 Loss of Containment / Power / Communication Loss FP PMSC RA (T) 04 - 1.2 Contact Cont FP PMSC RA (F) 02 - 1.7 Loss of Dock Level (Lock Gate Operations) Loss FP PMSC RA (F) 08 - 1.1 Collision (Fishing/Leisure Vessel) Collif FP PMSC RA (F) 08 - 1.3 Grounding Refer Also to: FP PMSC RA (F8T)7 Grounding Refer Also to: FP PMSC RA (F8T)7	ntact ntact ntact e / Explosion Illision ss of Containment (Oil Product) ss of Containment / Power / Communication ntact ss of Dock Level (Lock Gate Operations) Illision (Fishing/Leisure Vessel)	5 6 6 3 4 3 3 4	10 9 6 6 3 6 9 3 6	5 9 6 2 6 4 3 3 4 4	9 3 4 6 6 6 9 4 2	5 5 3 4 3 5 5	8 5 5 3 5 5 5 5 6	6 5 5 4 4 4 4 4 6	5 5 4 5 5 5 4 8	5.125 4.75 4 4.75 4.75 4.625
4 58 71 114 71 75 77 77 77	FP PMSC RA (F) 15 - 1.2 Contact	ntact ntact ntact e / Explosion Ilision ss of Containment (Oil Product) ss of Containment / Power / Communication ntact ss of Dock Level (Lock Gate Operations) Illsion (Fishing/Leisure Vessel) bunding king / Capsize king / Capsize	5 6 6 3 4 3 3 4 2 6	10 9 6 6 3 6 9 3 6 4 8	5 9 6 2 6 4 3 3 4 4 4	9 3 4 6 6 6 9 4 2 6	6 5 3 4 3 5 4 3 5	8 5 5 3 5 5 5 5 6 4	6 5 5 4 4 4 4 4 6 3 5	5 5 4 5 5 5 5 4 8	5.125 4.75 4 4.75 4.75 4.625 4.5 4.5 4.5
4 58 71 114 71 75 77 77 71 77	FP PMSC RA (F) 15 - 1.2 Contact	ntact ritact ritact / Explosion Illision ss of Containment (Oil Product) ss of Containment / Power / Communication ntact ss of Dock Level (Lock Gate Operations) Illision (Fishing/Leisure Vessel) bunding uking / Capsize ss of Containment (Oil Product)	5 6 6 3 4 3 3 4 4 2 6	10 9 6 6 3 6 9 3 6 4 8 5	5 9 6 2 6 4 3 3 4 4 4 4	9 3 4 6 6 6 9 4 2 6	6 5 5 3 4 3 5 4 3 5	8 5 5 5 5 5 5 6 4 5	6 5 5 4 4 4 4 4 6 3 5	5 5 4 5 5 5 4 8 4 4	5.125 4.75 4 4.75 4.75 4.625 4.5 4.5
4 58 71 114 71 75 77 77 71 77	FP PMSC RA (F) 15 - 1.2 Contact	ntact ntact ntact rtact / Explosion // Explo	5 6 6 6 3 3 4 3 3 4 2 6 4 4 4 4 4	10 9 6 6 3 6 9 3 6 4 8 5	5 9 6 2 6 4 3 3 4 4 4 4 4	9 3 4 6 6 9 4 2 6 4 5	5 5 3 4 3 5 5 4 3 5	8 5 5 3 5 5 5 5 6 4 4 5	6 5 5 4 4 4 4 4 6 3 5 5	5 5 4 5 5 4 8 4 4 4	5.125 4.75 4 4.75 4.75 4.625 4.5 4.5 4.75 4.75 4.75
4 58 71 114 71 75 77 77 71 77	FP PMSC RA (F) 15 - 1.2 Contact	ntact ritact ritact / Explosion Illision ss of Containment (Oil Product) ss of Containment / Power / Communication ntact ss of Dock Level (Lock Gate Operations) Illision (Fishing/Leisure Vessel) bunding uking / Capsize ss of Containment (Oil Product)	5 6 6 6 3 3 4 3 3 4 2 6 6 4 4 4 4 4 4 4 4 4 4 4 6 6 6 6 6	10 9 6 6 3 6 9 3 6 6 4 4 8 8 5 4 4 3 4 6	5 9 6 2 6 4 3 3 4 4 4 4 6 6	9 3 4 6 6 6 9 4 2 6 4 4 6	5 5 3 4 3 5 4 3 5 3 5	8 5 5 5 5 5 6 4 4 5 3	6 5 5 4 4 4 4 4 6 3 5 5 5	5 5 4 5 5 5 4 8 4 4 5 5	5.125 4.75 4 4.75 4.75 4.625 4.5 4.5 4.5
4 58 71 114 71 75 77 77 71 77 77 77 77 77	FP PMSC RA (F) 15 - 1.2 Contact	Intact Intact Intact Intact Intact Intact Intact Illision Illision Illision Illision Illision Intact Illision Intact Illision (Fishing/Leisure Vessel) Illision (Fishing/Leisure Vessel) Illision (Fishing/Leisure Vessel) Illision (Fapsize Iking / Capsize	5 6 6 6 3 4 3 3 4 2 6 4 4 4 4 4 4 4 6 3	10 9 6 6 3 6 9 3 6 4 8 5 4 4 6	5 9 6 2 6 4 3 3 3 4 4 4 4 6 6 6 6 6 5	9 3 4 6 6 6 9 4 2 6 4 6 6 9	6 5 5 3 4 3 5 5 4 3 5 3 5 3 4 3 3 5	8 8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	6 5 5 4 4 4 4 6 3 5 5 5 5	5 5 4 5 5 5 4 8 4 4 5 5 5	5.125 4.75 4 4.75 4.625 4.5 4.5 4.75 4.5 4.5 4.5 4.5 4.5
4 58 71 114 71 75 77 77 71 77 77 77 77 77	FP PMSC RA (F) 15 - 1.2 Contact	ntact ntact ntact reference of Explosion Illision ss of Containment (Oil Product) ss of Containment / Power / Communication ntact ss of Dock Level (Lock Gate Operations) Illision (Fishing/Leisure Vessel) ounding nking / Capsize ss of Containment (Oil Product) Iking / Capsize ss of Containment (Oil Product) ounding sking / Capsize ss of Containment (Oil Product) ounding liking / Capsize	5 6 6 6 3 4 3 3 3 4 2 6 4 4 4 4 4 4 4 4 6 6 3 3 3 3 3 3 3 3 3	10 9 6 6 3 3 6 9 3 6 4 8 8 5 5 4 3 4 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	5 99 6 2 6 4 3 3 4 4 4 4 6 6 6 6 5 5	9 9 3 4 6 6 6 6 9 9 4 4 6 6 5 5 6 6 9 9 5 5 5	6 5 5 3 4 3 5 5 4 3 3 5 5 3 4 3 3 4 3 3 3 3	8 8 5 5 5 5 5 5 6 6 4 4 5 5 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5	6 5 5 5 4 4 4 4 4 4 4 6 6 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	5 5 4 5 5 5 4 8 4 4 4 5 5 5 5 5	5.125 4,75 4,75 4,75 4,625 4,52 4,53 4,53 4,53 4,53 4,53 4,53 4,53 4,53
4 58 71 114 71 75 77 77 71 77 77 77 77 77 77 77 77	FP PMSC RA (F) 15 - 1.2 Contact	ntact ritact // Explosion // Explosion // Illision ss of Containment (Oil Product) ss of Containment / Power / Communication ntact ss of Dook Level (Lock Gate Operations) // Illision (Fishing/Leisure Vessel) ounding // Capsize ss of Containment (Oil Product) // Capsize	5 6 6 6 3 4 3 3 4 2 6 6 4 4 4 4 4 4 6 6 3 3 3 3 3 3 3 3 3 3	10 9 6 6 3 3 6 9 3 6 4 8 5 4 4 3 4 6 5 5 3 3 6 4 8 5 5 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	5 9 6 2 6 4 3 3 3 4 4 4 4 6 6 5 5 5	9 3 4 6 6 6 9 4 2 2 6 6 4 4 6 5 6 9 9 5 5 6 9 9 5 5 6 6 9 5 5 5 5 5	6 5 5 3 4 3 5 5 4 3 3 5 5 3 4 4 3 3 5 5 4 4 3 3 4 4 4 3 3 4 4 4 4	8 5 5 3 5 5 5 6 4 5 3 3 5 5 5 5 6 4 5 5 5 5 6 6 4 7 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	6 5 5 4 4 4 4 4 6 3 3 5 5 5 5 5 5 5 5 4 4 4 4 4 4 5 5 5 5	6 5 5 4 5 5 5 5 4 4 4 4 5 5 5 5 5 5 5 5	5.125 4.75 4.75 4.75 4.6225 4.55 4.55 4.55 4.55 4.55 4.55 4.55 4
4 58 71 114 71 71 75 77 77 77 77 77 77 77 77 77 77	FP PMSC RA (F) 15 - 1.2 Contact	ntact ntact ntact ritact ritact / Explosion // Explosion	5 6 6 6 3 4 3 3 4 2 6 4 4 4 4 4 4 6 3 3 3 3 3 3 3 3 3 3 3 3	10 9 6 6 3 3 6 9 3 3 6 4 8 5 4 3 4 6 5 5 5 5 5 5 5 5 6 6 7 8 8 8 8 8 8 8 8 8 8 8 8 8	5 9 6 2 6 4 3 3 4 4 4 4 6 6 5 5 5 3 3	5 9 3 4 6 6 6 6 9 4 4 2 6 6 5 6 6 9 9 9 9 5 5 6 6 6 6 5 5 6 6 6 5 5 5 5	6 5 5 5 3 4 3 5 5 4 3 3 5 5 3 3 4 4 3 3 5 5 4 4 3 3 4 4 4 4	8 8 5 5 5 5 5 5 5 5 5 6 6 4 4 5 5 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5	6 5 5 5 4 4 4 4 4 4 4 6 6 6 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	6 5 5 4 5 5 5 5 4 4 4 4 5 5 5 5 5 5 5 5	5.125 4.75 4.75 4.75 4.75 4.75 4.625 4.5 4.5 4.5 4.5 5.625 4.5 5.625 4.5 3.125 4.5
4 58 71 114 71 75 77 77 71 77 77 77 77 77 77 77 77	FP PMSC RA (F) 15 - 1.2 Contact	ntact ritact // Explosion // Explosion // Illision ss of Containment (Oil Product) ss of Containment / Power / Communication ntact ss of Dook Level (Lock Gate Operations) // Illision (Fishing/Leisure Vessel) ounding // Capsize ss of Containment (Oil Product) // Capsize	5 6 6 6 6 3 3 4 4 2 2 6 6 4 4 4 4 4 6 6 3 3 3 3 3 3 3 3 3 3 3	10 9 6 6 3 3 6 9 3 3 6 4 8 5 5 4 4 6 5 5 5 5 5 5 5 5 6 6 6 7 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8	5 9 9 6 4 4 3 3 3 4 4 4 4 6 6 6 6 5 5 5 3 3 3 6 6 4 4	5 9 3 4 6 6 6 9 4 2 6 4 6 6 6 9 9 5 5 5 5 6 6 9 9 5 5 6 6 6 6 6 6 6 6 6 6 6 6 6	6 5 5 3 4 3 5 5 4 3 3 5 5 3 3 4 4 3 3 3 5 5 3 3 4 4 4 3 3 3 4 4 4 3 5 5 3 3 4 4 4 4	8 8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	66 55 44 44 44 66 33 55 55 55 55 55 55 55 55 55 55 55 55	6 5 5 4 5 5 5 5 4 4 4 4 5 5 5 5 5 5 5 5	5.125 4,75 4,75 4,75 4,625 4,52 4,53 4,53 4,53 4,53 4,53 4,53 4,53 4,53
4 58 71 114 71 75 77 77 77 77 77 77 77 77 77 77 77 77	FP PMSC RA (F) 15 - 1.2 Contact	ntact ntact ntact rhact / Explosion Illision ss of Containment (Oil Product) ss of Containment / Power / Communication ntact ss of Dock Level (Lock Gate Operations) Illision (Fishing/Leisure Vessel) ounding biking / Capsize king / Capsize ss of Containment (Oil Product) biking / Capsize ss of Containment (Oil Product) ounding ounding piking / Capsize ss of Containment (Oil Product) ounding pounding poun	5 6 6 6 3 3 4 4 2 6 4 4 4 4 4 4 6 6 3 3 3 3 3 3 3 3 3 3 3	10 9 6 6 3 3 6 9 3 6 4 8 8 5 5 5 5 5 5 5 5 5 6 6 6 7 8 8 8 8 8 8 8 8 8 8 8 8 8	55 99 66 22 66 44 44 46 66 55 55 33 36 64 44	5 9 3 3 4 6 6 6 6 9 4 4 6 5 6 6 9 9 5 5 6 6 6 6 6 6 6 6 6 6 6 5 5 5 6	6 5 5 3 4 3 5 5 4 3 3 5 5 3 4 4 3 3 4 4 5 5 3 3 4 4 4 3 3 4 4 5 5 5 5	88 55 33 55 55 66 44 55 33 55 55 55 55 55 55 55 55 55 55 55	6 5 5 4 4 4 4 4 6 6 3 3 5 5 5 5 5 5 5 5 5 6 6 6 7 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8	6 5 5 4 5 5 5 5 4 4 4 4 5 5 5 5 5 5 5 5	5.125 4.75 4.75 4.625 4.625 4.53 4.53 4.53 4.53 4.53 4.53 4.53 4.5
4 4 588 588 588 588 588 588 588 588 588	FP PMSC RA (F) 15 - 1.2 Contact	Intact Intact Intact Intact Intact Intact Intact Illision Illision Illision Illision Illision Intact Illision Intact Inta	5 6 6 6 6 3 3 4 4 2 6 6 4 4 4 4 4 4 6 6 3 3 3 3 3 3 3 3 3 3	10 9 6 6 3 3 6 9 3 6 4 8 8 5 4 4 3 4 5 5 5 5 5 5 5 6 6 9 9 9 9 9 9 9 9 9 9 9 9 9	5 9 6 2 6 4 3 3 4 4 4 4 6 6 6 5 5 5 3 3 3 6 6 4 4 4 4 4 4 4 4 4 4 4 6 6 6 6 6 6 6 6 6 6 6 6 6	5 9 3 3 4 6 6 6 9 4 4 2 6 4 6 5 5 6 9 5 5 5 6 6 6 6 6 6 6 6 6 5 5 5 5	6 5 5 3 4 3 5 5 4 3 5 3 3 4 4 5 3 3 4 4 5 3 3 3 4 3 3 3 3	8 5 5 5 5 5 5 6 4 4 5 3 3 5 5 5 5 5 5 5 6 4 4 5 5 5 5 5 5 5 5 5 5	6 5 5 4 4 4 4 4 6 3 3 5 5 5 5 5 5 5 5 5 5 7 7 7 7 7 7 7 7	6 5 5 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	5.125 4.75 4.75 4.75 4.75 4.75 4.75 4.75 4.7
4 4 5888 4 711 711 711 711 711 711 711 711 711 7	FP PMSC RA (F) 15 - 1.2 Contact	ntact ritact / Explosion //	6 6 6 6 3 3 4 2 6 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	10 9 6 6 3 3 6 9 3 3 4 4 6 5 5 5 5 6 9 9 9 9 9 9 9 9 9 9 9 9 9	5 9 6 2 6 4 3 3 4 4 4 4 6 6 5 5 5 3 3 6 6 4 4 4 4 4 4 4 4 6 6 6 6 6 6 6 6 6 6 6 6 6	5 3 4 6 6 6 9 4 2 6 4 6 5 5 6 9 9 5 5 6 6 9 9 5 6 6 6 6 6 6 6	6 5 5 3 3 4 3 5 5 4 3 3 3 4 4 5 5 3 3 4 4 5 5 3 3 4 4 5 5 3 3 4 4 5 5 3 3 4 4 5 5 3 3 4 4 5 5 3 3 4 5 5 5 3 3 4 5 5 5 5	8 8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	6 5 5 4 4 4 4 4 6 3 3 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	6 5 5 4 5 5 5 4 4 4 4 5 5 5 5 5 5 5 5 5	5.125 4.75 4.75 4.75 4.625 4.55 4.55 4.55 5.625 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.5 4.
4 4 588 588 588 588 588 588 588 588 588	FP PMSC RA (F) 15 - 1.2 Contact	Intact Intact Intact Intact Intact Intact Intact Illision Illision Illision Illision Illision Intact Illision Intact Inta	6 6 6 6 3 3 4 4 2 6 4 4 4 4 4 6 3 3 3 3 3 3 4 4 4 4 4 4 4	10 9 6 6 3 3 6 9 3 3 4 4 6 5 5 5 4 5 6 6 9 9 9 9 9 9 9 9 9 9 9 9 9	5 9 6 2 6 4 4 4 4 6 6 5 5 3 3 6 4 4 4 4 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5	5 5 6 6 6 4 4 5 5	6 5 5 3 4 3 5 5 4 3 3 5 5 3 4 4 3 3 4 5 5 3 4 4 3 5 5 5 3 3 4 4 5 5 5 5	8 8 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	6 5 5 5 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	6 5 5 4 5 5 5 5 4 4 4 5 5 5 5 5 5 5 5 5	5.125 4.75 4.75 4.75 4.75 4.75 4.75 4.75 4.7

		lo: 1: 10 ·									
89	FP PMSC RA (F) 02 - 1.4 Sinking / Capsize	Sinking / Capsize	4	4	5	4	4	4	5	5	4.375
89	FP PMSC RA (F) 03 - 1.4 Sinking / Capsize	Sinking / Capsize	4	4	5	4	4	4	5	5	4.375
89	FP PMSC RA (F) 05 - 1.4 Sinking / Capsize	Sinking / Capsize	4	4	5	4	4	4	5	5	4.375
89	FP PMSC RA (F&T) 05 - 1.4 Fire/Explosion	Fire / Explosion	4	4	3	4	5	5	5	5	4.375
110	FP PMSC RA (T) 05 - 1.4 Sinking / Capsize	Sinking / Capsize	4	4	3	4	4	4	5	5	4.125
89	FP PMSC RA (F&T) 09 - 1.1 Contact	Contact	4	6	2	6	3	5	4	5	4.375
89	FP PMSC RA (F&T) 11 - 1.1 Loss of Containment (Oil Product)	Loss of Containment (Oil Product)	5	5	5	5	3	4	4	4	4.375
89	FP PMSC RA (F) 15 - 1.6 Loss of Containment (Oil Product)	Loss of Containment (Oil Product)	5	5	10	5	2	2	3	3	4.375
89	FP PMSC RA (F) 08 - 1.5 Fire / Explosion	Fire / Explosion	6	6	4	4	4	4	3	4	4.375
150	FP PMSC RA (T) 04 - 1.7 Allision	Allision	1	3	1	2	5	5	5	5	3.375
101	FP PMSC RA (F) 04 - 1.3 Grounding	Grounding	2	4	4	2	4	6	6	6	4.25
101	FP PMSC RA (F&T) 04 - 1.1 Collision with bunker vessel and receiving vessel	Collision with bunker vessel and receiving vessel	6	6	2	2	4	5	4	5	4.25
101	FP PMSC RA (F) 14 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	3	3	3	3	6	6	6	4	4.25
101	FP PMSC RA (F) 16 - 1.6 Loss of Containment (Oil Product)	Loss of Containment (Oil Product)	3	3	3	3	6	6	6	4	4.25
101	FP PMSC RA (F) 11 - 1.4 Sinking / Capsize	Sinking / Capsize	4	5	3	5	4	5	3	5	4.25
101	FP PMSC RA (F&T) 04 - 1.4 Fire/Explosion	Fire / Explosion	4	4	3	4	5	5	4	5	4.25
	FP PMSC RA (F) 12 - 1.1 Collision	Collision	2	6	2	6	3	5	5	5	4.25
59	FP PMSC RA (F&T) 01 - 1.3 Grounding	Grounding	4	6	4	6	5	5	5	5	5
101	FP PMSC RA (F&T) 03 - 1.1 Contact Refer Also to FP PMSC RA (F&T) 1	Contact	2	6	6	4	3	5	4	4	4.25
101	FP PMSC RA (F&T) 02 - 1.4 Collision	Collision	3	6	6	3	4	4	4	4	4.25
110 110	FP PMSC RA (F&T) 03 - 1.2 Grounding Refer Also to FP PMSC RA (F&T) 1	Grounding	4	6	4	4	3	4	4	4	4.125
	FP PMSC RA (F) 15 - 1.1 Collision FD PMSC RA (F) 17 - 1.1 Collision	Collision	4	6	4	4	4	4	3	4	4.125
136	FP PMSC RA (F&T) 07 - 1.1 - Swamping / turbulence / interaction	Swamping / interaction / turbulence	6	3	3	3	5	4	2	4	3.75
114	FP PMSC RA (F) 07 - 1.7 Loss of Dock Level (Lock Gate Operations)	Loss of Dock Level (Lock Gate Operations)	3	3	3	3	2	6	6	6	4
	FP PMSC RA (F) 04 - 1.7 Loss of Dock Level (Lock Gate Operations)	Loss of Dock Level (Lock Gate Operations)	3	3	3	3	2	6	6	6	4
114	FP PMSC RA (F) 10 - 1.7 Loss of Dock Level	Loss of Dock Level	4	4	4	4	3	5	3	5	4
114	FP PMSC RA (F) 13 - 1.6 Loss of Containment (oil product) Refer also to FP PMSC RA (F&T)5	Loss of Containment (Oil Product)	3	6	6	3	2	4	4	4	4
114	FP PMSC RA (F) 01 - 1.2 Contact	Contact Loss of Containment (Oil Product)	2	6	4	2	5	5	4	4	4
114	FP PMSC RA (F) 11 - 1.6 Loss of Containment (oil product)	` '	2	4	6	6	3	3	4	4	4
114	FP PMSC RA (F) 12 - 1.3 Grounding	Grounding	2	8	2	6	1	5	3	5	4
	FP PMSC RA (F&T) 09 - 1.2 Pipeline / Cable Damage	Pipeline / Cable Damange	2	6	2	6	2	5	4	5	4
114	FP PMSC RA (F) 14 - 1.3 Grounding	Grounding	4	4	4	4	4	4	4	4	4
114	FP PMSC RA (F) 16 - 1.3 Grounding	Grounding	4	4	4	4	4	4	4	4	4.00
50	FP PMSC RA (T) 04 - 1.1 Collision	Collision	4	8	4	6	5	5	5	5	5.25
125	FP PMSC RA (T) 04 - 1.6 Loss of Containment (Oil Products)	Loss of Containment (Oil Products)	2	4	4	4	3	4	5	5	3.875
125	FP PMSC RA (F&T) 04 - 1.2 Contact	Contact	3	6	3	3	3	5	4	4	3.875
125	FP PMSC RA (F&T) 05 - 1.2 Contact	Contact	3	6	3	3	3	5	4	4	3.875
125	FP PMSC RA (F) 01 - 1.5 Fire / Explosion	Fire / Explosion	3	4	3	3	5	5	3	5	3.875
125	FP PMSC RA (F) 02 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	3	3	6	6	2	3	4	4	3.875
125	FP PMSC RA (F) 03 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	3	3	6	6	2	3	4	4	3.875
125	FP PMSC RA (F) 09 - 1.3 Grounding	Grounding	2	6	2	6	1	5	4	5	3.875
125	FP PMSC RA (F&T) 06 - 1.5 Loss of Containment	Loss of Containment	2	4	6	6	2	3	4	4	3.875
125	FP PMSC RA (F) 10 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	3	3	6	3	3	3	5	5	3.875
125	FP PMSC RA (F&T) 08 - 1.1 - Collision / contact	Collision / Contact	6	4	2	6	5	3	1	4	3.875
136	FP PMSC RA (T) 04 - 1.3 Grounding	Grounding	2	4	4	4	2	4	5	5	3.75
136	FP PMSC RA (T) 02 - 1.1 Collision	Collision	4	6	2	4	3	4	3	4	3.75
125	FP PMSC RA (T) 05 - 1.1 Collision	Collision	4	4	4	4	4	5	2	4	3.875
136	FP PMSC RA (T) 02 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	3	3	6	3	2	4	4	5	3.75
136 141	FP PMSC RA (F) 07 - 1.5 Fire / Explosion	Fire / Explosion	4	4	4	4	4	4	3	3	3.75
	FP PMSC RA (F) 01 - 1.1 Collision	Collision	2	4	2	2	5	5	5	4	3.625
141	FP PMSC RA (T) 01 - 1.1 Collision	Collision	2	4	2	2	5	5	5	4	3.625
141	FP PMSC RA (F) 04 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	3	3	6	6	2	3	3	3	3.625
	FP PMSC RA (F) 04 - 1.4 Sinking / Capsize	Sinking / Capsize	4	3	2	3	5	3	4	4	3.5
145 145	FP PMSC RA (F) 06 - 1.4 Sinking / Capsize	Sinking / Capsize	3	2	3	1	3	4	4	3.5	3.5
145	FP PMSC RA (F) 08 - 1.4 Sinking / Capsize	Sinking / Capsize	4	3	2	3	5	3	4	4	3.5
	FP PMSC RA (F) 01 - 1.3 Grounding	Grounding	1	3	2	3	5	5	5	4	3.5
145	FP PMSC RA (T) 02 - 1.3 Grounding	Grounding	3	3	3	6	2	4	3	4	3.5
150 152	FP PMSC RA (T) 01 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product) Fire / Explosion	1	2	3	3	3	5	5	5	3.375
	FP PMSC RA (F) 02 - 1.5 Fire / Explosion	•	3	3	3	2	4	4	3	4	3.25
152	FP PMSC RA (F) 05 - 1.5 Fire / Explosion	Fire / Explosion	4	4	2	2	4	4	3	3	3.25
154 154	FP PMSC RA (F) 05 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	2	4	4	4	2	3	3	3	3.125
	FP PMSC RA (F) 03 - 1.5 Fire / Explosion	Fire / Explosion	3	3	3	2	4	4	3	3	3.125
154	FP PMSC RA (F) 04 - 1.5 Fire / Explosion	Fire / Explosion	3	3	3	2	4	4	3	3	3.125
154	FP PMSC RA (F) 06 - 1.5 Fire / Explosion	Fire / Explosion	3	3	2	1	4	4	3	3	3.125
	FP PMSC RA (F) 11 - 1.3 Grounding	Grounding	2	4	2	2	3	4	4	4	3.125
154 110	FP PMSC RA (T) 05 - 1.3 Grounding	Grounding	2	2	4	6	1	1	4	5	3.125
	FP PMSC RA (T) 01 - 1.2 Contact	Contact	3	6	3	3	5	5	4	4	4.125
154	FP PMSC RA (F&T) 07 - 1.2 - Collision / contact	Collision / Contact	3	2	1	1	5	5	3	5	3.125
163	FP PMSC RA (F&T) 02 - 1.6 Man Overboard / Personal Injury	Man Overboard / Personal Injury	4	2	2	4	5	1	1	5	3
163	FP PMSC RA (F) 06 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	2	2	4	1	3	3	4	3	3
163	FP PMSC RA (F) 08 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	2	2	4	4	2	3	3	4	3
141	FP PMSC RA (T) 06 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	4	4	8	4	1	2	3	3	3.625
154	FP PMSC RA (T) 05 - 1.6 Loss of Containment (oil product)	Loss of Containment (Oil Product)	2	2	6	4	1	1	4	5	3.125
163	FP PMSC RA (T) 06 - 1.3 Grounding	Grounding	3	3	3	3	3	4	2	3	3
167	FP PMSC RA (F&T) 08 - 1.2 - Swamping / interaction / turbulence	Swamping / interaction / turbulence	- 4	2	2	2	- 5	1	1	- 4	2.625

FORTH PORTS LIMITED	Document ID	Original Date
	FP PMSC (R) 2/03	Jul-13
Risk Ranking - Category	Review Due	Revised By / Date
	Ongoing	MM / August 2015



FORTH PORTS LIMITED Risk Assessment

			INSERT TITLE										
Ref.	Hazard What can go wrong (Event leading to a consequence)	Causes How can it go wrong	Controls Preventative & Reactive (What action & how frequent)	Risl	k scored at Residual level (Most Likely) Overall Risk			idual e)					
				Likelihood	Likelihood People Property		Environment Business		Likelihood	People	Property	Environment	Business
1.1													
1.2													
1.3													
1.4													
1.5													
			Risk Ranking										

Risk Assessment Scoring Matrix

LIKELIHOOD

- 1 = Extremely unlikely (More than 100 years)
- 2 = Remote (10 99 years)
- 3 = Reasonably likely (1 9 years)
- 4 = Likely (Once per Year)
- 5 = Frequent (More than once per year)

CONSEQUENCE

PEOPLE:

- 1 = None
- 2 = Minor, single slight Injury
- 3 = Slight, multiple moderate or single major injury
- 4 = Serious, multiple major injuries or single fatality
- 5 = Major, more than 1 fatality

ENVIRONMENT:

- 1 = localised spill < £2000,
- 2 = Minor spill Tier 1 local response,
- 3 = Moderate spill, Tier 2 some outside assistance
- 4 = Moderate spill, Tier 2 greater outside assistance
- 5 = Major spill, Tier 3 national response

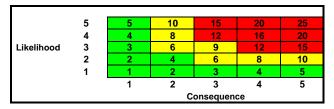
PROPERTY:

- 1 = negligible < £2000
- 2 = Minor > £2000
- 3 = Moderate >£20,000
- 4 = Serious, > £200,000
- 5 = major, > £2,000,000

BUSINESS:

- 1 = Negligible impact < £2000
- 2 = Minor impact > £2000
- 3 = Moderate impact > £20,000, bad local publicity, short term reduction of activity.

OVERALL RISK



Red indicates last Reviewed

AMBER Hazards with risk factors within these bands (6 - 10) are termed "consider". These lower risk factors are considered acceptable, but still need careful monitoring to ensure that everything has been done to reduce the consequences and likelihood.

GREEN The lower numbers(5 and below) in the matrix are considered "low-risk", but should still be monitored to ensure that controls remain effective.



		For	rth River Passage - Standard Vessel											MRFs: 058/18 (collision), 019/18 (contact), 028/17 (grounding), POLREPs: 17.05.17, 20.10.17, 13.01.18, 25.06.18
Ref.	Hazard What can go wrong	Causes How can it go wrong	Controls Preventative & Reactive	Risk	1	ed at I level st Like		ual		le orst	evel Credit		Score	
	(Event leading to a consequence)		(What action & how frequent)	Likelihood			Environment		Likelihood	People People	Environment	Τ	d Risk	
1.1	Collision / Allision	Technical Failure Bridge Team Error Environmental Conditions Transitting FCBC Contruction Zone	Pilotage FTNS Forth Byelaw & General Directions Weather Forecasting / Tidal Predictions Emergency Plans / OPRC	3						10 1			Г	Most likely: Collision between small vessel and larger vessel around the bridges area resulting in minimal
1.2	Contact	Technical Failure Bridge Team Error	Marine Guidelines & Port Information FCBC Exclusion Zones FCBC SMS & Procedures Towage Pilotage FTNS											damage. Worst credible: Collision betweenVLCC and cruise vessel resulting in total loss of vessels and loss of life.
		Environmental Conditions Transitting FCBC Contruction Zone	Forth Byelaw & General Directions (Specifically those relevant to the bridges) Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Marine Guidelines & Port Information FCBC Exclusion Zones FCBC SMS & Procedures Aids to Navigation	3	3	6	3	6	1	5	5 4	5	4.62	Most likely: Vessel has slow speed impact with buoy resulting in minimal damage. Worst credible: High speed impact with bridge resulting in extreme damage to vessel and bridge, and loss of life.
1.3	Grounding	Technical Failure Bridge Team Error Environmental Conditions Surveying Omission Failure of Aids to Navigation Transitting FCBC Contruction Zone	Pilotage FTNS Aids to Navigation Maintenance & Verification Programme Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Notice to Mariners Survey / dredging Programme / Schedule Marine Guidelines & Port Information FCBC Exclusion Zones FCBC SMS & Procedures	3	3	9	9	6	1	5 :	5 5	5	5.87	Most likely: Vessel grounds in soft mud and refloats on following tide with damage. Worst credible: Vessel hard aground, cannot be refloated resulting in major disruption to ports, extreme damage and loss of contaminent.
1.4	Sinking / Capsize	Collision Contact Grounding Technical Failure Failure of Vessel Stability Human Error Environmental Conditions	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule	1	5	5	4	4	1	5 !	5 5	4	4.62	
1.5	Fire / Explosion	Collision Contact Grounding Human Error Technical Failure Loss of Containment	Find Programme / Schedule Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information	3	6	9	6	9	2 1	10 1	10 10	10	8.75	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel and cargo, and loss of life.
1.6	Loss of Containment (oil products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions Damage to Pipeline	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule Vetting (Tankers) Marine Guidelines & Port Information	4	8	8	8	8	1	3 !	5 5	5	6.25	

Content I	Reviewed	Changes Made						
MRFs and POL Overall vessel numbers calling at Number , nature, and s	Forth, also vessel type and size.	Most likely scoring changed due to number of POLREPS and MRI containment, collision, grounding, contact.	Fs - loss of					
FORTH PORTS LIMITED	Document ID FP PMSC RA (F) 1/06	Risk Assessment Team / Date CHM, MM, HMFO, HMFI, HMDD, Man Tow&PV / Oct 2012						
Risk Assessment - Forth River	Review Due	Revised By / Date						
Passage (Standard Vessel)	Apr-21	MMT / April 2019						



	Port of Leith - Arrival / Sailing Leith Approach Buoy to Berth										MRFs: 058/17, 081/18, 005/19 (Contact), 041/19 (Contact), 081/19 (Contact), 084/19 (Contact)				
Ref.	Hazard What can go wrong (Event leading to a consequence)	Causes How can it go wrong	Controls Preventative & Reactive (What action & how frequent)	Ris	(Mo	ed at level st Lik	ely)			(Wors	Scored at Residual level Worst Credible) Overall Risk			k Score	
	(Event leading to a consequence)		(what action a now neglects)	Likelihood	People	Property	Environment	Business	Likelihood	People		<u> </u>	Business	Hazard Risk	
1.1	Collision / Allision	Technical Failure Bridge Team Error Environmental Conditions	Pilotage Passage plan / berthing plan — master / pilot information exchange FTNS Console Controller Tugs, use of; minimum towage requirements Forth Byelaw & General Directions Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Marine Guidelines & Port Information	3	6	9	6	6	2	6	6	6	6	6.375	Most Likely: Collision with small vessel resulting in no damage. Worst Credible: Collision involving cargo vessel and cruise ship. Resulting in the loss of vessel and loss of life.
1.2	Contact	Technical Failure Bridge Team Error Environmental Conditions Failure of Aids to Navigation Quayside Obstruction	Towane Guitelines Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Console Controller Tugs, use of; minimum towage requirements Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Marine Guidelines & Port Information Fendering Quay edge 'cargo clear' demarkation Restricted Air Draft Procedures Cranes properly stowed on quayside Swing Bridge Procedure Forth Ports H&S Procedures Towage Guidelines Aids to Navigation Maintenance & Verification Programme	5	5	10	10	10	2	6	8	6	8	7.875	Most Likely: Slow speed impact with quay resulting in minimal damage to vessel or jetty. Worst Credible: Large impact resulting in extreme damage to vessel and infrastructure. Quayside no longer able to operate and vessel requiring repair possible death / loss of containment.
1.3	Grounding	Technical Failure Bridge Team Error Environmental Conditions Surveying Omission Failure of Aids to Navigation Loss of containment (Dock Level)	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Console Controller Tidal Monitoring Tugs, use of; minimum towage requirements Aids to Navigation Maintenance & Verification Programme Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Notice to Mariners Survey / dredging Programme / Schedule Marine Guidelines & Port Information Cargo operations procedures (Including MCA Bulk-handling Regulations) PVM Document ammended (Extreme Breadth)	3	3	6	6	3	2	6	8	8	10	6.25	Most Likely: Vessel grounded in soft mud and floats on following tide without damage. Worst Credible: Vessel hard aground, cannot be refloated at the Port enterance. Port is closed indefinality and major damage to vessel.
1.4	Sinking / Capsize	Collision Contact Grounding Technical Failure Failure of Vessel Stability Human Error Environmental Conditions	Tourana Cuidelines Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule Marine Guidelines & Port Information Tourana Guidelines	1	4	4	5	4	1	4	4	5	5	4.375	Most Likely: Vessel sinks in approach to port, total loss of ship, and crew abandon ship. Worst Credible: Vessel sinks in approach to port, total loss of ship and crew.
1.5	Fire / Explosion	Collision Contact Grounding Human Error Technical Failure Loss of Containment	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information	1	3	3	3	2	1	4	4	3	4	3.25	Most Likely: Small fire on-board quickly extinguished. Worst Credible: Uncontrollable fire, total loss of vessel, crew and cargo.
1.6	Loss of Containment (Oil Products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting Aids to Navigation Maintenance & Verification Programme Notice to Nuriners Survey Programme / Schedule Marine Guidelines & Port Information	3	3	3	6	6	1	2	3	4	4	3.875	Most Likely: Small spill of non-persistent product. Worst Credible: Large scale spill which cannot be contained resulting in port closure and extensive environmental impact.
1.7	Loss of Dock Level (Lock Gate Operations)	Technical Failure Human Error Environmental Conditions Structural Failure	Lockgate operational procedures Port Planned Maintenance system Lock Gates - Interlocks to prevent opening all lock gates simultaneously Training / Auditing of Port Staff	3	3	3	3	9	1	5	5	4	5	4.625	Most Likely: Loss of containment but does not result in significant loss of dock level. Possible impact to large draft movements. Worst Credible: Large loss of dock level. Deep drafted vessel take the bottom of dock. Possible large scale damage to vessels and infrastructure.

Content Reviewed	Changes Made
MRFs reviewed - all contact. Vessel traffic and type inclduing size.	Most likely likelihood scoring updated due to MRFs- contact

		Risk Assessment Team / Date MM, HMFO / 3rd Dec2012
Risk Assessment - Port of Leith	Review Due	Revised By / Date
	Apr-21	MMT, April 2019



		Port of Rosyth - Arrival / Sailing No1 Rosyth Channel Buoy to Berth									MRFs: 066/18 (contact), 024/19 (technical failure), 077/19 (Contact)			
Ref.	Hazard What can go wrong (Event leading to a consequence)	Causes How can it go wrong	Controls Preventative & Reactive (What action & how frequent)	Ris	Risk scored at Residual level (Most Likely) (Worst Credible) Overall Risk Overall Risk		level level © OST Likely) (Worst Credible)		o.e					
				Likelihood	People	Property	Environment	Business	Likelihood	People	Property	Environment Business	Hazard R	
1.1	Collision / Allision	Technical Failure Bridge Team Error Environmental Conditions Transitting FCBC Contruction Zone	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Tugs, use of; minimum towage requirements Forth Byelaw & General Directions Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Marine Guidelines & Port Information FCBC Exclusion Zones FCBC SMS & Procedures	2	4	6	4	4	1	5	5	4 4	4.5	Most likely: Collision between small workboat and larger vessel at slow speed resulting in minima damage and no injuries. Worst credible: Collision between two cruise vessels resulting in loss of vessels and loss of life.
1.2	Contact	Technical Failure Bridge Team Error Environmental Conditions Failure of Aids to Navigation Quayside Obstruction Transitting FCBC Contruction Zone	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Tugs, use of; minimum towage requirements Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Marine Guidelines & Port Information Fendering Restricted Air Draft Procedures Cranes / cargo properly stowed on quayside Forth Ports H&S Procedures FCBC Exclusion Zones FCBC SMS & Procedures FCBC SMS & Procedures	3	6	g	6	3	1	5	5	4 4	5.25	Most likely: Vessel has slow speed impact with buoy resulting in minimal damage. Worst credible: Large cruise vessel contacts quayside at high speed resulting in significant damage to vessel, quayside, and serious injuries / loss of life.
1.3	Grounding	Technical Failure Bridge Team Error Environmental Conditions Surveying Omission Failure of Aids to Navigation Transitting FCBC Contruction Zone	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Tidal Monitoring Tugs, use of; minimum towage requirements Aids to Navigation Maintenance & Verification Programme Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Notice to Mariners Survey / dredging Programme / Schedule Marine Guidelines & Port Information Cargo operations procedures (Including MCA Bulk-handling Regulations) FCBC Exclusion Zones FCBC SMS & Procedures Ruling Depth & UKC document	2	2	6	4	6	1	4	4	4 4	4.25	Most likely: Vessel grounds in soft mud and refloats on following tide with damage. Worst credible: Vessel hard aground, cannot be refloated resulting in major disruption to ports, extreme damage and loss of contaminent.
1.4	Sinking / Capsize	Collision Contact Grounding Technical Failure Failure of Vessel Stability Human Error Environmental Conditions	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule Marine Guidelines & Port Information	1	4	4	5	4	1	4	4	5 5	4.375	Most likely: Vessel sinks, all crew / passengers safely abandon ship. Worst credible: Vessel sinks resulting in total loss of vessel, and loss of life.
	Fire / Explosion	Collision Contact Grounding Human Error Technical Failure Loss of Containment	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information	1	3	3	3	2	1	4	4	3 3	3.125	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel and cargo, and loss of life.
1.6	Loss of Containment (Oil Products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule Marine Guidelines & Port Information Bunkering Procedure	3	3	3	6	6	2	4	6	8 8	5.5	Most likely: Small spill of non-persistant product that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact.

Content Reviewed	Changes Made
MRFs reviewed - contact.	
Vessel numbers, size, and type in the area.	
Ongoing projects that have an impact.	
	Contact Most Likely likelihood scoring updated due to MRFs.
	1

FORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date
	FP PMSC RA (F) 03/05	MM, HMFO / 9th Jan 2013
Risk Assessment - Port of Rosyth	Review Due	Revised By / Date
	Apr-21	MMT, April 2019



	Port of Methil - Arrival / Sailing Methil Pilot Station to Berth													MRF 026/2017 (Contact), 033/2019 (Contact), 040 (personal injury - MOB), 059/17 (Contact), 063/17 (Contact), 003/18 (Tow line parted), 033/19 (Collision/allision)	
Ref.	Hazard What can go wrong	Causes How can it go wrong	Controls Preventative & Reactive	Ris		ed at level st Lik		idual			red at l level st Cred			Score	
	(Event leading to a consequence)		(What action & how frequent)	Likelihood	People	Property Pro	Environment Environment	Business	Likelihood	People	Property Property	z I	k Business	Hazard Risk	
1.1	Collision with Small Commercial Vessel / Leisure vessel	Technical Failure Bridge Team Error Environmental Conditions	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Tugs, use of; minimum towage requirements Forth Byelaw & General Directions Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Marine Guidelines & Port Information	2	4	4	2	4	2	10	6	6	6	5.25	Most likely: Vessel collides with small craft resulting in no damage to the larger vessel and no/minor to damage to the smaller vessel. Results in no injuries to persons Worst credible: Vessel collides heavily with small craft resulting in extensive damage to both vessels and multiple injuries/fatalities
1.2	Contact	Technical Failure Bridge Team Error Environmental Conditions Failure of Aids to Navigation Quayside Obstruction	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Tugs, use of; minimum towage requirements Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Marine Guidelines & Port Information Fendering Cranes properly stowed on quayside Forth Ports H&S Procedures Dock Gatemen Procedures Barge proforma	5	5	10	5	5	2	6	8	6	6	6.375	Most likely: Vessel makes light contact with object/quay resulting in no/minor damage to the vessel and quay Worst credible: Vessel makes heavy contact with object/quay resulting in extensive damage to both vessel and quay and possible injuries
1.3	Grounding	Technical Failure Bridge Team Error Environmental Conditions Surveying Omission Failure of Aids to Navigation	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Tidal Monitoring Tugs, use of; minimum towage requirements Aids to Navigation Maintenance & Verification Programme Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Notice to Mariners Survey / dredging Programme / Schedule Marine Guidelines & Port Information Cargo operations procedures (Including MCA Bulk-handling Regulations) Dock gate procedure	2	2	4	4	2	2	4	6	6	6	4.25	Most likely: Vessel runs aground with no damage to vessel, no pollution and can be refloated with the tide Worst credible: Vessel runs aground causing extensive damage to the vessel, major
1.4	Sinking / Capsize	Collision Contact Grounding Technical Failure Failure of Vessel Stability Human Error Environmental Conditions	Dockgate operational procedures Port Planned Maintenance system Training / Auditing of Port Staff Dock gate procedure	1	4	3	2	3	1	5	3	4	4	3.5	pollution and blocking entrance to ports Most likely: Vessel sinks/capsizes outwith entrance of harbour with everyone safely evactuated and no loss of life Worst credible: Vessel sinks/capsizes in entrance of harbour with multiple fatalities and total loss of vessel
1.5	Fire / Explosion	Collision Contact Grounding Human Error Technical Failure Loss of Containment	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information	1	3	3	3	2	1	4	4	3	3	3.125	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel and cargo, and loss of life.
1.6	Loss of Containment (Oil Products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule Marine Guidelines & Port Information	3	3	3	6	6	1	2	3	3	3	3.625	Most likely: Small spill of non-persistant product that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact.
1.7	Loss of Dock Level (Lock Gate Operations)	Technical Failure Human Error Environmental Conditions	Dockgate operational procedures Port Planned Maintenance system Training / Auditing of Port Staff Dock gate procedure	3	3	3	3	3	2	2	6	6	6	4	Most Likely: Loss of containment but does not result in significant loss of dock level. Possible impact to large draft movements. Worst Credible: Large loss of dock level. Deep drafted vessel take the bottom of dock. Possible large scale damage to vessels and infrastructure.

Content Reviewed	Changes Made
MRFs; likelihood of contact in light of submitted MRF, other MRF types considered. Changes to guidelines or procedures affecting Methil Number of vessels calling, other traffic in the vicinity, and vessel type calling.	Contact likelihood for most likely already at maximum of 5, Outcome means that risk remains the same.

FORTH PORTS LIMITED		Risk Assessment Team / Date HMFO, HMDD, MM / 16th Jan 2013							
Risk Assessment - Port of Methil	Review Due	Revised By / Date							
	Apr-21	MMT April 2019							



	Methil SE Berth - Arrival/Sailing Methil Pilot Station to Berth												No relevant MRFs since previous review		
Ref.	Hazard	Causes	Controls	Risk sc		ored a leve	el		Ris		leve	at Residel		Score	
	What can go wrong (Event leading to a consequence)	How can it go wrong	Preventative & Reactive (What action & how frequent)		(IVI		all Ri			Ì		all Ris		Risk	
				Likelihood	People	Property	Environment	Business	Likelihood	People	Property	Environment	Business	Hazard	
1.1	Collision / Allision	Technical Failure Bridge Team Error Environmental Conditions	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Tugs, use of; minimum towage requirements Forth Byelaw & General Directions Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Marine Guidelines & Port Information External standby tugs audited and issued with restricted towage licence for emergencies.	2	4	4	4	4	2	6	6	6	6	5	Most likely: Collision between small craft and larger vessel at slow speed resulting in minimal damage and no injuries. Worst credible: Collision between two commercial vessels resulting in loss of vessels and loss of life.
1.2	Contact	Technical Failure Human Error Environmental Conditions Failure of Aids to Navigation Quayside / Seabed Obstruction	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Tugs, use of; minimum towage requirements Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Marine Guidelines & Port Information Fendering SE Quayside Regulations & Risk Assessment External standby tugs audited and issued with restricted towage licence for emergencies.	4	8	8	4	4	2	6	6	6	9	6	Most likely: Vessel has slow speed impact with buoy resulting in minimal damage. Worst credible: Large vessel contacts quayside at high speed resulting in significant damage to vessel, quayside, and serious injuries / loss of life.
1.3	Grounding	Technical Failure Bridge Team Error Environmental Conditions Surveying Omission Failure of Aids to Navigation	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Tidal Monitoring Tugs, use of; minimum towage requirements Aids to Navigation Maintenance & Verification Programme Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Notice to Mariners Survey / dredging Programme / Schedule (By Operator) Marine Guidelines & Port Information SE Quayside Regulations & Risk Assessment	3	3	6	6	6	2	6	6	6	8	5.875	Most likely: Vessel grounds in soft mud and refloats on following tide with minimal damage. Worst credible: Vessel hard aground, cannot be refloated resulting in major disruption to ports, extreme damage and loss of contaminent.
1.4	Sinking / Capsize	Collision Contact Grounding Technical Failure Failure of Vessel Stability Human Error Environmental Conditions	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule (By Operator) Marine Guidelines & Port Information Standby tugs audited and issued with restricted towage licence for emergencies.	1	4	4	5	4	1	4	4	5	5	4.375	Most likely: Vessel sinks, all crew / passengers safely abandon ship. Worst credible: Vessel sinks in harbour approach resulting in total loss of vessel and loss of life.
1.5	Fire / Explosion	Collision Contact Grounding Human Error Technical Failure Loss of Containment	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information	2	4	4	2	2	1	4	4	3	3	3.25	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel and cargo, and loss of life.
1.6	Loss of Containment (Oil Products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule (By Operator) Marine Guidelines & Port Information	2	2	4	4	4	1	2	3	3	3	3.125	Most likely: Small spill of non-persistant product that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact.

Content Reviewed	Changes Made
Changes to guidelines or procedures affecting Methil Number of vessels calling, other traffic in the vicinity, and vessel type calling.	No changes required.

		Risk Assessment Team / Date								
	FP PIVISC RA (F) 5/03	HMFO, HMDD, MM / 23rd Jan 2013								
Risk Assessment - Methil SE Berth	Review Due	Revised By / Date								
	Apr-21	MMT April 2019								



		Port of Kirkcald	ly - Arrival / Sailing Close Approaches of Do	ock t	to B	Berth	ı								MRF: 048/18 (technical failure)
Ref.	Hazard What can go wrong (Event leading to a consequence)	Causes How can it go wrong	Controls Preventative & Reactive (What action & how frequent)	Ris		Risk scored at Residual level (Most Likely) Overall Risk					level st Cre	Residible))	Risk Score	
				Likelihood	People	Property	Environment	Business	Likelihood	People	Property	Environment	Business	Hazard Ri	
1.	Collision / Allision with Small Commercial Vessel / Leisure vessel / other Kirkcaldy vessel	Technical Failure Bridge Team Error Environmental Conditions	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Tugs, use of; minimum towage requirements Forth Byelaw & General Directions Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Marine Guidelines & Port Information	2	4	4	2	4	2	10	6	6	6	5.25	Most likely: Collision between Kirkcaldy vessel and small commercial, leisure, or fishing vessel resulting in minimal damage Worst credible: Collision between outbound Kirkcaldy vessel and other vessel in anchorage resulting in extreme damage and loss of life.
1.2	² Contact	Technical Failure Bridge Team Error Environmental Conditions Failure of Aids to Navigation Quayside Obstruction	Pilotage Passage plan / berthing plan – Master / Pilot information exchange FTNS Tugs, use of Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Marine Guidelines & Port Information Fendering Cranes properly stowed on quayside Forth Ports H&S Procedures Additional fenders on West breakwater Fixed Lighting on East Pier	4	4	4	4	4	2	6	6	6	6	5	Most likely: Vessel has slow speed impact with quayside whilst berthing resulting in minimal damage. Worst credible: High speed impact with quayside whilst berthing resulting in extreme damage to vessel and quayside, and loss of life.
1.5	3 Grounding Refer also to: Risk Assessment (F&T) 7	Technical Failure Bridge Team Error Environmental Conditions Surveying Omission Failure of Aids to Navigation	Pilotage (Pilot briefed with latest survey) Passage plan / berthing plan – master / pilot information exchange FTNS Tidal Monitoring Tugs, use of; minimum towage requirements Aids to Navigation Maintenance & Verification Programme Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Notice to Mariners Survey / dredging Programme / Schedule Marine Guidelines & Port Information Cargo operations procedures (Including MCA Bulk-handling Regulations)	2	2	4	4	2	2	6	8	8	8	5.25	Most likely: Vessel grounds in soft mud and refloats on following tide with damage. Worst credible: Vessel hard aground, cannot be refloated resulting in major disruption to ports, extreme damage and loss of contaminent.
1.4	Sinking / Capsize	Collision Contact Grounding Technical Failure Failure of Vessel Stability Human Error Environmental Conditions	Fixed Lighting on Fast Pier. Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule Marine Guidelines & Port Information	1	4	3	2	3	1	5	3	4	4	3.5	Most likely: Vessel sinks outwith main shipping areas, all crew safely abandon ship Worst credible: Vessel sinks resulting in total loss of vessel and loss of life.
1.9	5 Fire / Explosion	Collision Contact Grounding Human Error Technical Failure Loss of Containment	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information	1	3	3	3	2	1	4	4	3	3	3.125	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel and cargo, and loss of life.
1.0	6 Loss of Containment (Oil Products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule Marine Guidelines & Port Information	3	2	2	4	4	1	2	3	3	4	3	Most likely: Small spill of non-persistant product that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact.

		Risk Assessment Team / Date HMFO, HMDD, MM / 23rd Jan 2013
Risk Assessment - Port of Kirkcaldy	Review Due	Revised By / Date
	Apr-21	MMT / April 19



		Port of Burntisla	nd - Arrival / Sailing Close Approaches of	Docl	k to E	Bertl	h							MRFs: 013/17, 027/17 (contact). 001/19 (contact)
Ref.	Hazard What can go wrong	Causes How can it go wrong	Controls Preventative & Reactive	Ris		ed at F level st Like		dual		Risk scored at Residual level (Worst Credible)		al		
	(Event leading to a consequence)	Tion can't go mong	(What action & how frequent)		C	verall	I Risl	k		Ov	erall l	Risk	1 20	
				Likelihood	People	Property	Environment	Business	Likelihood	People	Property	Business	7	
1.1	Collision / Allision	Technical Failure Bridge Team Error Environmental Conditions Location of Yacht Club	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Tugs, use of Forth Byelaw & General Directions Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Marine Guidelines & Port Information Dockgate Procedures	3	4	9	6	6	2	8	8 6	8	6.8	Most likely: Collision at slow speed between large vessel and small commercial, leisure, or fishing vessel resulting in minimal damage Worst credible: Collision and high speed between two large vessesl and resulting in extreme damage and loss of life.
1.2	Contact	Technical Failure Bridge Team Error Environmental Conditions Failure of Aids to Navigation Quayside Obstruction	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Tugs, use of; Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Marine Guidelines & Port Information Fendering Cranes properly stowed on quayside Forth Ports H&S Procedures	5	5	10	5	5	2	4	8 6	6	i 6.1	
1.3	Grounding	Technical Failure Bridge Team Error Environmental Conditions Surveying Omission Failure of Aids to Navigation	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Tidal Monitoring Tugs, use of Aids to Navigation Maintenance & Verification Programme Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Notice to Mariners Survey / dredging Programme / Schedule Marine Guidelines & Port Information Cargo operations procedures (Including MCA Bulk-handling Regulations)	3	3	6	6	6	2	6	6 6	6	5.6	
1.4	Sinking / Capsize	Collision Contact Grounding Technical Failure Failure of Vessel Stability Human Error Environmental Conditions	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule Marine Guidelines & Port Information Dock Gate Procedure	2	4	6	4	6	1	5	4 3	4	4 4	Most likely: Vessel sinks, all crew safely abandon ship Worst credible: Vessel sinks resulting in total loss of vessel, cargo, and loss of life.
1.5	Fire / Explosion	Collision Contact Grounding Human Error Technical Failure Loss of Containment	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information	2	4	4	4	4	1	4 4	4 3	3	3.	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel and cargo, and loss of life.
1.6	Loss of Containment (Oil Products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule Marine Guidelines & Port Information	4	4	4	8	8	2	4	6 6	6	5.	
1.7	Loss of Dock Level (Lock Gate Operations)	Technical Failure Human Error Environmental Conditions	Port Planned Maintenance system Training / Auditing of Port Staff Dockgate Procedure	3	3	3	3	3	2	2	6 6	6	,	Most likely: Fault with gates which is repaired before major loss of dock level.

Content Reviewed	Changes Made
MRFs review - contact - likelihood already 5.	
Vessels calling at B'island - number, type, size.	
Other operatrions in the area i.e. rigs.	
	No changes made

FORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date
	FP PMSC RA (F) 7/04	HMFO, MM / 16th Jan 2013
Risk Assessment - Port of Burntisland	Review Due	Revised By / Date
	Apr-21	MMT, Apr 2019



		Inverkeithi	ng - Arrival / Sailing Saint David's Beacon t	οВ	erth	1									MRF: 045/17 (Non-approved bunkering), 001/18 (parted mooring rope), 060/18 (cargo lashing snapped during ops), 020/19 (Contact)
Ref.	Hazard What can go wrong	Causes How can it go wrong	Controls Preventative & Reactive	Ris		red a	l	idual			leve	t Res		Score	
	(Event leading to a consequence)		(What action & how frequent)	Likelihood	People	Overa h. b.	Environment Illa	Business	Likelihood	People	Dverty Laborate	Environment Environment	Business	Hazard Risk S	
1.1	Collision / allision	Technical Failure Bridge Team Error Environmental Conditions	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Tugs, use of; minimum towage requirements Forth Byelaw & General Directions Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Marine Guidelines & Port Information	2	4	6	4	4	1	5	5	4	4	4.5	Most likely: Collision between small craft and larger vessel at slow speed resulting in minimal damage and no injuries. Worst credible: Collision between two commercial vessels resulting in loss of vessels and loss of life.
1.2	2 Contact	Technical Failure Bridge Team Error Environmental Conditions Failure of Aids to Navigation Quayside Obstruction	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Tugs, use of; minimum towage requirements Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Marine Guidelines & Port Information Fendering Cranes properly stowed on quayside Forth Ports H&S Procedures	3	6	9	9	9	2	6	8	6	6	7.375	Most likely: Vessel has slow speed impact with buoy or quay resulting in minima damage. Worst credible: Large vessel contacts quayside at high speed resulting in significant damage to vessel, quayside, and serious injuries / loss of life.
1.8	Grounding Refer also: Risk Assessment (F&T) 7	Technical Failure Bridge Team Error Environmental Conditions Surveying Omission Failure of Aids to Navigation	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Tidal Monitoring Tugs, use of; minimum towage requirements Aids to Navigation Maintenance & Verification Programme Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Notice to Mariners Survey / dredging Programme / Schedule Marine Guidelines & Port Information Cargo operations procedures (Including MCA Bulk-handling Regulations) NABSA Procedure	2	2	4	4	2	2	4	6	6	8	4.5	Most likely: Vessel grounds in soft mud and refloats on following tide with minimal damage. Worst credible: Vessel hard aground, cannot be refloated resulting in major disruption to port, extreme damage and loss of contaminent.
1.4	Sinking / Capsize	Collision Contact Grounding Technical Failure Failure of Vessel Stability Human Error Environmental Conditions	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule Marine Guidelines & Port Information	1	4	3	2	3	1	5	3	4	4	3.5	Most likely: Vessel sinks, all crew / passengers safely abandon ship. Worst credible: Vessel sinks in harbour approach resulting in total loss of vess and loss of life.
1.5	Fire / Explosion	Collision Contact Grounding Human Error Technical Failure Loss of Containment	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information	2	6	6	4	4	1	4	4	3	4	4.375	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel and cargo, and loss of life
1.6	Loss of Containment (Oil Products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	Pilotage FTNS Forth Byelaw & General Directions Emergency Plans / OPRC Weather Forecasting Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule Marine Guidelines & Port Information	2	2	2	4	4	1	2	3	3	4	3	Most likely: Small spill of non-persistant product that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact.

MRFs submitted consiered; contact, unapproved bunkering - could result in loss of containment of oil products, parted mooring line could cause contact or result in more severe hazards occuring. Traffic numbers and vessel type, as well as other movements in the vacinity of Inverkeithing. Contact - Most likely likelihood changed from 2 to 3 due to MRF.	Content Reviewed	Changes Made
	result in loss of containment of oil products, parted mooring line could cause contact or result in more severe hazards occuring. Traffic numbers and vessel type, as well as other movements in the	Contact - Most likely likelihood changed from 2 to 3 due to MRF.

	Document ID FP PMSC RA (F) 8/03	Risk Assessment Team / Date HMFO, HMDD, MM / 23rd Jan 2013
Risk Assessment - Inverkeithing	Review Due	Revised By / Date
	Apr-21	MMT, Apr 2019



	Braefoot Jetty - Arrival / Sailing Eastern Limits to Be												_		MRFs reviewed: 024/17 (Parted mooring line - high winds), 067/17 (weighted heaving line), 013/18 (tug engine shut down), 024/18 (tug - winchbrake and clutch failure), 056/18 (regulation infringement)		
Ref.	Hazard What can go wrong	Causes How can it go wrong	Controls Preventative & Reactive	Ris	level (Most Likely)		level (Most Likely)						red at level st Cre		ual	Score	
	(Event leading to a consequence)		(What action & how frequent)	Likelihood	People	Property Property	Environment Environment	Business	Likelihood	People	П	Euvironment Euvironment	Business	Hazard Risk			
1.1	Collision / Allision	Technical Failure Human Error Environmental Conditions	Pilotage (Within compulsory pilotage Area) Passage plan / berthing plan – master / pilot information exchange FTNS Forth Ports Byelaws & General Directions for Navigation Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Marine Guidelines & Port Information Towage Guidelines Jetty Regulations Notice to Mariners Marine Safety Alerts	2	6	6	2	4	1	5	5	5	5	4.75	Most likely: Collision between small workboat and larger vessel at slow speed resulting in minimal damage and no injuries. Worst credible: Collision between two laden tankers resulting in loss of vessels, loss of life and large scale pollution		
1.2	Contact	Technical Failure Human Error Environmental Conditions Failure of Aids to Navigation Jetty Obstruction	Pilotage (Within compulsory pilotage Area) Passage plan / berthing plan – master / pilot information exchange FTNS Towage Guidelines Forth Ports Byelaws & General Directions for Navigation Emergency Plans / OPRC Weather Forecasting / Monitoring and Tidal Predictions / Monitoring Marine Guidelines & Port Information Fendering Jetty Regulations Jetty Supervisor Marine Safety Alerts Notice to Mariners	3	3	6	3	6	2	6	10	10	10	6.75	Most likely: Vessel has slow speed impact with buoy resulting in minimal damage Worst credible: Large vessel contacts jetty at high speed resulting in significant damage to vessel, jetty, and serious injuries / loss of life.		
1.3	Grounding	Technical Failure Human Error Environmental Conditions Surveying Omission Failure of Aids to Navigation	Pilotage (Within compulsory pilotage Area) Passage plan / berthing plan – master / pilot information exchange FTNS Forth Ports Byelaws & General Directions for Navigation Towage Guidelines Aids to Navigation Maintenance & Verification Programme Weather Forecasting / Monitoring and Tidal Predictions / Monitoring Emergency Plans / OPRC Notice to Mariners Survey / dredging programme / Schedule Marine Guidelines & Port Information	2	2	6	2	6	1	1	5	4	5	3.875	Most likely: Vessel grounds in soft mud and refloats on following tide with minimal damage. Worst credible: Vessel hard aground, cannot be refloated resulting in major disruption to port, extreme damage and loss of contaminent.		
1.4	Sinking / Capsize	Collision Contact Grounding Technical Failure Failure of Vessel Stability Human Error Environmental Conditions	Pilotage (Within compulsory pilotage Area) FTNS Forth Ports Byelaws & General Directions for Navigation Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Notice to Mariners Survey Programme / Schedule Marine Guidelines & Port Information Jetty Regulations	1	3	5	5	5	1	3	5	5	5	4.5	Most likely: Vessel sinks, all crew / passengers safely abandon ship. Worst credible: Vessel sinks in approach to jetties resulting in total loss of vessel and loss of life.		
1.5	Fire / Explosion	Collision Contact Grounding Human Error Technical Failure Loss of Containment	Pilotage (Within compulsory pilotage Area) FTNS Forth Ports Byelaws & General Directions for Navigation Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information Jetty Regulations	2	6	6	2	6	1	5	5	5	5	5	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel and cargo, loss of life and large scale pollution		
1.6	Loss of Containment (Oil Products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	Pilotage (Within compulsory pilotage Area) FTNS Forth Ports Byelaws & General Directions for Navigation Emergency Plans / OPRC Weather Forecasting Notice to Mariners Marine Guidelines & Port Information Jetty Regulations	2	4	4	6	6	1	3	3	5	5	4.5	Most likely: Small spill of non-persistant product that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact.		

Content Rev	ewed	Changes Made								
MRFs reviewed - tug mechanical is Vessel numbers consulted, as		No changes required.								
FORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date								
1	FP PMSC RA (F) 9/04	HMFO, HMD, MM / 23rd Jan 2013								
Risk Assessment - Braefoot Jetty	Review Due	Revised By / Date								
	Mar-21	MMT March 2019								



		Port of Grai	ngemouth - Arrival/Sailing Hen & Chickens	to B	erth	1								MRFs: 072/17 (contact), 073/17 (contact), 075/19 (contact), 079/17, 005/18 (contact), 007/18 (tug winch lost power), 018/18 (contact), 021/18 (contact), 021/18 (towline parted), 041/18 (potential grounding), 080/18 (BT failure), 009/19, 011/19, 012/19, 029/19, 044/19, 048/19, 052/19, 055/19, 073/19, 079/19, 102/19, 103/19 (Contact)
Ref.	Hazard	Causes	Controls	Ris		red at F level		ıal I			vel	esidua	Score	
	What can go wrong (Event leading to a consequence)	How can it go wrong	Preventative & Reactive (What action & how frequent)	Poo	_	Overall	Risk		Ì	Ov	erall	Risk	d Risk	
				Likelihood	People	Property	Environmen	Business	Likelihood	People	Property	Business	Hazar	
1.1	Collision / Allision	Technical Failure Human Error Enviornmental Conditions	Pilotage Passage plan / berthing plan – master / pilot information exchange											
			FTNS Forth Ports Byelaws & General Directions Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Marine Guidelines & Port Information Towage Guidelines Diversionary Channel Ship Specific Towage Requirements (IPOS Entries) Notice to Mariners Jetty / Terminal Guidelines STS Operations Manual	2	6	6	6	6	1	5	5 !	5 5	5.5	Most likely: Collision between inbound / outbound vessel and small vessel at slow speed resulting in minimal damage. Worst credible: Collision between inbound/outbound Grangemouth tankers at higher speed resulting in total loss of vessels and loss of life.
	Contact	Technical Failure Human Error Enviornmental Conditions Failure of Aids to Navigation Quayside Obstruction	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Towage Guidelines Forth Ports Byelsaws & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictitions Marine Guidelines & Port Information Fendering Restricted Air Draft Procedures Cranes properly stowed on quayside Dockhead Staff Aids to Navigation Maintenance & Verification Programne Ship Specific Towage Requirements (IPOS Entries) Notice to Mariners STS Operations Manual Jetty / Terminal Guidelines	5	5	10	5	5	2	6 1	10 1	B 10	7.37	Most likely: Vessel has slow speed impact with lead in or fenders resulting in minimal damage. Worst credible: Vessel has high speed impact with lock structure resulting in eweme damage to vessel, locks, and loss ofbusiness due to potential port closure.
1.3	Grounding	Technical Failure Human Error Erniormental Conditions Surveying Omission Failure of Aids to Navigation Unknown Underwater Obstruction	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Forth Ports Byelaws & General Directions Towage Guidelines Aids to Navigation Maintenance & Verification Programne Weather Forecasting / Tidal Monitoring & Predictions Emergency Plans / OPRC Notice to Mariners Survey / dredging programme / Schedule Marine Guidelines & Port Information Cargo operations procedures (Including MCA Bulk-handling Regulations) Ship Specific Towage Requirements (IPOS Entries)	3	3	6	3	6	2	2 1	10	S 10	5.75	
	Sinking / Capsize	Collision Contact Grounding Technical Failure Failure of Vessel Stability Human Error Enviornmental Conditions	Pilotage FTNS Forth Ports Byelaws & General Directions for Navigation Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Notice to Mariners Survey Programe / Schedule Marine Guidelines & Port Information Cargo operations procedures (Including MCA Bulk-handling Regulations) Jetty / Terminal Guidelines Ruling Depth and UKC document Pilotage	1	4	3	4	5	1	5	5	5 5	4.5	
	·	Contact Grounding Human Error Technical Failure Loss of Containment	FTNS Forth Ports Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information Jetty/Terminal Guidelines Jones Institute Mankers	2	4	4	4	4	2	10 1	10 8	3 10	6.75	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire on vessel containing munitions, total loss of vessel and cargo, and loss of life.
	Loss of Containment (Oil Products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Enviornmental Conditions	Pilotage FTNS Forth Ports Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Notice to Mariners Marine Guidelines & Port Information Bunkering Procedure Cargo operations procedures (Including MCA Bulk-handling Regulations)	3	3	3	6	3	1	3	3 8	5 5	3.87	Most likely: Small spill of non-persistant product that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact.
1.7	Loss of Dock Level	Technical Failure Human Error Environmental Conditions	Lockgate operational procedures Port Planned Maintenance system Lock Gates - Interlocks to prevent opening all lock gates simultaneously Training / Auditing of Port Staff Impounding Pumps	2	4	4	4	4	1	3	5 3	3 5	4	Most likely: Fault with gates which is repaired before major loss of dock level. Worst credible: Fault with gates which cannot be repaired before major loss of dock level resulting in vessels aground with extreme damage.

Content Rev	riewed	Changes Made								
MRFs reviewed - significant number of any major negative impact (most likel One potential grounding, new I	ly likelihood score already a 5).	No changes made as scoring still applicable.								
FORTH PORTS LIMITED	Document ID FP PMSC RA (F) 10/05	Risk Assessment Team / Date DMM, HMFi / 19th Dec 2012								
Risk Assessment - Port of	Review Due	Revised By / Date								
Grangemouth Hen & Chickens to	Apr-21	MMT Apr 2019								



	Crombie Berthing/Sailing										No significant MRFs during time from previous review.			
Ref.	Hazard	Causes	Controls	Ris		level		dual		le	evel	esidual	Score	
	What can go wrong (Event leading to a consequence)	How can it go wrong	Preventative & Reactive (What action & how frequent)	Likelihood	Ť	Τ.	rall Risk	k Business	poor	0\	verall F	Risk	Hazard Risk Sc	
1.1	Collision / Allision	Technical Failure Human Error Enviornmental Conditions	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Forth Ports Byelaws & General Directions for Navigation Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Marine Guidelines & Port Information Towage Guidelines Ship Specific Towage Requirements (IPOS Entries)	2	4	6	6		1	5		4	5	Most likely: Collision between Crombie vessel and small vessel at slow speed resulting in minimal damage Worst credible: Collision between Crombie vessel carrying munitions and inbound/outbound Grangemouth tanker resulting in total loss of vessels and loss of life.
1.2	Contact	Technical Failure Human Error Enviornmental Conditions Failure of Aids to Navigation Jetty Obstruction	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Towage Guidelines Forth Ports Byelaws & General Directions for Navigation Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Marine Guidelines & Port Information Fendering Restricted Air Draft Procedures Cranes properly stowed on quayside Ship Specific Towage Requirements (IPOS Entries)	3	6	6	3	3	2	6	8 8	8	6	Most likely: Vessel has slow speed impact with jetty whilst berthing resulting in minimal damage. Worst credible: High speed impact with jetty whilst berthing resulting in extreme damage to vessel and jetty, and loss of life.
1.3	Grounding	Technical Failure Human Error Enviornmental Conditions Surveying Omission Failure of Aids to Navigation Unknown Underwater Obstruction	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS Forth Ports Byelaws & General Directions for Navigation Towage Guidelines Aids to Navigation Maintenance & Verification Programne Weather Forecasting / Tidal Monitoring & Predictions Emergency Plans / OPRC Notice to Mariners Survey / dredging programme / Schedule Marine Guidelines & Port Information Ship Specific Towage Requirements (IPOS Entries) Ruling Depths and UKC document	2	2	4	2	2	1	3	4 4	4	3.125	Most likely: Vessel grounds in soft mud and refloats on following tide with damage. Worst credible: Vessel hard aground, cannot be refloated resulting in major disruption to ports, extreme damage and loss of contaminent.
1.4	Sinking / Capsize	Collision Contact Grounding Technical Failure Failure of Vessel Stability Human Error Enviornmental Conditions	Pilotage FTNS Forth Ports Byelaws & General Directions for Navigation Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Notice to Mariners Survey Programe / Schedule Marine Guidelines & Port Information	1	4	5	3	5	1	4	5 3	5	4.25	Most likely: Vessel sinks outwith main shipping areas, all crew safely abandon ship Worst credible: Vessel sinks in main channel near Crombie resulting in total loss of vessel, channel closure, and loss of life.
	Fire / Explosion	Collision Contact Grounding Human Error Technical Failure Loss of Containment	Pilotage FTNS Forth Ports Byelaws & General Directions for Navigation Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information Jetty/Terminal Guidelines	3	6	6	3	6	1	5	5 4	5	5	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire on vessel containing munitions, total loss of vessel and cargo, and loss of life.
1.6	Loss of Containment (Oil Products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Enviornmental Conditions	Pilotage FTNS Forth Ports Byelaws & General Directions for Navigation Emergency Plans / OPRC Weather Forecasting Notice to Mariners Marine Guidelines & Port Information Bunkering Procedure Standby vessel for bunkering operations	2	2	4	6	6	1	3	3 4	4	4	Most likely: Small spill of non-persistant product that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact.

Content Re	eviewed	Changes Made	
No MRFs since pe	ervious review.		
Fendering has b	een repaird.		
Number of vessels calling at Cror	nbie, as well as type and size.		
		No changes made.	
FORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date	
TORTH ORTO EMMTED	FP PMSC RA (F) 11/04	DMM, HMFI / 19th Dec2012	
Risk Assessment - Crombie	Review Due	Revised By / Date	
	Mar-21	MMT March 2019	



														MRFs since previous review: 076/17 (failure of good practice - weighted heaving line), 040/18 (Infringement - pleasure craft), 065/18 (contact)	
Ref.	Hazard What can go wrong	Causes How can it go wrong	Controls Preventative & Reactive	Ris		lev		sidual	Ri		cored leverst C	el		Score	
	(Event leading to a consequence)	Ç Ç	(What action & how frequent)	Likelihood	People	Τ.	Environmen	Business	Likelihood	placed	Τ.	rall Ri	sk Business	Hazard Risk	
1.1	Collision / Allison	Technical Failure Human Error Environmental Conditions	Pilotage (Within compulsory pilotage Area) - 2 Pilots Passage plan / berthing plan – master / pilot information exchange FTNS Forth Ports Byelaws & General Directions for Navigation Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Marine Guidelines & Port Information Towage Guidelines Hound Point Marine Guidelines Notice to Mariners Marine Safety Alerts	2	2	6	2	6	1		3 5	5	5	4.25	Most likely: Collision between small workboat and larger vessel at slow speeresulting in minimal damage and no injuries. Worst credible: Collision between two laden tankers resulting in loss of vessels, loss of life and large scale pollution
1.2	Contact	Technical Failure Human Error Environmental Conditions Failure of Aids to Navigation Jetty Obstruction	Pilotage (Within compulsory pilotage Area) - 2 Pilots and PPU Passage plan / berthing plan – master / pilot information exchange FTNS Towage Guidelines Forth Ports Byelaws & General Directions for Navigation Emergency Plans / OPRC Weather Forecasting / Monitoring and Tidal Predictions / Monitoring Marine Guidelines & Port Information Fendering Hound Point Marine Guidelines Notice to Mariners Marine Safety Alert	4	4	8	4	8	2	:	5 10	83	10	7.25	Most likely: Vessel has slow speed impact with buoy resulting in minimal damage. Worst credible: Large vessel contacts jetty at high speed resulting in significant damage to vessel, jetty, and serious injuries / loss of life.
1.3	Grounding	Technical Failure Human Error Environmental Conditions Surveying Omission Failure of Aids to Navigation Unknown Underwater Obstruction	Pilotage (Within compulsory pilotage Area) - 2 Pilots Passage plan / berthing plan – master / pilot information exchange FTNS Forth Ports Byelaws & General Directions for Navigation Towage Guidelines Aids to Navigation Maintenance & Verification Programme Weather Forecasting / Monitoring and Tidal Predictions / Monitoring Emergency Plans / OPRC Notice to Mariners Survey / dredging programme / Schedule Marine Guidelines & Port Information Hound Point Marine Guidelines	2	2	8	2	6	1		1 5	3	5	4	Most likely: Vessel grounds in soft mud and refloats on following tide with minimal damage. Worst credible: Vessel hard aground, cannot be refloated resulting in major disruption to port, extreme damage and loss of contaminent.
1.4	Sinking / Capsize	Collision Contact Grounding Technical Failure Failure of Vessel Stability Human Error Environmental Conditions	Pilotage (Within compulsory pilotage Area) -2 Pilots FTNS Forth Ports Byelaws & General Directions for Navigation Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Notice to Mariners Survey Programme / Schedule Marine Guidelines & Port Information Hound Point Marine Guidelines	1	3	5	5	5	1		3 5	5	5	4.5	Most likely: Vessel sinks, all crew / passengers safely abandon ship. Worst credible: Vessel sinks in approach to jetties resulting in total loss of vessel and loss of life.
1.5	Fire / Explosion	Collision Contact Grounding Human Error Technical Failure Loss of Containment	Pilotage (Within compulsory pilotage Area) - 2 Pilots FTNS Forth Ports Byelaws & General Directions for Navigation Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information Hound Point Marine Guidelines	3	6	9	3	9	1		5 5	5	5	5.875	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel and cargo, loss of life and large scale pollution
1.6	Loss of Containment (Oil Products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	Pilotage (Within compulsory pilotage Area) - 2 Pilots FTNS Forth Ports Byelaws & General Directions for Navigation Emergency Plans / OPRC Weather Forecasting Notice to Mariners Marine Guidelines & Port Information Hound Point Marine Guidelines	2	4	4	6	6	1		3 3	5	5	4.5	Most likely: Small spill of non-persistant product that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact.

Content Reviewed		Changes Made
MRFs; likelihood of contact in light of si	ubmitted MRF.	
Changes to guidelines or procedures	affecting HP.	
Number of vessels calling, and other traf	fic in the vicinity.	
		No changes required.

FORTH PORTS LIMITED	Risk Assessment Team / Date DMM, HMFI / 19th Dec 2012
	Revised By / Date MMT March 2019



	Cruise Vessels at Anchorage (Hound Point / Newhaven)														MRF: 028/17 (grounding)
Ref.	Hazard What can go wrong (Event leading to a consequence)	Causes How can it go wrong	Controls Preventative & Reactive (What action & how frequent)			Risk scored at Residual level (Most Likely)					level t Cre	dible))	k Score	
	(2 to it loading to a consequence)		(Likelihood	People	Ι. Ι	Environment	Business	Likelihood	\vdash	Property	Environment Environment	Business	Hazard Risk	
1.1	Dragging Anchor	Environmental Conditions Bridge Team Error Technical Failure	Designated and proven anchorages FTNS Weather Forecasting / Tidal Predictions Byelaws & General Directions Towage Pilot onboard. Emergency Plans / OPRC Standby Tug or Demonstrated manouverability as per NtM (Hound Point)	5	5	10	5	5	1	4	5	5	5	5.5	Most likely: Vessel drags anchor, then pays out more chain resulting in no further dragging. Worst credible: Vessel drags anchor resulting in vessel going aground or making contact with bridge/Hound Point Terminal. Vessel suffers extreme damage and possibbilty of loss of life.
1.2	Contact	Technical Failure Bridge Team Error Environmental Conditions Dragging Anchor	Pilot onboard FTNS Towage Byelaws & General Directions Weather Forecasting / Tidal Predictions Designated and Proven Anchorages Notice to Mariners Emergency Plans / OPRC Standby Tug or Demonstrated manouverability as per NtM (Hound Point)	2	6	6	4	6	1	5	5	5	5	5.25	Most likely: Vessel has slow speed impact with buoy resulting in minimal damage. Worst credible: Vessel has high speed impact with bridge/jetty resulting in significant damage to vessel and loss of life.
1.3	Grounding	Technical Failure Bridge Team Error Environmental Conditions Surveying Omission Dragging Anchor	Pilot onboard Master / pilot information exchange FTNS Towage Weather Forecasting / Tidal Predictions & Tidal Monitoring Designated Anchorages Emergency Plans / OPRC Standby Tug or Demonstrated manouverability as per NtM (Hound Point) Surveying Schedule Tender pack Ruling Depth and UKC document	3	6	9	6	9	1	5	5	5	5	6.25	Most likely: Vessel grounds in soft mud and refloats on following tide with damage. Worst credible: Vessel hard aground, cannot be refloated resulting in major disruption to ports, extreme damage and loss of contaminent.
1.4	Sinking / Capsize	Contact Grounding Technical Failure Failure of Vessel Stability Human Error Environmental Conditions	Pilot onboard FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Standby Tug or Demonstrated manouverability as per NtM (Hound Point) Ruling Depth and UKC document	1	5	5	5	5	1	5	5	5	5	5	Most likely: Vessel sinks, all crew and passengers safely abandon ship Worst credible: Vessel sinks resulting in total loss of vessel, and loss of life.
	Fire / Explosion	Contact Grounding Human Error Technical Failure Loss of Containment	Pilot onboard FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Local Standby Tug (Hound Point)	3	6	6	6	6	1	5	5	5	5	5.5	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel, and loss of life.
1.6	Loss of Containment (Oil Products) - Refer also to FP PMSC RA (F&T)5	Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	Pilot Onboard FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Notice to Mariners Marine Guidelines & Port Information	3	3	6	6	3	1	2	4	4	4	4	Most likely: Small spill of non-persistant product that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact.

Content Reviewed	Changes Made
MRFs review - 1 grounding (tender - Newhaven) Number of cruise calls for both anchorages reviewed Other traffic in the vicinity - type, size, density Cruise specific procedures, forms and guidelines.	Grounding most likely likelihood scoring updated due to MRF.

		Risk Assessment Team / Date HMFO, MM, DMM, HMD, MT&PV / 13th Feb 2013
Risk Assessment - Cruise Vessels at	Review Due	Revised By / Date
Anchorage (Hound Point / Newhaven)	Mar-21	MMT March 2019



													MRFs: 002/19 (collision), 022/17, 041/17, 052/17, 053/17, 062/17, 074/17 (contact), 026/19, 028/19 (Contact), 053/19 (Contact), 033/19 (Collision)		
Ref.	Hazard	Causes	Controls	Ris	k score	vel		ual		- 1	ed at Re		Score		
	What can go wrong (Event leading to a consequence)	How can it go wrong	Preventative & Reactive (What action & how frequent)			erall	•		Ì		verall F		Risk Sc		
				Likelihood	People	Property	Environment	Business	Likelihood	People	Property	Business	Hazard		
1.1	Collision / Allision	Technical Failure Bridge Team Error Environmental Conditions	Byelaws & General Directions (GD19) FTNS Weather Forecasting and Tidal Predictions Marine Guidelines & Port Information Crew training & Certification Towage Guidelines Notice to Mariners Liaison with Local Authorities & Boat Clubs	3	3	6	6	3	2	8	8 6	8	6	Most likely: Collision between two small workboats at slow speed resulting in minimal damage and no injuries. Worst credible: Collision between two small commercial craft at high speed resulting in loss of vessels and loss of life.	
1.2	Contact	Technical Failure Bridge Team Error Environmental Conditions Change to Shore Infrastructure / Obstruction on the Quay Floating Debris	FTNS Byelaws & General Directions (GD19) Emergency Plans Weather Forecasting / Tidal Predications Marine Guidelines & Port Information Towage Guidelines Notice to Mariners Crew training & Certification	5	5	10	5	5	2	10	8 8	6	7.125	Most likely: Small workboat slow speed impact with floating debris resulting in minimal damage. Worst credible: Contact with bridge, quayside, jetty at high speed resulting in significant damage and loss of life.	
1.3	Grounding	Technical Failure Bridge Team Error Environmental Conditions Uncharted Object	FTNS Weather Forecasting / Tidal Predictions Byelaws & General Directions (GD19) Emergency Plans / OPRC Notice to Mariners Survey / dredging Programme / Schedule Marine Guidelines & Port Information Towage Guidelines Crew training & Certification Audit and license procedure	3	6	6	6	6	2	6	8 6	8	6.5	Most likely: Vessel grounds in soft mud and refloats on following tide with damage. Worst credible: Vessel hard aground, cannot be refloated resulting in major disruption to ports, extreme damage and loss of contaminent.	
1.4	Sinking / Capsize	Collision Contact Grounding Technical Failure Bridge Team Error	Pilotage FTNS Weather Forecasting / Tidal Predictions Emergency Plans Notice to Mariners Survey / dredging Programme / Schedule Byelaws & General Directions Marine Guidelines & Port Information Crew training & Certification Towage Guidelines	1	5	5	4	5	1	5	5 4	5	4.75	Most likely: Vessel sinks, all crew safely abandon ship Worst credible: Vessel sinks resulting in total loss of vessel, and loss of life.	
1.5	Fire / Explosion	Collision Contact Grounding Human Error Technical Failure Loss of Containment	FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information Notice to Mariners Crew training & Certification Good Housekeeping Towage Guidelines Bunkering Procedures Hot Work Permits	4	4	4 4	4	8	2	6	6 4	6	5.25	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel and cargo, and loss of life.	
1.6	Loss of Containment (oil products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Notice to Mariners Survey Programme / Schedule Marine Guidelines & Port Information Bunkering Procedures Crew training & Certification Towage Guidelines	5	5	5 .	5	5	2	6	4 6	6	5.25	Most likely: Small spill of non-persistant prodcut that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact.	

Content Rev	riewed	Changes Made	
FORTH PORTS LIMITED	Document ID FP PMSC RA (F) 14/05	Risk Assessment Team / Date MT&PV, HMFO, MM, DMM, HMD / 13TH Feb 2013]
Risk Assessment - Forth - River	Review Due	Revised By / Date MMT Apr 2019	-



		F	orth Bridge Construction Operations												No significant MRFs during time from previous review.
Ref.	Hazard What can go wrong	Causes How can it go wrong	Controls Preventative & Reactive	Ris		leve		sidual	Ris		lev		sidual	core	
	(Event leading to a consequence)	riow carrit go wrong	(What action & how frequent)		Ì	Over	rall R	isk	Г	Ì	Ove	rall R	isk	Risk Score	
				Likelihood	People	Property	Environment	Business	Likelihood	People	Property	Environment	Business	Hazard	
1.1	Collision / Allision	Technical Failure Bridge Team Error Environmental Conditions Dragging Anchor	Byelaws & General Directions FTNS Weather Forecasting and Tidal Predictions Reduced Visibility Procedure - FCBC Marine Guidelines & Port Information Crew training & Certification Towage Guidelines Notice to Mariners Construction Exclusion Zones FCBC SMS FCBC Barge Method Statements	2	4	6	4	4	1	4	4	3	4	4.125	Most likely: Collision between two small workboats at slow speed resulting in minimal damage and no injuries. Worst credible: Collision between tug & barge and large vess passing under bridges resulting in loss of vessels and loss of life.
1.2	Contact	Technical Failure Bridge Team Error Environmental Conditions Change to Shore Infrastructure & Offshore/Shore Obstructions on the Quay Floating Debris Dragging Anchor	FTNS Byelaws & General Directions Emergency Plans Weather Forecasting / Tidal Predications Marine Guidelines & Port Information Towage Guidelines Notice to Mariners Crew training & Certification Marine-Centroller - FCBC Reduced Visibility Procedure - FCBC FCBC SMS	5	5	10	5	5	1	4	4	3	3	4.875	Most likely: Small workboat slow speed impact with buoy resulting in minimal damage. Worst credible: Contact with bridge by workboat at high spee resulting in significant damage loss of life, and closure of mai channel.
1.3	Grounding	Technical Failure Bridge Team Error Environmental Conditions Uncharted Object Dragging Anchor	Towago audit and license procedure FTNS Weather Forecasting / Tidal Predictions Byelaws & General Directions Emergency Plans Notice to Mariners Survey / dredging Programme / Schedule Marine Guidelines & Port Information Towage Guidelines Crew training & Certification FCBC SMS Towage audit and license procedure	5	5	10	5	10	1	3	4	3	4	5.5	Most likely: Vessel grounds in soft mud and refloats on following tide with damage. Worst credible: Vessel hard aground, cannot be refloated resulting in major disruption to ports, extreme damage and lo of contaminent.
	Sinking / Capsize	Collision Contact Grounding Technical Failure Bridge Team Error	Pilotage FTNS Weather Forecasting / Tidal Predictions Emergency Plans Notice to Mariners Survey / dredging Programme / Schedule Byelaws & General Directions Marine Guidelines & Port Information Crew training & Certification Towage Guidelines FCBC SMS Towage audit and license procedure	2	8	8	4	8	1	5	5	3	5	5.75	Most likely: Vessel sinks, all crew safely abandon ship Worst credible: Vessel sinks resulting in total loss of vessel, and loss of life.
1.5	Fire / Explosion	Collision Contact Grounding Human Error Technical Failure Loss of Containment	FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information Notice to Mariners Crew training & Certification Good Housekeeping Towage Guidelines Bunkering Procedures Hot Work Permits FCBC SMS Towage audit and license procedure	5	10	10	5	10	1	5	5	3	4	6.5	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel and cargo, and loss of life.
1.6	Loss of Containment	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Notice to Maniners Survey Programme / Schedule Marine Guidelines & Port Information Crew training & Certification Towage Guidelines Bunkering Procedure	5	5	5	10	5	1	2	2	3	3	4.375	Most likely: Small spill of non-persistant product that dissipate naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact

Conte	nt Reviewed	Changes Made	Changes Made							
		-								
FORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date								
	FP PMSC RA (F) 15/03	MM, HMFI, CHM / December 2013								

Revised By / Date

Risk Assessment - Forth Bridge Review Due

	No significant MRFs during time from previous review.											
k Score												
Hazard Risk Score												
4.125	Most likely: Collision between two small workboats at slow speed resulting in minimal damage and no injuries. Worst credible: Collision between tug & barge and large vessel passing under bridges resulting in loss of vessels and loss of life.											
4.875	Most likely: Small workboat slow speed impact with buoy resulting in minimal damage. Worst credible: Contact with bridge by workboat at high speed resulting in significant damage loss of life, and closure of main channel.											
5.5	Most likely: Vessel grounds in soft mud and refloats on following tide with damage. Worst credible: Vessel hard aground, cannot be refloated resulting in major disruption to ports, extreme damage and loss of contaminent.											
5.75	Most likely: Vessel sinks, all crew safely abandon ship Worst credible: Vessel sinks resulting in total loss of vessel, and loss of life.											
6.5	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel and cargo, and loss of life.											
4.375	Most likely: Small spill of non-persistant product that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact.											



	Cruise Vessel Tender Operations (Newhaven / Hound Point)												MRF: 028/17 (grounding), 067/19 (Contact)		
Ref.	Hazard What can go wrong	Causes How can it go wrong	Controls Preventative & Reactive	Ris		ored leve	el		Ris		lev		sidual le)	Risk Score	
	(Event leading to a consequence)		(What action & how frequent)	Likelihood	People	Τ.	Environmen	Business	Likelihood	People		Environmen		Hazard Risk	
1.1	Collision / Allision	Technical Failure Bridge Team Error Environmental Conditions	Byelaws & General Directions FTNS Weather Forecasting, Tidal Predictions & Monitoring Marine Guidelines & Port Information Crew training & Certification Notice to Mariners Approved & Certificated tender vessels Tender Pro-forma & Passage Planning Tender Pack Ruling Depth and UKC document	3	6	3	3	3	2	8			8	5.375	Most likely: Collision between two tenders at slow speed resulting in minimal damage and no injuries. Worst credible: Collision between large vessel and tender carrying passenger resulting in loss of tender and loss of life.
1.2	Contact	Technical Failure Bridge Team Error Environmental Conditions Change to Shore Infrastructure / Obstruction on the Quay Floating Debris	FTNS Byelaws & General Directions Weather Forecasting / Tidal Predications & Monitoring Marine Guidelines & Port Information Notice to Mariners Crew training & Certification Fendering Approved & Certificated Tender vessels Tender Traffic Control Procedures	5	5	5	5	5	2	8	8	4	6	5.75	Most likely: Tender has slow speed impact with buoy resulting in minimal damage. Worst credible: Tender has high speed impact with pontoon resulting in significant damage to tender and loss of life.
1.3	Grounding	Technical Failure Bridge Team Error Environmental Conditions Uncharted Object	Tender Proforma and Passage Planning FTNS Weather Forecasting / Tidal Predictions Byelaws & General Directions Emergency Plans Notice to Mariners Survey / Programme / Schedule Marine Guidelines & Port Information Crew training & Certification Tender Proforma and Passage Planning Approved & Certificated Tender vessels Tender Pack Ruling Depth and UKC document	4	4	. 4	4	4	2	4	4	4	4	4	Most likely: Tender grounds in soft mud and refloats on following tide with damage. Worst credible: Tender hard aground, cannot be refloated resulting in major disruption to ports, extreme damage and loss of contaminent.
	Sinking / Capsize	Collision Contact Grounding Technical Failure Bridge Team Error	FTNS Weather Forecasting / Tidal Predictions Emergency Plans Notice to Mariners Survey / Programme / Schedule Byelaws & General Directions Marine Guidelines & Port Information Crew training & Certification Tender Pack Ruling Depth and UKC document	1	5	5	2	5	1	5	5	3	5	4.375	Most likely: Tender sinks, all crew and passengers safely abandon ship Worst credible: Tender sinks resulting in total loss of vessel and loss of life.
	Fire	Collision Contact Grounding Human Error Technical Failure Loss of Containment	FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information Crew training & Certification Good Housekeeping Bunkering Procedures	3	3	3	3	6	2	8	8	4	8	5.375	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel, and loss of life.
1.6	Loss of Containment (oil products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Notice to Mariners Survey Programme / Schedule Marine Guidelines & Port Information Bunkering Procedures Crew training & Certification Tender Proforma	3	3	3	3	3	2	6	6	6	4	4.25	Most likely: Small spill of non-persistant product that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact.

Content Rev	iewed	Changes Made						
FORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date						
	FP PMSC RA (F) 16/03	MM, DMM, HMFO March 2014						
Risk Assessment - Cruise Vessel	Review Due	Revised By / Date						
Tender Operations (Hound Point /	Apr-21	MMT / April 2019						



	Tay River Passage - Standard Vessel]
Ref.	Hazard	Causes	Controls	Ris		red at level		dual		1	ed at Re level t Credib		score	
	What can go wrong (Event leading to a consequence)	How can it go wrong	Preventative & Reactive (What action & how frequent)	7	_	Overa		ik	Ì		verall F		Risk 8	
				Likelihood	People	Property	Environmen t	Business	Likelihood	People	Property	Business	Hazard Risk Score	
1.1	Collision	Technical Failure Bridge Team Error Environmental Conditions	Pilotage FTNS Tay Byelaws & General Directions Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Marine Guidelines & Port Information	1	2	4	2	2	1	5	5 5	4	3.625	Most Likely: Collision with small lesuire craft. Worst Credible: Collision with cruise vessel.
1.2	Contact	Technical Failure Bridge Team Error Environmental Conditions	Pilotage FTNS Tay Byelaws & General Directions (Specifically those relevant to the bridges) Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Marine Guidelines & Port Information AIS Beacon on Horseshoe Buoy	3	3	6	3	3	1	5	5 4	4	4.125	Most Likely: Contact with ATON's while underway in fairway. Worst Credible: Extremly heavy landing structural damage to Quay and vessel
1.3	Grounding	Technical Failure Bridge Team Error Environmental Conditions Surveying Omission Failure of Aids to Navigation	Pilotage FTNS Aids to Navigation Maintenance & Verification Programme Weather Forecasting / Tidal Predictions Emergency Plans / OPRC Notice to Mariners Survey / dredging Programme / Schedule Marine Guidelines & Port Information AIS Beacon on Horseshore Buoy Port Entry Light/Virtual Buoss	2	2	6	4	6	2	10	10 10	10	7.25	Most Likely: Grounding on soft material, no loss of containment and vessel able to float off on following tide Worst Credible: Grounding on solid sea bed, loss of containment vessel unable to refloat.
1.4	Sinking / Capsize	Collision Contact Grounding Technical Failure Failure of Vessel Stability Human Error Environmental Conditions	Pilotage FTNS Tay Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule	1	4	5	4	4	2	10	10 10	8	6.875	Most Likely : slow sinking Worst Credible: fast sinking
1.5	Fire / Explosion	Collision Contact Grounding Human Error Technical Failure Loss of Containment	Pilotage FTNS Tay Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information	3	6	6	6	3	1	5	5 5	5	5.125	Most Likely: Small fire onboard, quickly extinguished. Worst Credible: Tanker uncontrolable fire, vessel total loss.
	Loss of Containment (oil products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	Pilotage FTNS Tay Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule Vetting (Tankers) Marine Civiliance & Ret Information	1	1	2	3	3	1	3	5 5	5	3.375	Most likely: Small spill of non-persistant product that dissipates naturally Worst credible: Large scale spill which cannot be contained resulting in port closure and extensive environmental impact.
1.7	Allision	Technical Failure Bridge Team Error Environmental Conditions	Pilotage Byelaws & General Directions FTNS Weather Forecasting and Tidal Predictions Licenced Towage Marine Guidelines & Port Information Large Vessel Guidelines Towane Guidelines	1	1	3	1	2	1	5	5 5	5	3.375	Most Likely: Allsion with small leisure vessel. Worst Credible: Allision with large cruise vessel.

Allision added as a hazard. In line with other risk assesmnets.
Port Entry Light/Virtual Buoys added as a Control.
Addition of Worst Credible and Most Likely Scenarios Scoring Changed to Reflect.

FORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date						
	FP PMSC RA (T) 1/04	DMM, HMD 13th Dec 2012						
Risk Assessment - River Passage	Review Due	Revised By / Date						
Tay (General)	Jun-22	June 2020 MMT						



		Port of Dundee - A												
Ref.	Hazard	Causes	Controls	Risl	Risk scored at Residual level (Most Likely)					Risk se Reside	ual le	vel	core	
	What can go wrong (Event leading to a consequence)	How can it go wrong	Preventative & Reactive (What action & how frequent)	poo	_		all Ri	isk			erall	Risk	d Risk Score	
				Likelihood	People	Property	Environmen	Business	Likelihood	People	Fropeny	Business	Hazard	
	Collision	Technical Failure Bridge Team Error Environmental Conditions	Pilotage Byelaws & General Directions FTNS Weather Forecasting and Tidal Predictions Marine Guidelines & Port Information Towage Guidelines	2	4	6		4	1	3		3 4	3.75	Most Likely: Collision with small lesuire craft. Worst Credible: Collision with berthed cruise vessel
	Contact	Technical Failure Bridge Team Error Environmental Conditions Change to Shore Infrastructure / Obstruction on the Quay	Pilotage FTNS Tay Byelaws & General Directions Emergency Plans Weather Forecasting / Tidal Predictions Marine Guidelines & Port Information Quayside Clear from Obstructions Port Assistant AIS Beacon on Horseshoe Buoy	4	8	8	4	8	2	6	6 8	8	7	Most Likely: Heavy landing on Quay with minor damage Worst Credible: Extremly heavy landing structural damage to Quay and vessel
1.3	Grounding	Technical Failure Bridge Team Error Environmental Conditions Surveying Omission	Pilotage FTNS Weather Forecasting / Tidal Predictions Emergency Plans Notice to Mariners Survey / dredging Programme / Schedule Marine Guidelines & Port Information	3	3	3	3	9	1	2	4 3	3 4	3.5	Most Lkely: Grounding on soft material, no loss of containment and vessel able to float off on following tide Worst Credible: Grounding on solid sea bed, loss of containment vessel unable to refloat.
1.4	Sinking / Capsize	Collision Contact Grounding Technical Failure Bridge Team Error	Plotage FTNS Weather Forecasting / Tidal Predictions Emergency Plans Notice to Mariners Survey / dredging Programme / Schedule Tay Byelaws & General Directions Marine Guidelines & Port Information	1	4	4	3	4	1	5	5 5	5 5	4.375	Most Likely: slow sinking Worst Credible: fast sinking
1.5	Fire / Explosion	Collision Contact Grounding Human Error Technical Failure Loss of Containment	Pilotage FTNS Tay Byelaws & General Directions Emergency Plans / OPRC Weather Forcess of Port Information Notice to Mariners Survey / dredging Programme / Schedule	3	9	9	6	6	1	5	5 5	8	6.625	Most Likely: Small fire onboard, quickly extinguished. Worst Credible: Tanker uncontrolable fire, vessel total loss.
1.7	Allision	Technical Failure Bridge Team Error Environmental Conditions	Pilotage Byelaws & General Directions FTNS Weather Forecasting and Tidal Predictions Licenced Towage Marine Guidelines & Port Information Large Vessel Guidelines Towage Guidelines	1	1	3	1	2	1	5	5 5	5	3.375	Most Likely: Allision with berthed vessel or rig with minor damage. Worst Credible: Allision with berthed cruise vessel significant damage.
1.6	Loss of Containment (oil products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	Pilotage FTNS Tay Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Aids to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule Marine Guidelines & Port Information	3	3	3	6	3	1	2 .	4 4	5	3.75	Most Likely: Ballast water contaminated and discharged causing minimal pollution. Worst Credible: Full loss of cargo .

Content Re	eviewed	Changes Made	Changes Made							
Routine Review 02/06/2020 Reviewed by HMD,MOD, MOL All content reviewed		Allision added as a hazard. In line with the rest of the risk assess Controls updated for Collision. Addition of Worst Credible and Most Likely Scenarios Scoring Ch Reflect.								
	Document ID	Risk Assessment Team / Date								
	FP PMSC RA(T) 2/03	DMM, HMD 13th Dec 2012								
Risk Assessment - Dundee	Review Due	Revised By / Date								
Arrival/Sailing Port Approaches to	Jun-22	June 2020 MMT	June 2020 MMT							



		Port of Dur	ndee - Large Vessel -	Arriv	al/Sai	ling Po	ort Lin	nits to	Berth	1]
Ref.	Hazard	Causes	Controls	T		Overa	II Risk		-		Overa	II Risk		s ×	
	What can go wrong (Event leading to a consequence)	How can it go wrong	Preventative & Reactive (What action & how frequent)	Likelihood	People	Property	Environment	Business	Likelihood	People	Property	Environment	Business	Hazard Risk Score	
1.1	Collision	Technical Failure Bridge Team Error Environmental Conditions	Pilotage Byelaws & General Directions FTNS Weather Forecasting and Tidal Predictions Licenced Towage Marine Guidelines & Port Information Large Vessel Guidelines Towage Guidelines	2	4	8	4	6	1	5	5	5	5	5.25	Most Likely: Collision with small lesuire craft. Worst Credible: Collision with berthed cruise vessel.
1.2	Contact	Technical Failure Bridge Team Error Environmental Conditions Change to Shore Infrastructure / Obstruction on the Quay	Licensed Towage Pilotage FTNS Tay Byelaws & General Directions Emergency Plans Weather Forecasting / Tidal Predictions Marine Guidelines & Port Information	3	3	g ₁	3	6	1	3	5	4	5	4.75	Most Likely: Heary landing on Quay with minor damage Worst Credible: Extremly heavy landing structural damage to Quay and vessel
1.3	Grounding	Technical Failure Bridge Team Error Environmental Conditions Surveying Omission	Pilotage Licenced Towage FTNS Weather Forecasting / Tidal Predictions Emergency Plans Kontice to Mariners Survey / dredging Programme / Schedule Marine Guidelines & Port	2	2	4	4	4	1	2	4	5	5	3.75	Most Likely: Crounding on soft material, no loss of containment and vessel able to float off on following tide Worst Credible: Grounding on solid sea bed, loss of containment vessel unable t refloat.
1.4	Sinking / Capsize	Collision/Allision Contact Grounding Technical Failure Bridge Team Error	Pilotage FTNS Weather Forecasting / Tidal Predictions Emergency Plans Notice to Mariners Survey / dredging Programme / Schedule Tray Byelans & General Directions Marine Guidelines & Port	1	5	5	5	5	1	5	5	5	5	5	Most Likely: Slow sinking Worst Credible: Fast sinking
	Fire / Explosion	Collision/Allision Contact Grounding Human Error Technical Failure Loss of Containment	Pilotage FTNS Tay Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guldelines & Port Information Notice to Mariners Survey / dredging Programme / Schedule	2	8	8	6	6	1	5	5	5	5	6	Most Likely: Small fire onboard, quickly extinguist
	Loss of Containment (oil products)	Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	Notice to Mariners Survey Programme / Schedule Vetting (Tankers) Marine Guidelines & Port Information	2	2	4	4	4	1	3	4	5	5	3.875	Most Like): Ballast water contaminated and dischalteged causing infirming polithics. Worst Credible: Full loss of cargo.
1.7	Allision	Technical Failure Bridge Team Error Environmental Conditions	Pilotage Syelaws & General Directions FTNS Weather Forecasting and Tidal Predictions Licenced Towage Marine Guidelines & Port Information Towage Guidelines	1	1	3	1	2	1	5	5	5	5	3.375	Most Likely: confact with anchored vessel causing minimal damage. Worst Credible: Alleion with berified cruise vessel causing signicant damage.

Content Reviewed	Changes Made
Routine Review 02/06/2020	Collision Likelihood increased to reflect current leisure trends.
Reviewed by HMD,MOD, MOL	Allision likilihood reduced.
All content reviewed	Addition of Worst Credible and Most Likely Scenarios Scoring
	Changed to Reflect.

		Risk Assessment Team / Date DMM, HMD 13th Dec 2012
Risk Assessment - Large Tanker		Revised By / Date
Arrival/Sailing Port Limits to	Jun-22	June 2020, MMT
Berth		



.1	Hazard What can go wrong (Event leading to a consequence)	Causes How can it go wrong	Controls	Diel											1
.1	(Event leading to a consequence)	Tiazara Gauses Gondon		(Mo	ed at level st Lik	Res	idual		Res	idual	red a	1	Score		
.1		Tion carrings mong	(What action & how frequent)	P		overa		sk	_	-		all Ris	,	Risk	
.1				Likelihood	People	Property	Environmen	Business	Likelihooc	People	Property	Environmen t	Business	Hazard	
	Collision	Technical Failure Bridge Team Error Environmental Conditions	Pictage Specimen A General Directions FTMS Weather Forecasting and Tidal Predictions Towage Marine Guidelines & Port Information (River Closed to other Traffic during rig move) Towage Audit Declaration / Toy Wetting Large Vessel Movement Notice to Mariners	2	4	4	4	4	1	4	5	2	4	3.875	Most Likely: Collision with small leisure craft while underway. Worst Credible: Collision with standard vessel in fairway.
.2	Contact	Technical Failure Bridge Team Error Environmental Conditions Change to Shore Infrastructure / Obstruction on the Quey Communication Error	Torage Pictage FTNS Try Byelsevs & General Directions Emergency Plans Weather Forecasting / Tidal Predictions Marine Guidelines & Port Information (River Closed to other Traffic during rig move) Additional Fendering (if achievable on berth) Appointed Townster Towage Audit Declaration / Tug Vetting Simulation Trials Horshoe Bucy Identified by AJS Unit Port Emit Link/Missian Buryos.	3	3	Ø	3	6	1	3	5	Ю	4	4.5	Most Likely: Contact with navigational buoy Worst Credible: Contact with berthed vessel/rig Most Likely: Grounding on soft material, no loss of containment and vessel able to float off on following tide Worst Credible: Grounding on solid sea bed, loss of containment vessel unable to refloat. Most Likely: Sinking of rig outside of navigational channel no loss of containment. Worst Credible: Sinking within navigational channel loss of containment. Worst Credible: Sinking within navigational channel loss of containment. Most Likely: Small fire on vessel, extinguished on board Worst Credible: Large fire on rig, complete loss.
	Grounding	Technical Failure Bridge Team Error Environmental Conditions Surveying Omission	Pilotage Towage FTNS Weather Forecasting / Tidal Predictions Emergency Plans Notice to Mariners Survey / dredging Programme / Schedule Marine Guidelines & Port Information Towage Audit Declaration / Tug Vetting Contingency Pin Locations Identified Appointed Towmaster Simulation Trials Horshoe Bucy Identified by AIS Unit Port Entry Light/Virtual Buoys	2	2	2	4	6	1	1	1	4	5	3.125	
.4	Sinking / Capsize	Collision Contact Grounding Technical Failure Bridge Team Error	Pilotage Towage FTNS Weather Forecasting / Tidal Predictions Emergency Plans Nucleic to Mariners Survey / dredging Pogramme / Schedule Marine Guedlense A Port Information (River Closed to other Traific during rig move) Towage Audit Declaration / Tug Veiting Foreign Committee of the Programme / Schedule Appointed Towaster Simulation Trails Horshoe Bucy (Identified by AIS Unit Port Entry Light-Virtual Buoys	1	4	4	3	4	1	4	4	Ø.	G.	4.125	
	Fire / Explosion	Collision Contact Human Error Human Error Technical Failure Loss of Containment	Pilotage FiTNS Tay Byelsa & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information Notice to Mariners Marine Guidelines & Port Information (River Closed to other Traffic during rig move) Towage Audit Declaration / Tuy Vetting Appointed Towmaster	3	6	6	3	6	1	5	5	4	5	5	
.6	Loss of Containment (oil products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	Pilotage FITNS Tay Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Aids to Navigation Maintenance & Verification Programme Notice to Maintens Survey Programme / Schedule Marine Cuidelines & Port Information (River Closed to other Traitic during rig move) Towage Audit Declaration / Tuy Vetting Apportune Revision of Towage Foreign (Programme) Revision (Programme)	2	2	2	6	4	1	1	1	4	5	3.125	Most Likely: Small loss of non-persistant oil product Worst Credible: Large spill of persistant product
ſ	Content Rev	iewed	Changes Made												
	Routine Review 02/06/2020 Reviewed by HMD,MOD, MOL All content reviewed		Addition of Large Vessel NIM (Existing measure, not pre 1.1). Addition of Port Entry LightVirtual Budys. Sirking/Capitse Likelihood reduced to 1. Addition of Worst Credible and Most Likely Scenarios St Reflect.												
[FORTH PORTS LIMITED	Document ID FP PMSC RA (T) 5/04	Risk Assessment Team / Date DMM, HMD 09th January 2013	1											



	Tay - River Tra	nsit + Berthing/Sa	iling Small Commercial Craft (Tug	s, W	ork	bo	ats,	Pile	ot E	Boat	s et	c.)		
Ref.	Hazard	Causes	Controls	Risi		leve		idual		Resid	cored	vel		9 000
	What can go wrong (Event leading to a consequence)	How can it go wrong	Preventative & Reactive (What action & how frequent)	Likelihood	r i		all Ri	Business	Likelihood	0	Property	Risk		Hazard Riek Soore
1.1	Collision	Technical Failure Bridge Team Error Environmental Conditions	Byelsws & General Directions (GD13) FTNS Weather Forecasting and Tidal Predictions Marine Guidelines & Port Information Pilot Vessel training & Certification Towage Guidelines Notice to Mariners Liason with Local Authoritys & Boat Clubs Small Vessel SMS	3	3	6	e En	3	2	8	6 4	1 8		Most Likely. Collission with leisure user on river. Worst Credible: Collision with other small vessel causing loss of bot vessels.
1.2	Contact	Technical Failure Bridge Team Error Environmental Conditions Change to Shore Infrastructure / Obstruction on the Quay	FTNS Tay Byelaws & General Directions (GD13) Emergency Plans Weather Forecasting / Tidal Predications Marine Guidelines & Port Information Towage Guidelines Notice to Mariners Plict Vessel training & Certification AIS Beacon on Horseshoe Buoy Port Entry Light and Virtual Buoys	5	5	5	5	5	2	6	6	1 6		Most Likely: Light contact with the quay-side while berthing. Worst Credible: Contact with another berthed small vessel.
1.3	Grounding	Technical Failure Bridge Team Error Environmental Conditions Surveying Omission	FTNS Weather Forecasting / Tidal Predictions Tay Byelaws & General Directions (GD13) Emergency Plans Emergency Plans Survey / detading Programme / Schedule Marine Guidelines & Port Information Towage Guidelines & Port Information Towage Guidelines Pliot Vessel training & Certification Small Vessel SMS	3	3	3	3	3	1	3	4 2	2 3		Most Likely: Grounding of small! vessel on soft silt, refloated on san tide (tidal basin). Worst Credible: Grounding on hard rock, causing loss of containment, unable to refloat on same tide.
1.4	Sinking / Capsize	Collision Contact Grounding Technical Failure Bridge Team Error	Pilotage FTNS Weather Forecasting / Tidal Predictions Emergency Plans Notice to Mariners Survey / dredging Programme / Schedule Tay Byellaws & General Directions Marine Guidelines & Port Information Pilot Vesset training & Certification Towage Guidelines Small Vesset SMS	2	6	8	4	6	1	3	4 3	3 4		Most Likely: sinking o small vessel outside of navigational channel, loss of containment. Worst Credible: Sinking of small vessel within navigational channel with loss of containment.
1.5	Fire / Explosion	Collision Contact Grounding Human Error Technical Failure Loss of Containment	FTNS Tay Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information Notice to Mariners Survey / dredging Programme / Schedule Pliot Vesselt training & Certification Good Housekepting Towage Guidelines Small Vessel SIMS	3	3	3	3	3	1	4	4 2	2 3	3	Most Likely: small fire which is extinguished by crew. Worst Credible: Major fire leading to total loss of vessel.
1.6	Loss of Containment (oil products)	Collision Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	FTNS Tay Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Adds to Navigation Maintenance & Verification Programme Notice to Mariners Survey Programme / Schedule Marine Guidelines & Port Information Bunkering Procedures Plitot Vessel training & Certification Towage Guidelines	4	4	4	8	4	1	1	2 3	3	3	Most Likely: Small loss of non-persistant oil product. Worst Credible: Large spill of persistant product.

Content Reviewed	Changes Made
Routine Review 02/06/2020	Addition of Small Vessel SMS
Reviewed by HMD,MOD, MOL	Scoring of Loss of Containment most likely, likelihood increased to reflect
All content reviewed	recent POLREPS from Pilot Vessels.
	Addition of Worst Credible and Most Likely Scenarios Scoring Changed to
	Reflect.

FORTH PORTS LIMITED		Risk Assessment Team / Date DMM, HMD 09th January 2013
		Revised Bv / Date
Transit + Berthing/Sailing Small	.lun-22	June 2020, MMT



		Forth & Tay - Vessels at Anchor													MRF 017/18 (Dragging Anchor)	
Ref.	Hazard What can go wrong	Causes How can it go wrong	Controls Preventative & Reactive	Risk scored at Residual level level (Most Likely) (Worst Credible)		Score										
	(Event leading to a consequence)		(What action & how frequent)	Likelihood	People	1.	Environmen t	sk Business	Likelihood	People		Environmen t	Business Business	Hazard Risk		
1.1	Dragging Anchor	Environmental Conditions Bridge Team Error Technical Failure	Designated and Proven Anchorages FTNS Weather Forecasting / Tidal Predictions Towage Byelaws & General Directions Pilotage Emergency Plans / OPRC	5	5	10		5	2	8		10	10	7.875	Most likely: Vessel drags anchor, then pays out more chain resulting in no further dragging. Worst credible: Vessel drags anchor resulting in vessel going aground or making contact will bridge/jetty. Vessel suffers extreme damage and possibbility of loss of life.	
1.2	Contact	Technical Failure Bridge Team Error Environmental Conditions	Pilotage FTNS Towage Byelaws & General Directions Weather Forecasting / Tidal Predictions Designated and Proven Anchorages Notice to Mariners Emergency Plans / OPRC	2	4	6	4	6	1	5	5	5	5	5	flost likely: Vessel has slow speed impact with buoy resulting in minimal damage. Vorst credible: Vessel has high speed impact with bridge/jetty resulting in significant damage or vessel and loss of life.	
1.3	Grounding	Technical Failure Bridge Team Error Environmental Conditions Surveying Omission Dragging Anchor	Pilotage Passage plan - master / pilot information exchange FTNS Towage Weather Forecasting / Tidal Predictions & Tidal Monitoring Designated and Proven Anchorages Emergency Plans / OPRC	2	4	6	4	6	1	5	5	5	5	5	Most likely: Vessel grounds in soft mud and refloats on following tide with minimal damage. Worst credible: Vessel hard aground, cannot be refloated resulting in major disruption to ports, extreme damage and loss of contaminent.	
1,4	Sinking / Capsize	Contact Grounding Technical Failure Failure of Vessel Stability Human Error Environmental Conditions	Pilotage FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions	1	4	5	5	5	1	5	5	5	5	4.875	Most likely: Vessel sinks, all crew safely abandon ship Worst credible: Vessel sinks resulting in total loss of vessel, and loss of life.	
1.9	Fire / Explosion	Contact Grounding Human Error Technical Failure Loss of Containment	Pilotage FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting	2	6	6	6	4	1	5	5	5	5	5.25	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel, and loss of life.	
1.6	Loss of Containment (Oil Products)	Grounding Human Error Contact Technical Failure Sinking / Capsizing Fire / Explosion Environmental Conditions	Pilotage FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Notice to Mariners Marine Guidelines & Port Information Bunkering Procedure	3	6	6	9	9	1	3	5	5	5	6	Most likely: Small spill of non-persistant product that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact.	

Content Reviewed	Changes Made
Dragging Anchor	Increase in Likelihood - Dragging Anchor
Grounding	Increased risk to people, property and business - Grounding
Loss of Containment	Increase risk to business - Loss of Containment
MRF 017/18 (Dragging Anchor)	

FORTH PORTS LIMITED		Risk Assessment Team / Date
	FP PMSC RA (F&T) 1/05	DMM, HMFO, HMFI, HMD, MT&PV / 11th Jan 2013
Risk Assessment - Vessels at Anchor	Review Due	Revised Bv / Date
	Jul-22	July 2020, MMT

	Forth & Tay - Towage Operations											074/18 (Grounding), 026/19 (Contact)			
Ref.	Hazard What can go wrong (Event leading to a consequence)	Causes How can it go wrong	Controls Preventative & Reactive (What action & how frequent)	Ris		ored a levelost L	el ikely)			(Wors	level t Cred	dible)		Risk Score	
	(Even reading to a consequence)		(What dollar to have regionly	Likelihood	People	Τ.	Environmen t	Business	Likelihood			I Risk	Business	Hazard Ri	
1.1	Capsizing / Flooding	Girting Loss of Stability Grounding Technical Failure Human Error Environmental Conditions Tug Positioning Speed	Towage Guidelines Tug SMS FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions Pilotage Crew Training Pre Operations Checks/ Briefings	2	8	8	8	8	1	5	5		5	6.375	Most Likely: Tug experiences girting but is able to recover with no significant consequence/damage Worst Credible: Tug experiences girting causing the tug to capsize with total loss of life and vessel
	Fire	Loss of Containment Grounding Technical Failure Human Error Environmental Conditions	FTNS Tug SMS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting Marine Guidelines & Port Information Notice to Mariners Crew Training & Certification Good Housekeeping Towage Guidelines	3	3	3	3	6	2	8	8	8	8	5.875	Most Likely: Vessel suffers a minor fire which is extinguished quickly and results in no significant damage. Worst Credible: Vessel suffer an extensive fire which results in loss of life and total loss of the vessel
1.3	Contact	Technical Failure Loss of Tow / Towline Failure Bridge Team Error Environmental Conditions Change to Shore Infrastructure / Obstruction on the Quay Floating Debris Tug Positioning Speed	FTNS Byelaws & General Directions Emergency Plans Weather Forecasting / Tidal Predications Marine Guidelines & Port Information Towage Guidelines Notice to Mariners Tug SMS, Crew Training/Qualifications	5	5	10	5	10	2	6	8	8	10	7.75	Most Likely: Vessel makes minor contact with pier/jetty/object resulting in no significat damage to either the vessel or object and no injuries Worst Credible: Vessel makes heavy conact with an object resulting in significant damage to both the vessel and object with injuries/fatalities
	Collision	Technical Failure Loss of Tow / Towline Failure Bridge Team Error Environmental Conditions	FTNS Byelaws & General Directions Emergency Plans Weather Forecasting / Tidal Predications Marine Guidelines & Port Information Towage Guidelines Notice to Mariners Tup SMS - Count Training/Qualifications	3	3	6	6	3	1	4	4	4	4	4.25	Most Likely: Tug collides with another vessel at slow speed resulting in no significant damage to either vessel and no injuries Worst Credible: Tug collides with another vessel at high speed resulting in possible loss of the vessels and injuries/fatalities
1.5	Grounding	Technical Failure Bridge Team Error Environmental Conditions	FTNS Byelaws & General Directions Emergency Plans Weather Forecasting / Tidal Predications - spelling Marine Guidelines & Port Information Towage Guidelines Notice to Mariners Tup SMS - Crew Training/Qualifications	3	6	6	6	9	1	4	5	4	5	5.625	Most Likely: Vessel reuns aground but suffers no significant damage and is able to be refloated with the tide Worst Credible: Vessel runs aground in the entrace to a port resulting and cannot be refloated resulting in loss of the vessel, possible injuries/fatalities and loss of business
1.6	Man Overboard / Personal Injury	Human Error Technical Failure Enviromental Conditions	Crew Training Tug SMS Tug Design Towage Guidelines	2	4	2	2	4	1	5	1	1	5	3	Most Likely: Crew member suffers a minor injury which can be treated on board and does not result in lost time
				1											Worst Credible: Crew member falls overboard/suffers extensive injuries resulting in loss of life

Content Reviewed	Changes Made
Grounding MRF 074/18 (Grounding) MRF 026/19 (Contact)	Increase in likelihood - Grounding

FORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date
	FP PMSC RA (F&T) 2/05	MT&PV, MM, HMFO, DMM, HMD / 13th Feb 2013
Risk Assessment - Towage	Review Due	Revised By / Date
Operations	Jul-22	July 2020. MMT



		Forth & Ta	y - Immobilised Vessels (at Anchor or Alor	ngsi	de)										MRF 072/19 (Fire)
Ref.	Hazard What can go wrong (Event leading to a consequence)	Causes How can it go wrong	Controls Preventative & Reactive (What action & how frequent)		_	leve st Lil			((Wors	evel	dible)	Risk Score	
				Likelihood	People	Property	Environmen t	Business	Likelihood	People	Property	t t	Business	Hazard F	
1.1	Contact Refer also to FP PMSC RA (F&T) 1	Technical Failure Human Error Environmental Conditions Dragging Anchor Breaking Away from Moorings	Byelaws & General Directions Weather Forecasting & Monitoring Marine Guidelines & Port Information Standby Tug at Anchor FTNS Extra Moorings	2	4	6	4	4	1	3	4	4	4	4.125	Most likely: Vessel has slow speed impact with buoy resulting in minimal damage. Worst credible: Vessel has high speed impact with bridge/jetty resulting in significant damage to vessel and loss of life.
	Grounding Refer also to FP PMSC RA (F&T) 1	Technical Failure Human Error Environmental Conditions Dragging Anchor Breaking Away from Moorings	FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting & Monitoring Marine Guidelines & Port Information Notice to Mariners Standby Tug at Anchor	2	2	6	6	4	1	3	5	4	4	4.25	Most likely: Vessel grounds in soft mud and refloats on following tide with minimal damage. Worst credible: Vessel hard aground, cannot be refloated resulting in major disruption to ports, extreme damage and loss of contaminent.
1.3	Fire / Explosion Refer also to FP PMSC RA (F&T) 1	Contact Grounding Human Error Technical Failure Loss of Containment	Pilotage FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting	3	9	9	9	6	1	5	5	5	5	6.625	Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel, and loss of life.

Content Reviewed	Changes Made
Full review MRF 072/19 (Fire)	Added hazard for Fire/Explosion as a result of MRF 072/19 (Fire on an immobilized vessel

FORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date
	FP PMSC RA (F&T) 3/05	MM, DMM / 26th Feb 2013
Risk Assessment - Immobilised		Revised Bv / Date
Vessels	Jul-22	July 2020, MMT



		Fo	orth & Tay - Bunkering Operations In Dock											POLREP (Leith) 07/18
Ref.	Hazard What can go wrong	Causes How can it go wrong	Controls Preventative & Reactive (What action & how frequent)	Preventative & Reactive (Most Likely) (Wors				(Worst	level t Cred	lible)	Risk Score			
	(Event leading to a consequence)		(what action a now frequent)	Likelihood	People	_	Environmen		Likelihood	_	Property Environmen		Hazard Ris	
1.1	Collision with bunker vessel and receiving vessel	Technical Failure Bridge Team Error Environmental Conditions	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS - Scheduling,VTS Bylaws & General Directions Notice To Maniners Weather Parameters Emergency Plans / OPRC Tugs Mooring/Unmooring Procedures Terminal Procedures Lock Gates Bunkering Procedures	2	6			2	1			4 5	4.25	Most likely: Slow speed collision between both vessels resulting in minimal damage and no loss of containment Worst credible: Heavy collision between both vessels resulting in extreme damage, loss of life and loss of containment Most likely: Vessel has slow speed impact with buoy resulting in minimal damage. Worst credible: Vessel has high speed impact with quayside resulting in significant damage to vessel and loss of life. Most likely: Small spill of non-persistant product that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact. Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel, and loss of life.
1.2	Contact	Technical Failure Bridge Team Error Environmental Conditions Mooring Failure	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS - Scheduling,VTS Bylaws & General Directions Notice To MarinerS Weather Parameters Emergency Plans / OPRC Tugs Fenders Mooring Procedures	3	3	6	3	3	1	3	5	4 4	3.875	
1.3	Loss of Conrainment (Oil Products)	Technical Failure Human Error Collision Grounding Mooring Failure Sinking Fie/Expolsion Contact	Pilotage FTNS - Scheduling, VTS Forth Bylaws & General Directions N To M Emergency Plans / OPRC Weather Forecasting Weather Parameters Fenders either side of manifold Mooring Procedures Bunkering Procedure Vetting (Bunker Vessel) Bunkering Procedures Lock Gates Port Traffic Managment	3	3	3	6	6	1	3	3	4 4	4	
1.4	Fire/Explosion	Technical Failure Human Error Collision Grounding Mooring Failure Sinking Fie/Expolsion Contact	Pilotage FTNS - Scheduling, VTS Bylaws & General Directions Notices To Mariners Emergency Plans / OPRC Weather Forecasting Weather Parameters Bunkering Procedure. Mooring Procedures Vetting (Bunker Vessel)	1	4	4	3	4	1	5	5	4 5	4.25	

Content Reviewed	Changes Made
Loss of Containment	Decrease most likely impact to Environment and Business
POLREP (Leith) 07/18	

FORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date
	FP PMSC RA (F&T) 4/05	HMFO, HMFI, MM, HMD, DMM 20th Feb 2013
Risk Assessment - Bunkering	Review Due	Revised By / Date
Operations In Dock	.lul-22	July 2020 MMT



		Forth	& Tay - Bunkering Operations Tidal Water	s											No relevant MRFs since previous review
Ref.	Hazard What can go wrong (Event leading to a consequence)	Causes How can it go wrong	Controls Preventative & Reactive (What action & how frequent)			red at level st Lik Overa	ely)				leve orst Cr	at Res	e)	d Risk Score	
				Likelihood	People	Property	Environmer t	Business	Likelihood	People	Property	Environmer t	Business	Hazard	
1,1	Collision with bunker vessel and receiving vessel	Technical Failure Bridge Team Error Environmental Conditions	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS - Scheduling,VTS Bylaws & General Directions Notice To Mariners Weather Parameters Emergency Plans / OPRC Tugs Fenders Mooring/Unmooring Procedures Bunkering Procedure	3	9	9	6	6	1	4	5	5	5	6.125	Most likely: Slow speed collision between both vessels resulting in minimal damage and no loss of containment Worst credible: Heavy collision between both vessels resulting in extreme damage, loss of life and loss of containment
1.2	Contact	Technical Failure Bridge Team Error Environmental Conditions Mooring Failure	Pilotage Passage plan / berthing plan – master / pilot information exchange FTNS - Scheduling,VTS Bylaws & General Directions Notice To Mariners Weather Parameters Emergency Plans / OPRC Tugs Fenders Mooring Procedures Bunkering Procedure	3	3	6	3	3	1	3	5	4	4	3.875	Most likely: Vessel has slow speed impact with buoy resulting in minimal damage. Worst credible: Vessel has high speed impact with quayside resulting in
1.3	Loss of Containment (Oil Products)	Technical Failure Human Error Collision Grounding Mooring Failure Sinking Fie/Expolsion Contact	Pilotage FTNS - Scheduling, VTS Bylaws & General Directions N To M Emergency Plans / OPRC Weather Forecasting Weather Parameters Fenders either side of manifold Mooring Procedures Bunkering Procedure Vetting (Bunker Vessel) Oil Pollution response standby vessel	3	6	6	9	9	1	3	3	4	4	5.5	significant damage to vessel and loss of life. Most likely: Small spill of non-persistant product that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact. Most likely: Small fire on board which is quickly and easily extinguished. Worst credible: Uncontrollable fire, total loss of vessel, and loss of life.
1.4	Fire/Explosion	Technical Failure Human Error Collision Grounding Mooring Failure Sinking Fie/Expolsion Contact	Pilotage FTNS - Scheduling, VTS Bylaws & General Directions Notices To Mariners Emergency Plans / OPRC Weather Forecasting Weather Parameters Tugs Bunkering Procedure. Mooring Procedures Vetting (Bunker Vessel) Bunkering Procedure	1	4	4	3	4	1	5	5	5	5	4.375	

Conter	nt Reviewed	Changes Made
All cont	ent reviewed	No changes made
		•
ORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date

FORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date
	FP PMSC RA (F&T) 5/05	HMFO, HMFI, MM, HMD, DMM 20th Feb 2013
Risk Assessment - Bunkering	Review Due	Revised By / Date
Operations Tidal Waters	.lul-22	July 2020 MMT



		Forth & Tay - NAABSA Berths											MRF 020/19 (Contact)	
Ref.	Hazard What can go wrong (Event leading to a consequence)	Causes How can it go wrong	Controls Preventative & Reactive (What action & how frequent)	Risi	(Mo	level st Lik				(Wors	ed at R level at Credi	ble)	al Risk Score	
				Likelihood	People	Property	Environment	Business	Likelihood	People	Property	Business	7	
1.	Contact	Technical Failure Human Error Environmental Conditions	Byelaws & General Directions Weather Forecasting / Tidal Predictions & Monitoring Marine Guidelines & Port Information NAABSA Berth Procedure Welcome Pack	3	6	3	3	6	1	4	5 ;	3 5	4.3	Most likely: Vessel has slow speed impact with quayside resulting in minimal damage. Worst credible: Vessel has high speed impact with quayside resulting in etxreme damage to vessel, quayside, and loss of business due to potential port closure.
1.	² Capsize/Flooding	Contact Technical Failure Failure of Vessel Stability Human Error Environmental Conditions Changes to seabed conditions / Obstructions	FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions NAABSA Berth Procedure NAABSA Berth Inspections Survey Programme	1	3	5	3	5	1	5	5 !	5 5	i 4.	Most likely: Vessel takes on water which is contained resulting in no long term damage to the vessel and no injury Worst credible: Vessel capsizes resulting in total loss of vessel and multiple fatalities
1.	3 Fire	Reduced Fire Fighting Capability Due to lack of dock water	NAABSA Berth Procedures Emergency Procedures Welcome Pack	2	4	4	2	4	2	10	10	5 10	6.2	
1.	Hull Damage	Debris Obstruction on seabed Changes to seabed gradient Contact	NAABSA Berth Procedures Emergency Procedures Welcome Pack NAABSA Inspections Survey Programme Weather Forecasting / Tidal Predictions & Monitoring Byelaws & General Directions	3	3	9	6	9	2	4	8 8	8 8	6.8	Most likely: Vessel suffers minor hull damage which can be easily replaired
1.	Loss of Containment	Human Error Contact Technical Failure Capsizing / Flooding Fire Environmental Conditions Mud Suction	FTNS Byelaws & General Directions Emergency Plans / OPRC Weather Forecasting / Tidal Predictions & Monitoring Notice to Mariners Bunkering Procedure NAABSA Berth Procedures NAABSA Berth Inspections	2	2	4	6	6	1	2	3 4	4 4	3.8	Most likely: Small spill of non-persistant product that dissipates naturally. Worst credible: Large scale spill which cannot be contained resulting in port closures and extensive environmental impact.

Content Reviewed	Changes Made
Fire	Amended incorrect figure for most likely impact toenvironment (1 > 2) (Fire)
Hull Damage	Reduced most likely impact to environment (Hull Damage)
MRF 020/19 (Contact)	
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FORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date
	FP PMSC RA (F&T) 06/05	DMM, HMFO, HMFI, HMD, MT&PV / 11th Jan 2013
Risk Assessment - NAABSA Berths	Review Due	Revised By / Date
	.lul-22	July 2020 MMT



	Forth & Tay - Diving Operations								No relevant MRFs since previous review					
Ref.	Hazard What can go wrong	Causes How can it go wrong	Controls Preventative & Reactive	Ris		red at level ost Lil	ı	dual			ed at F level at Cred	Residual ible)	Score	
	(Event leading to a consequence)		(What action & how frequent)	Likelihood	People	Dvera Loberty	Environment Environment	k Business	Likelihood	People	Property	Risk Business	Hazard Risk	
1.1	Swamping / turbulence / interaction	Traffic	Forth Ports Dive Procedure (Permit) Dive Signals displayed Established Communications FTNS Exclusion Zones Speed Restrictions Notice to Mariners Dive Supervisor Local Monitoring	3	6	3	3	3	1	5	4	2 4	3.75	Most Likely: Passing vessel comes too close or passes at speed which will alarm divers and possibly result in minor injury. Worst Credible: Passing vessel comes too close or passes at speed which results in fatality to diver.
1.2		Traffic	Forth Ports Dive Procedure (Permit) Established Communications FTNS Exclusion Zones Notice to Mariners	1	3	2	1	1	1	5	5	3 5	3.125	Most Likely: Vessel makes contact with diver / dive boat resulting in minor injuries. Worst Credible: Vessel makes contact with diver / dive boat resulting in fatalities and loss of dive boat.

Content Reviewed	Changes Made
Swamping/Turbulence/Interaction	Amended incorrect values for property, evironment and business - Swamping (4 > 3)

FORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date
	FP PMSC RA (F&T) 7/03	HMFI/HMFO/HMD/MM/CHM 03rd Sep 14
Risk Assessment - Diving Operations	Review Due	Revised By / Date
	Jul-22	July 2020 MMT



	Forth & Tay - Recreational Events (e.g.swim events)												MRF 068/2018 - Swim Event	
Ref.	Hazard What can go wrong (Event leading to a consequence)	Causes How can it go wrong	Controls Preventative & Reactive (What action & how frequent)	Ris	(M	leve ost L	at Res el ikely) rall Ri			(Worst	evel	ole)	Score	
				Likelihood	People	T.	t	Business	Likelihood		Property		Hazard Risk	
1.1	Collision / contact	Proximity of non participating craft / vessel	Event Notification Form Notice to Mariners Exclusion Zones (as considered appropriate) FTNS Planning Meetings (Where appropriate) Appropriate Safety Craft Established Communications Localised monitoring by Event Organisers	2	6	4	2	6	1	5	3 1		3.875	Most Likely: Contact between participant and other water user resulting in alarm or minor inury. Worst Credible: Contact between participant and other water user resulting in fatality.
1.2	Swamping / interaction / turbulence	Proximity of non participating craft / vessel	Event Notification Form Notice to Mariners Exclusion Zones (as considered appropriate) FTNS Planning Meetings (Where appropriate) Appropriate Safety Craft Established Communications Localised monitoring by Event Organisers	2	4	2	2	2	1	5	1 1	4	2.625	Most Likely: Passing vessel comes too close or passes at speed causing alarm and possibly result in minor injury. Worst Credible: Passing vessel comes too close or passes at speed which results in falality.

Content Reviewed	Changes Made
All content reviewed MRF 068/2018	No changes made

FORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date
	FP PMSC RA (F&T) 8/03	HMFI/HMFO/HMD/MM/CHM 03rd Sep 14
Risk Assessment - Recreational	Review Due	Revised By / Date
Events	Jul-22	July 2020, MMT



		Forth & Tay - Underwater Cables & Pipelines											No relevant MRFs since previous review	
Ref.	Hazard What can go wrong	Causes How can it go wrong	Controls Preventative & Reactive	Risi		scored at Residual level (Most Likely)				cored lev	/el	sidual e)	Score	
	(Event leading to a consequence)		(What action & how frequent)		ď	verall	Risk			Ove	erall Ri	isk	Risk	
				Likelihood	People	Property	Environment		Likelihood	People	Environment	Business	Hazard F	
1.	Contact	Technical Failure Bridge Team Error Environmental Conditions Dragging Anchor Mooring Failure	FTNS Emergency Procedures (Pipeline Damage Procedure) Pilotage Marine Guidelines & Port Information Byelaws & General Directions Exclusion Zone Survey Programme and Schedule Weather Forecast / Tidal Information & Monitoring Aids to Navigation	2	4	6	2 6	5	1	3 5	4	5	4.375	Most Likely: Minor contact is made with a pipeline/cable resulting in no significant damage Worst Credible: Pipleine/Cable receives heavy contact resulting in substantial damage causing widespread pollution or major loss of supply from cables
1.	² Pipeline / Cable Damange	Technical Failure Bridge Team Error Environmental Conditions Dragging Anchor Mooring Failure Contact	FTNS Emergency Procedures (Pipeline Damage Procedure) Pilotage Marine Guidelines & Port Information Byelaws & General Directions Exclusion Zone Survey Programme and Schedule Weather Forecast / Tidal Information & Monitoring Aids to Navigation	2	2	6	2 6	5	1	2 5	4	5	4	Most Likely: Pipeline/cable suffers minor damage resulting in no adverse effects Worst Credible: Pipleine/Cable receives heavy contact resulting in substantial damage causing widespread pollution or major loss of supply from cables
	Fire / Explosion	Technical Failure Bridge Team Error Environmental Conditions Dragging Anchor Mooring Failure Contact Loss of Containment	FTNS Emergency Procedures (Pipeline Damage Procedure) Pilotage Marine Guidelines & Port Information Byelaws & General Directions Exclusion Zone Survey Programme and Schedule Weather Forecast / Tidal Information & Monitoring Aids to Navigation	1	4	5	4 5	5	1	4 5	5	5	4.625	Most Likely: Small fire at production end resulting in minimal impact to pipeline Worst Credible: Major fire/explosion at production end resulting in severe damage to a pipeline and extensive widespread pollution
1.	Loss of Containment / Power / Communication	Technical Failure Bridge Team Error Environmental Conditions Dragging Anchor Mooring Failure Contact	FTNS Emergency Procedures (Pipeline Damage Procedure) Pilotage Marine Guidelines & Port Information Byelaws & General Directions Exclusion Zone Survey Programme and Schedule Weather Forecast / Tidal Information & Monitoring Aids to Navigation	2	4	6	4 6		1	4 5	4	5	4.75	Most Likely: Minor loss of containment/supply which is rectified quickly and results in no widespread pollution/effects Worst Credible: Major loss of containment resulting in extensive and widespread pollution/loss of powere, data

Content Reviewed		Changes Made							
Fire/Explosion		Increased worst credible impact to environment - Fire/Explosion							
FORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date							
	FP PMSC RA (F&T) 9/02	CHM/MM 18th Feb 2015							
Risk Assessment - Underwater Cables & Pipelines	Review Due	Revised By / Date							
	Jul-22	July 2020, MMT							

		Marine Pollution (Tidal Waters)										POLREP: Limekiins (19/2/19), N. Queensferry (12/8/19), Bridges (09/3/20)		
Ref.	Hazard What can go wrong (Event leading to a consequence)	Causes How can it go wrong	Controls Preventative & Reactive (What action & how frequent)	Ris	(Mo	leve ost Li	at Res el ikely) rall Ris			(Wors	ed at R level t Credi		Risk Score	
				Likelihood	People	Property	Environment	Business	Likelihood	People	Property	Business	Hazard Ri	
1.1		Collision Contact Grounding Poor Decision Making Technical Failure	FTNS Bunkering Procedure Byelaws & General Directions Pilotage Survey Programme / Schedule Marine Guidelines & Port Information Emergency Plans - OPRC Towage Guidelines Oil Terminal Guidelines Weather / tidal Forecasting & Monitoring Oil Spill Prediction Software Notice to Mariners	5	5	5	10	5	1	3	5 5	5		Most Likely: Minor pollution consisting of a light product which has no adverse effects on the marine environment and dissipates naturally Worst Credible: Major widespread pollution consisting of a heavy product which results in extensive adverse effects to the marine environment/wildlife requiring significant resources to tackle

Content Reviewed	Changes Made
All content reviewed	No changes made
Various POLREPS	

FORTH PORTS LIMITED	Document ID	Risk Assessment Team / Date
	FP PMSC RA (F&T) 10/02	CHM, MM, DMM, HMD / 12th August 2015
Risk Assessment - Marine Pollution	Review Due	Revised By / Date
(Tidal Waters)	.lul-22	July 2020 MMT

	Marine Pollution (Enclosed Dock)											POLREP - Leith (19/2/19) (1/9/19)		
Ref.	Hazard What can go wrong (Event leading to a consequence)	Causes How can it go wrong	Controls Preventative & Reactive (What action & how frequent)	Ris	(Mo	red at level	kely)			le Worst	evel Credi		Score	
	(Levent leading to a consequence)		(What death a new negative)	Likelihood	People	Overa buodout	Environment	Business	Likelihood		Property Fuvironment	Business	Hazard Risk	
1.3	Loss of Containment (oil product)	Contact Grounding Poor Decision Making Technical Failure	FTNS Bunkering Procedure Byelaws & General Directions Pilotage Survey Programme / Schedule Marine Guidelines & Port Information Emergency Plans - OPRC Towage Guidelines Oil Terminal Guidelines Notice to Mariners Lock Gates	5	5	5	5	5	1	3	4 4	4	4.375	Most Likely: Small scale pollution consisting of a light product which is contained within a dock and dissipates naturally Worst Credible: Major pollution consisting of a heavy product which cannot be contained with the dock and results in extensive damage to the marine environment requiring extensive resources to tackle

Content Reviewed	Changes Made
All content reviewed	No changes made

	Document ID FP PMSC RA (F) 11/02	Risk Assessment Team / Date CHM, MM, DMM, HMD / 12th August 2015
Risk Assessment - Marine Pollution	Review Due	Revised By / Date
(Encolood Dooks)	Jul 22	July 2020 MMT