

ภาคผนวก ข.21

แผนการจัดอบรมด้านอาชีวอนามัยและความปลอดภัย

ประจำปี พ.ศ.2567

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EHS Training Schedule 2024								
Course Name	Target Group	Shift/Day	Duration	Type	Date	Est. Participant	Venue	QS/3 Team
Adv. Fire Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift A	1 day	Theory & Practice	7-Mar-2024	40	NPC S&E	QS/3 Team
Adv. Fire Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift B	1 day	Theory & Practice	19-Mar-2024	40	NPC S&E	QS/3 Team
Adv. Fire Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift C	1 day	Theory & Practice	5-Mar-2024	40	NPC S&E	QS/3 Team
Adv. Fire Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift D	1 day	Theory & Practice	12-Mar-2024	40	NPC S&E	QS/3 Team
Technical Fire Fighting Training for ERT Leader & Member - 1 (Normex suit and PPE)	ERT (JG G-H) ERT Member	Shift A	1 day	Classroom/Exercise	26-Mar-2024	40	R-106 / Fire Station	QS/3 Team
Technical Fire Fighting Training for ERT Leader & Member - 1 (Normex suit and PPE)	ERT (JG G-H) ERT Member	Shift B	1 day	Classroom/Exercise	28-Mar-2024	40	R-106 / Fire Station	QS/3 Team
Technical Fire Fighting Training for ERT Leader & Member - 1 (Normex suit and PPE)	ERT (JG G-H) ERT Member	Shift C	1 day	Classroom/Exercise	14-Mar-2024	40	R-106 / Fire Station	QS/3 Team
Technical Fire Fighting Training for ERT Leader & Member - 1 (Normex suit and PPE)	ERT (JG G-H) ERT Member	Shift D	1 day	Classroom/Exercise	21-Mar-2024	40	R-106 / Fire Station	QS/3 Team
Technical Fire Fighting Training for ERT Leader & Member - 2 (Normex suit and PPE)	ERT (JG G-H) ERT Member	Shift A	1 day	Classroom/Exercise	22-Aug-2024	40	R-106 / Fire Station	QS/3 Team
Technical Fire Fighting Training for ERT Leader & Member - 2 (Normex suit and PPE)	ERT (JG G-H) ERT Member	Shift B	1 day	Classroom/Exercise	29-Aug-2024	40	REB / Fire Station	QS/3 Team
Technical Fire Fighting Training for ERT Leader & Member - 2 (Normex suit and PPE)	ERT (JG G-H) ERT Member	Shift C	1 day	Classroom/Exercise	20-Aug-2024	40	R-106 / Fire Station	QS/3 Team
Technical Fire Fighting Training for ERT Leader & Member - 2 (Normex suit and PPE)	ERT (JG G-H) ERT Member	Shift D	1 day	Classroom/Exercise	27-Aug-2024	40	R-106 / Fire Station	QS/3 Team
On Scene (Fire Command)	OSC	Shift A	1 day	Theory & Practice	4-Apr-2024	30	R-106	QS/3 Team
On Scene (Fire Command)	OSC	Shift B	1 day	Theory & Practice	2-Apr-2024	30	R-106	QS/3 Team
On Scene (Fire Command)	OSC	Shift C	1 day	Theory & Practice	30-Apr-2024	30	R-106	QS/3 Team
On Scene (Fire Command)	OSC	Shift D	1 day	Theory & Practice	25-Jul-2024	30	REB	QS/3 Team
CPR & First Aid Refresher for Shift Staff	PN, PD, Lab Shift Staff	Shift A	0.5 day (A.M.)	Theory & Practice	23-Apr-2024	40	R-106	QS/43
CPR & First Aid Refresher for Shift Staff	PN, PD, Lab Shift Staff	Shift B	0.5 day (A.M.)	Theory & Practice	25-Apr-2024	40	R-106	QS/43
CPR & First Aid Refresher for Shift Staff	PN, PD, Lab Shift Staff	Shift C	0.5 day (A.M.)	Theory & Practice	9-May-2024	40	R-106	QS/43
CPR & First Aid Refresher for Shift Staff	PN, PD, Lab Shift Staff	Shift D	0.5 day (A.M.)	Theory & Practice	24-May-2024	40	R-106	QS/43
Fire Truck Training - 1st Half (Normex suit and PPE)	PN, PD (Driver) Assigned Fire truck driver (2 person /area)	Shift A	1 day (AM-6 PP, PM-6 PP)	Practice	10-May-2024	12	Fire Station	QS/3 Team
Fire Truck Training - 1st Half (Normex suit and PPE)	PN, PD (Driver) Assigned Fire truck driver (2 person /area)	Shift B	1 day (AM-6 PP, PM-6 PP)	Practice	28-May-2024	12	Fire Station	QS/3 Team
Fire Truck Training - 1st Half (Normex suit and PPE)	PN, PD (Driver) Assigned Fire truck driver (2 person /area)	Shift C	1 day (AM-6 PP, PM-6 PP)	Practice	27-May-2024	12	Fire Station	QS/3 Team
Fire Truck Training - 1st Half (Normex suit and PPE)	PN, PD (Driver) Assigned Fire truck driver (2 person /area)	Shift D	1 day (AM-6 PP, PM-6 PP)	Practice	30-Jul-2024	12	Fire Station	QS/3 Team
Fire Truck Training - 2nd Half (Normex suit and PPE)	PN, PD (Driver) Assigned Fire truck driver (2 person /area)	Shift A	1 day (AM-6 PP, PM-6 PP)	Practice	10-Sep-2024	12	Fire Station	QS/3 Team
Fire Truck Training - 2nd Half (Normex suit and PPE)	PN, PD (Driver) Assigned Fire truck driver (2 person /area)	Shift B	1 day (AM-6 PP, PM-6 PP)	Practice	12-Sep-2024	12	Fire Station	QS/3 Team
Fire Truck Training - 2nd Half (Normex suit and PPE)	PN, PD (Driver) Assigned Fire truck driver (2 person /area)	Shift C	1 day (AM-6 PP, PM-6 PP)	Practice	17-Sep-2024	12	Fire Station	QS/3 Team
Fire Truck Training - 2nd Half (Normex suit and PPE)	PN, PD (Driver) Assigned Fire truck driver (2 person /area)	Shift D	1 day (AM-6 PP, PM-6 PP)	Practice	13-Sep-2024	12	Fire Station	QS/3 Team
HAZMAT Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift A	1 day	Theory & Practice	30-May-2024	40	R-106 & Field	QS/3 Team
HAZMAT Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift B	1 day	Theory & Practice	18-Jul-2024	40	R-106 & Field	QS/3 Team
HAZMAT Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift C	1 day	Theory & Practice	31-Jul-2024	40	R-106 & Field	QS/3 Team
HAZMAT Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift D	1 day	Theory & Practice	16-Aug-2024	40	REB & Field	QS/3 Team
Rescue Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift A	1 day	Theory & Practice	16-Jul-2024	40	R-106 & Field	QS/3 Team
Rescue Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift B	1 day	Theory & Practice	26-Jul-2024	40	R-106 & Field	QS/3 Team
Rescue Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift C	1 day	Theory & Practice	23-Jul-2024	40	R-106 & Field	QS/3 Team
Rescue Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift D	1 day	Theory & Practice	19-Jul-2024	40	R-106 & Field	QS/3 Team
Radiation Safety Awareness Refresher	N, Instrument, Inspector, Lab Staff, RTO, QM	Shift A/D	1 day	Classroom	5-Sep-2024	40	R-106	QS/41 & IR/2
Radiation Safety Awareness Refresher	N, Instrument, Inspector, Lab Staff, RTO, QM	Shift B/C	1 day	Classroom	3-Sep-2024	40	R-106	QS/41 & IR/2
Oil Spill Response training refresher for front line operator (IMO Level 1)	Shift staff (PD/31,PD/32, PD/33, PM), AS/1, R	Shift A/D	1 day	Theory & Practice	9-Apr-2024	41	R106, Marine	PD/1B
Oil Spill Response training refresher for front line operator (IMO Level 1)	Shift staff (PD/31,PD/32, PD/33, PM), AS/1, R	Shift B/C	1 day	Theory & Practice	23-May-2024	41	R106, Marine	PD/1B
Fire Training Refresher for Lab	Lab Staff	Day, Shift A/D	0.5 day (P.M.)	Practice	18-Apr-2024	10	NPC S&E	QS/3 Team
Fire Training Refresher for Lab	Lab Staff	Day, Shift B/C	0.5 day (P.M.)	Practice	15-Feb-2024	10	NPC S&E	QS/3 Team

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EHS Training Schedule 2024								
Course Name	Target Group	Shift/Day	Duration	Type	Date	Est. Participant	Venue	QS/3 Team
Safety Working with Hazardous Substance and Gas cylinders handling (refresh every year)	Lab & Warehouse	Day, Shift B/C	0.5 day (P.M.)	Classroom	9-May-2024	20	R-105	QS/43
Safety Working with Hazardous Substance and Gas cylinders handling (refresh every year)	Lab & Warehouse	Day, Shift A/D	0.5 day (P.M.)	Classroom	16-May-2024	20	R-105	QS/43
Basic Fire Fighting Refresher for Day Staff (Q4)	Day Staff + PN, PD Operator (Not FIT)	Day	0.5 day	Theory & Practice	TBC	35	NPC S&E	QS/3 Team
Basic Fire Fighting Refresher for Day Staff (Q4)	Day Staff + PN, PD Operator (Not FIT)	Day	0.5 day	Theory & Practice	TBC	35	NPC S&E	QS/3 Team
Basic Fire Fighting Refresher for Day Staff (Q4)	Day Staff + PN, PD Operator (Not FIT)	Day	0.5 day	Theory & Practice	TBC	35	NPC S&E	QS/3 Team
Basic Fire Fighting Refresher for Day Staff (Q4)	Day Staff + PN, PD Operator (Not FIT)	Day	0.5 day	Theory & Practice	TBC	35	NPC S&E	QS/3 Team
CPR & First Aid Training Refresher for Day Staff	Day Staff	Day	0.5 day (A.M.)	Theory & Practice	14-Aug-2024	40	R-106	QS/43
CPR & First Aid Training Refresher for Day Staff	Day Staff	Day	0.5 day (P.M.)	Theory & Practice	14-Aug-2024	40	R-106	QS/43
CPR & First Aid Training Refresher for Day Staff	Day Staff	Day	0.5 day (A.M.)	Theory & Practice	21-Aug-2024	40	R-106	QS/43
CPR & First Aid Training Refresher for Electrical Team	Electrical Team	Day	0.5 day (P.M.)	Theory & Practice	21-Aug-2024	40	R-106	QS/43
Isolation of Equipment (1 hr.) & Safe Work Practice	PN, PD, AS/1, AS/2		1 day					QS/41
Confined Space / AGT Refresher	ations, Central maintenance Group and Laboratory		1 day					QS/41
Confined Space for New Operator	New Operator	Day	4 days	Theory & Practice	TBC	17		QS/41
Chief Safety Department	New Manager QS	Day	7 days	Classroom	TBC	-	PUB (if any)	QS/42
Safety Training for Supervisor Level	New Supervisor	Day/Shift	2 days	Classroom	TBC	-	PUB (if any)	QS/42
Safety Training for Management Level	New Management	Day/Shift	2 days	Classroom	TBC	-	PUB (if any)	QS/42
EHS Main Committee Member	Assigned Person	Day/Shift	2 days	Classroom	TBC	-	PUB (if any)	QS/42
EHS for Job Rotation (significant change in risk and hazard)	Assigned Person	Day/Shift	3 hrs.	Classroom	TBC	-	INH	QS/42
Electrical safety + First Aid for Electrician	New I&E	Day	1 day	Theory & Practice	TBC	-	R-106	QS/42
CPR & First Aid Training for New Staff	New Staff	Day	1 day	Theory & Practice	TBC	30	R-106	QS/43
Basic Fire Fighting for New Staff	New Staff (Inc. Operator)	Day	1 day	Theory & Practice	May	-	NPC S&E	QS/3 Team
Technical Fire Fighting for New Operation staff (PN & PD)	New Staff (Operator)	Day	1 day	Theory & Practice	TBC	22	R-106 & Fire Station	QS/3 Team
SCBA for New Operation Staff (Normex suit and PPE)	New Staff (Operator)	Day	0.5 day	Theory & Practice	TBC	17	Fire Station	QS/3 Team
SCBA refresher (refresh every 2 years) (Normex suit and PPE)	Shift A		0.5 Day	Theory	23-Apr-2024	40	Fire Station	QS/3 Team
SCBA refresher (refresh every 2 years) (Normex suit and PPE)	Shift B		0.5 Day	Theory	25-Apr-2024	40	Fire Station	QS/3 Team
SCBA refresher (refresh every 2 years) (Normex suit and PPE)	Shift C		0.5 Day	Theory	9-May-2024	40	Fire Station	QS/3 Team
SCBA refresher (refresh every 2 years) (Normex suit and PPE)	Shift D		0.5 Day	Theory	24-May-2024	40	Fire Station	QS/3 Team
Confined Space Entry (4 ผู้)	New Staff (Operation, OC)	Day/Shift	4 days	Classroom/Practice	TBC	-	PUB	QS/42
Confined Space Entry (ผู้ปฏิบัติงาน)	New Staff (Process Engineer)	Day	2 days	Classroom/Practice	TBC	-	PUB	QS/42
Environmental Manager	New Manager QS	Day	1 day	Classroom	TBC	-	PUB	QS/2 Team
Environmental Controller	New Environmental Specialist	Day	5 days	Classroom	TBC	-	PUB	QS/2 Team
Environmental Operator (Water)	New PD Shift Supervisor	Shift	2 days	Classroom	TBC	-	PUB	QS/2 Team
Environmental Operator (Air)	New PN Shift Supervisor	Shift	2 days	Classroom	TBC	-	PUB	QS/2 Team
Environmental Operator (Waste)	New Equipment Service Supervisor	Day	2 days	Classroom	TBC	-	PUB	QS/2 Team
Energy Responsible Person (ผู้รับผิดชอบด้านพลังงาน)	Assigned Person			Classroom	TBC	-	PUB	QS/2 Team
Senior Energy Responsible Person (ผู้รับผิดชอบด้านพลังงานอาวุโส)	Assigned Person			Classroom	TBC	-	PUB	QS/2 Team
Boiler Operator Refresher			1 Day	Classroom	13-Aug-2024	25	REB	Outsider
Boiler Operator Refresher			1 Day	Classroom	15-Aug-2024	25	REB	Outsider

## ภาคผนวก ข.22

### แผนฉุกเฉิน และการซ้อมแผนฉุกเฉิน



# ผั่งตอบโต้ภาวะฉุกเฉิน



SPRC

*"One family ...  
fueling the  
future of  
Thailand"*



1

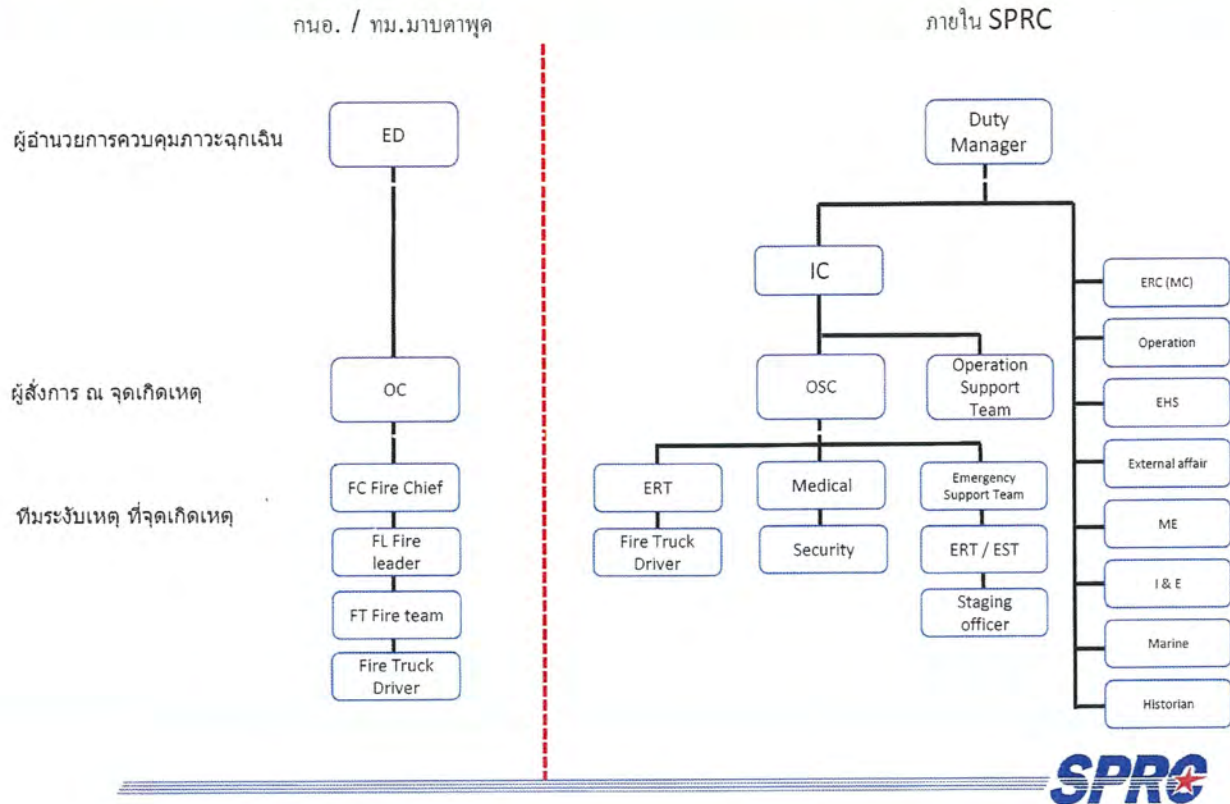
## เปรียบเทียบระดับการตอบโต้ภาวะฉุกเฉิน

แผนฉุกเฉินจังหวัด ระยอง	แผนฉุกเฉินนิคม อุตสาหกรรม	แผนฉุกเฉิน SPRC	การใช้จ่ายพลังและทรัพยากร
เหตุฉุกเฉินระดับ 2			
เหตุฉุกเฉินระดับ 1	ภาวะฉุกเฉินระดับนิคม อุตสาหกรรม 3	ภาวะฉุกเฉินระดับ 3	- ขอสนับสนุนกำลังพลและทรัพยากร จากเทศบาลเมืองมาบตาพุด
เหตุฉุกเฉินระดับโรงงาน	ภาวะฉุกเฉินระดับนิคม อุตสาหกรรม 2	ภาวะฉุกเฉินระดับ 2	- ขอสนับสนุนกำลังพลและทรัพยากร จากกลุ่ม EMAG หรือ กอ.อ.
	ภาวะฉุกเฉินระดับนิคม อุตสาหกรรม 1	ภาวะฉุกเฉินระดับ 1 B	- ขอสนับสนุนทีม DUTY และพนักงาน ปฏิบัติการที่ Off Shift ของโรงงาน - ใช้ทรัพยากรของโรงงาน
		ภาวะฉุกเฉินระดับ 1 A	- พนักงานปฏิบัติการที่เข้าปฏิบัติงาน ภายในวัน-เวลาที่เกิดเหตุเท่านั้น - ใช้ทรัพยากรของโรงงาน
	เหตุผิดปกติระดับนิคม อุตสาหกรรม	เหตุผิดปกติระดับโรงงาน	



2

# โครงสร้างผังองค์กรการตอบโต้ภาวะฉุกเฉิน





**Star Petroleum Refining Public Company Limited**

**Process Safety & QEHS Department**

**EHS-SP-QS-0006  
Emergency Response Plan**

**Prepared by:** \_\_\_\_\_  
Bundit Vayuwattanasiri  
Lead Emergency Management (QS/3)

**Reviewed and**

**Approved by:** \_\_\_\_\_  
Pongkorn Chochuwong  
Manager Process Safety & QEHS (QS)



**Distribution List**

Copy No.	Controller/ Owner	Location
00	Emergency Response Coordinator (Document controller)	EDMS
01	PN EOC	Fire Station (F-115)
02	MCB EOC	MCB
03	PN CCB	CCB
04	QEHS and lab Document Control Room	R - 202
05	Emergency Response Coordinator	RE -103
06	Duty Manager	Duty Manager Brief Case
07	Operations Duty	Operations Duty Brief Case
08	External Affairs Duty	External Affairs Duty Brief Case
09	EHS Duty	EHS Duty Brief Case
10	ERC Duty	ERC Duty Brief Case
11	Marine Duty	Marine Duty Brief Case
12	Mechanical Duty	Mechanical Duty Brief Case
13	I&E Duty	I&E Duty Brief Case
14	PD Shift Supervisor	Incident Commander Brief Case
15	Tank Truck Loading Terminal	TTLT Office

### Amendment List

Revision	Date	Page/ Section	Reason	By
0	06 Oct 08	First release	QS/1	0
1	1 Oct 09	Page Vi/ EMAG	Add IRPC in to member of Emergency Mutual Aid Group	Athit C.
		4/4.0Emergency Response Organization Overview	Change the line of command for emergency support team to under OSC	
		6/6.0 Emergency Response Decision Procedure Appendix R	Add action of PD shift supervisor as IC on asking REB to notify PTTAR-1 FIT in case of emergency.	
		7/7.0 Actions on Emergency	Add action of REB as following; 1. Alert PTTAR-1 via hotline to alert their FIT team (Level 1) 2. Send SMS to all FIT team (level 2) to call in to support at site.	
		8/8.0 Communication Method	Add scope of communication to all SPRC personnel and contractor to cover emergency level 1 which has significant impact on operation or affect public.	
		11/9.2.1 General requirement	1. Update the name of Rayong Emergency to "Kho Kaew" 2. Add notification to the authority (IEAT Map Ta Phut and Map Ta Phut Municipality for emergency level 1 that significant affect public.	
		20/11.3	Add link of Community Evacuation Plan	
		22/11.4 Emergency Contact Points in case of neighboring company incident	Add PTTAR 1 to the company that might affect to MCB.	
		65/3.1 Bomb Threat Checklist	Add link to bomb threat checklist	
		74/9.0 Offsite Road Accidents Involving Product from SPRC	Update telephone number of SPRC TTLT Coordinator; delete PPT and Caltex Depot Manager telephone number by link to the Emergency Telephone Number instead.	
		82/ Appendix F Headcount Procedure	Add areas of building that the Office warden shall do headcount ( Marine Terminal Building and Construction Building)	
		87/ Appendix I Drinking Water and Refreshment	More clarification on cash reserved for emergency situation that EA duty will be	

Revision	Date	Page/ Section	Reason	By
		90/ Appendix N	the person to coordinate with treasurers for cash.	
		95	Update Emergency Operation Center Layout  Add appendix R Mutual aid agreement between SPRC and PTTAR Refinery	
		97	Add appendix S Pier Evacuation Guideline	
		98	Add appendix T PTT group crisis and Emergency Report (form)	
2	3-May-11	10/8. Notification and Reporting	Revise the sub content of Notification and reporting by grouping the reporting to authority e.g. IEAT-MTP, MTP municipality, community (8.2) and share holder (8.3) in to one table (8.2 Notification and Reporting to Stakeholders). This change is to comply with the IEAT-MTP complex emergency response plan and Rayong Emergency Response Plan B.E.2553.	Athit C.
		11/8.2.4 Shareholder notification	Add a role of ERC duty to notify to the PTT communication center in case of emergency level 1. This updating is to comply with the PTT Group Emergency Management Plan	
		21/10.3 Neighboring Community/Company Notification	More explanation about community notification process in case of emergency can effect to the communities nearby the company by linking to Community Communication Process Guideline (EHS-WI-QS-3012)	
		31/ 5.1 Duty Manager	Re-write the specific task of Duty Manager Roles and Responsibilities by changing from Shareholders to be the Stakeholder which in line with the 8.2.4	
		36/5.3 External Affair	Define a scope of role and responsibility of External Affair Duty to cover the provision of additional resource including food and refreshment to support emergency response which can ask support and cooperate with ME/IE duty to help as well as mentioned about the list of vendor/supplier available in the contact list file.	
		43/5.8 Mechanical/Instrument and Electrical Duty	More explanation of ME/I&E role and responsibility about coordinate and process request for additional resource including foods, refreshment by coordinate and process with External Affair Duty and help to mobilize the additional resources.	
3	24-Jun-12	2/Glossary	Changing the company of the following company	
		6/5.0 Emergency		

Revision	Date	Page/ Section	Reason	By
		Response Decision		
		22/10.4 Emergency Contact Points In case of Neighboring Company Incident	PTTAR-1 to PTTGC-6 PTTChem I-1 to PTTGC-2, PTTChem I-4 to PTTGC-3 PTTAR-2 to PTTGC-4	
		95-96/Appendix R Mutual Aid Agreement between SPRC and PTTAR	Changing the name of PTTAR to PTTGC6	
		12/8.2 Notification& Reporting to Stakeholder	Update the name list of Shareholder Management (PTT) Management that to be notified in case of emergency level 2,3 according PTT Organization.	
4	15-Jan-13	All 2/Glossary 9/SMS 12/8.2 Notification& Reporting to Stakeholder  14/8.2.1  14/8.2.4  Appendix A/Role and Responsibilities – 35/5.2 Operation Duty  36/5.3 External Affair Duty  40/5.5 EHS Duty  43/5.8 ME &IE duty  79/Appendix D Mutual Assistance 86/Appendix H Foam Supplier  97/Appendix U 98/Appendix V	Update company name from Co.,Ltd to Public Company Limited Add new EMAG member – MOC Delete SMS code N Add notification to PTT Emergency Center in case of Emergency level 1 (by ERC Duty) Add the notification and reporting form to IEAT-MTP and MTP- Port  Update the notification requirement according to labor law (Update the requirement). Add new notification requirement to the Office of Atomic for Peace according to the Radiation Safety law requirement  Change the location of Operation Duty from CCB to EOC  Re-write the responsibility of EA duty to be more clearly on buying additional resource include food and refreshment  Add new responsibility “Call in Company Radition Safety Officer (RSO) in case of Radiation Incident  Re-write the responsibility of ME&IE duty to be more clearly on supporting to EA Duty by mobilize the additional resource include food and refreshment Add new EMAG Member (MOC)  Update name list of Foam Suppliers  Add Appendix U: Reporting form to the Labor Protection and Welfare  Add Appendix V: Reporting form to the IEAT-MTP (EMCC) in case of emergency	Athit C.

Revision	Date	Page/ Section	Reason	By
		99/Appendix W	Add Appendix W: Reporting form the MTP-Port (in case of abnormal situation and emergency occur at Port.	
5	1-Sep-14	2/Glossary  8/ 7.0 Communication  11-12 /8.2 Notification &Reporting to stakeholder  17-20/10.0 Leak Response Guides Decision  83/Appendix D  85/Appendix E  95/Appendix O	Update the EMAG member to be in line with updated EMAG agreement.  Identify more area that need to communicate to SPRC family members via all mailboxes to cover the incident occur at adjacent companies.  Add the wording of periodically update required to notify to the IEAT-MTP (EMCC) according to level3 exercise recommendation.  State a requirement of have to notify to the IEAT-MTP (EMCC) in case of abnormal situations resulting from emergency shutdown that required to notify to the IEAT-MTP (EMCC) within 15 minutes after aware of the Shutdown ( refer to the IEAT Notification no67/B.E.2557 announce date 31 July B.E.2557)  Update the notification to shareholder (PTT) from the specific name list of PTT executives to the PTT Communication Center which in line with the PTT group emergency and Crisis Management Plan  Add new subject “Leak Response Guides Decision” to be use as the guideline of SPRC leak response according to the CVX Leak Response Protocol guide of practice  Update the EMAG member to be in line with updated EMAG agreement.  Update refinery and marine terminal assembly areas  Update pipe line lay out to be in line with service agreement	Athit C.
6	22-Dec-14	All pages 39-47 and 54/ Appendix A 62/Appendix B  78/Appendix C	Change SPRC logo More clearly identified the person to call in of each duty rota member to support Update the alcohol level in blood to be 0mg% Update the mobile phone number of TTLT coordinator	Athit C.

Revision	Date	Page / Section	Reason	By
7	1-Sept-15	<p>20/10.6 Leak Response Flow Chart</p> <p>26/11.4 Emergency Contact Point in case of Neighboring Company Incident</p> <p>44/Appendix A.5.5 EHS Duty</p> <p>50/Appendix A7.Emergency Support Team</p> <p>54/Appendix A11.Historian</p> <p>65/Appendix C</p> <p>103-104/Appendix V/W</p> <p>106/15.Reference List</p>	<p>Update the Leak Response Flow Chart to be reflex the current practice</p> <p>Change the company name from Bayer Thai to Covestro (Thailand)</p> <p>Add role of keep monitoring and tracking of an injured person and head count details (to update to the Duty Team members)</p> <p>Add the wording of the responsibilities will be assigned by Emergency Response Coordinator</p> <p>Identify the roles of Historian to be the Assign Administrative Assistance or Marine Duty (If available/Not the Marine Case) by Duty Manager</p> <p>Update the H2S concentration at fence line from 10 ppm to 5 ppm</p> <p>Update the IEAT and IEAT-MTP Port Abnormal and Incident Notification Form to be in line with the IEAT Emergency Response Plan B.E.2557</p> <p>Change the revision of IEAT-IEAT_MTP port emergency response plan from B.E.2557 to B.E.2558</p>	Athit C.
8	24-Feb-16	<p>10/8.1 Notification Flow Chart</p> <p>11/8.2 Notification and reporting to Stakeholder</p> <p>28/13 Post Incident Review</p> <p>45/ Appendix A Role and Responsibility 5.6 Emergency Response Coordinator (Duty)</p> <p>100/Appendix U Notification to the PTT</p> <p>79, 80, 81 / Appendix C10.Failure of SPRC Trunked Radio system procedures</p>	<p>Take the PTT company out from the stakeholder notification list</p> <p>Indicate the tracking and follow up process of recommendation/feedback received from post incident review.</p> <p>Delete the role and responsibility of ERC Duty to notify the PTT out.</p> <p>Delete the Notification from to PTT out</p> <p>Update content on SPRC Trunked Radio system from old (analog) to new (digital) to reflect the fall back modes on new system implemented</p>	<p>Athit C (QS/3)</p> <p>Soontorn S. (TE/717)</p>

Revision	Date	Page/ Section	Reason	By
9	15-Aug-16	1/1.Purpose & Scope 19/10.5 Leak Response Protocol 20/10.6 Leak Response Flow Chart	Add table of Employee involvement Delete Leak Response Protocol out  Update the workflow of Leak Response Flow Chart	Athit C (QS/3)
10	16-Dec-16	43/ Appendix A (Role and Responsibilities)  92/Appendix M Emergency Training and Exercise	add role of EHS (5.5) duty to advise to OSC through IC about suspend the emergency operation when scene atmosphere is IDLH and/or imminent danger condition  Add link to the EHS-OT-QS-3005 Emergency Response Training and Exercise Guideline	Athit C (QS/3)
11	28-May-18	Viii / Appendix A	4.0 Changed FIT to ERT 9.0 Changed EST (Back up team) to Emergency Support Team	Bunditv . (QS/3)
		Page 2	Changed FIT to ERT	
		4 / Glossary	Changed FIT to ERT Changed FIT-B to ERT or EST Added CMP and CMT	
		21 / 10.5	Deleted note and Leak check list out	
		34	Changed FIT to ERT	
			Role: ERT was reviewed	
		39 / 3.0	Changed FIT to ERT	
		50 / 7.0	EST added wording (Day Staffs)	
			Who: removed off-shift operators out	
			Emergency level 3 → 2, 3	
			FIT changed to ERT	
		53 / 9.0	FIT B revised to EST Operations and revised Responsibilities	
		62 / 17.0	Revised Legal Adviser Responsibility: Removed out "the Treasurer's Unit related to Traders Insurance Policy and /or other"	
		72 / 4.1	FIT changed to ERT	
		77 / 7.0	FIT changed to ERT	
		78 / 8.0	FIT changed to ERT	
		79 / 9.0	Revised: Off Site Road Accidents Involving Product from SPRC	
		95 / Appendix M	Revised Emergency Training and Exercises	
		103 / Appendix U	Updated form	
		104 / Appendix V	Updated form	
		105 / Appendix W	Removed out: APPENDIX W Emergency Response Considerations and Hazard Assessment Checklist for Process Loss of Containment	
		105 / REFERENCE LIST	Removed out: PTT Group Emergency Plan (CP-SSHE-3G-002)	
12	8-Apr-19	2 / 1.0 purpose and scope	Revised: response to the emergency situation by create emergency level 1A / 1B	QS/3
		2 / 3.0 Emergency level	Revised: Emergency level	
		9 / 4.0	Revised: EMERGENCY RESPONSE ORGANISATION OVERVIEW	

Revision	Date	Page/ Section	Reason	By
		8-9 / 5.0	Revised: EMERGENCY RESPONSE DECISION PROCEDURE	
		68 / Appendix C	Action major leak change item evacuation guideline 10.3 to 11.3	
		15-16 / 8.2	Revised emergency level in: Notification and Reporting to Stakeholder	
13	28-Oct-19	7 / 3.0	Revised stage of emergency, Map Ta Phut municipality move to Level 3 of company	QS/3
		15-16 / 8.2	Add inform Certification Body in Level 3	QS/3
14	7 Jun 21	6 / 2 10 / 6 15 / 8.2 29 / 11.3 34 / Appendix A 2 35 / Appendix A 3 35 / Appendix A 4 36 / Appendix A 5 36 / Appendix A 6 38 / Appendix A 7.1 47 / Appendix A 7.6 56 / Appendix A 14 59 / Appendix A 16 83 / Appendix D 2 92 / Appendix H 98 / Appendix R 100 / Appendix S 102 / Appendix U 103 / Appendix V	<ul style="list-style-type: none"> <li>- Changed the Department name of QS &amp; CA</li> <li>- Changed the position of Emergency Response Coordinator to Lead Emergency Management and Fire system specialist to Emergency management Specialist.</li> <li>- Add location of document control and updating on Smart Procedure</li> <li>- update actions on emergency table</li> <li>- Add Thai- MECC agency in Notification and Reporting to Stakeholder.</li> <li>- Changed the contact person to notify PorPor from CA to Emergency Response Coordinator.</li> <li>- Update responsibilities of OSC</li> <li>- Update responsibilities of PU Shift Supervisor</li> <li>- Add position and responsibilities of Emergency Response Team-Leader</li> <li>- Update responsibilities of ERT</li> <li>- Update responsibilities of FTD</li> <li>- Delete specific task "Act as site spoke person".</li> <li>- Update responsibilities of Emergency Response Coordinator (Duty)</li> <li>- Revised communication channel form EOC to REB</li> <li>- Update responsibilities of Staging Officer</li> <li>- Revised the SPRC Assistance to Other Companies and added the flow chart.</li> <li>- Add National Foam Universal Gold 1/3% at Foam Suppliers</li> <li>- Revised number of operation supporter from 4 person to 2 persons</li> <li>- Revised the assembly point.</li> <li>- update the IEAT-MTP Emergency Reporting Form</li> <li>- update the MTP-Port Abnormal situation and Emergency Reporting Form</li> </ul>	QS/3

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## 1. PURPOSE & SCOPE

### Purpose

Star Petroleum Refining Public Company Limited (SPRC) Prepare Emergency Response Plan to provides an integrated approach to the management of all emergencies related to SPRC. This response plan details the action, coordination and resources required for the mitigation of an emergency. In the event of an emergency situation, available resources shall be used to achieve the following, in order of priority;

1. Preservation of human life, health and well-being.
2. Protection of the environment.
3. Protection of Company Assets
4. Render affected areas safe and stable.
5. Restoration of disrupted utilities.
6. Resumption of normal production.

### Scope

The emergency response plan covers all SPRC operated locations. It also covers assistance to other parties as requested. Emergencies outside SPRC operated Locations (e.g. pipeline Emergencies) should be coordinated with the IEAT Emergency Response efforts.

### The following events would be considered as an emergency:

1. A fire or explosion
2. Serious escape of gaseous, liquid hydrocarbons, and Hazardous Material likely to create health, safety hazards and contamination of environment.
3. Oil Spill.
4. The spilling or spreading of a source of ionizing radiation, or the exposure of personnel to harmful radiation.
5. Any event requiring the evacuation of buildings and other working areas
6. A bomb threat or the discovery of suspicious objects.
7. Any event which may harm the company's reputation

## Employee Involvement

Process Activities	Employee Involvement	How	Training/ Competency Assurance of the Involved Employees
<b>Response to the emergency situation</b>			
Emergency Response Level 1A (Emergency Activation)	<ol style="list-style-type: none"> <li>1) Senior Operator of Area affect</li> <li>2) Emergency Response Team</li> <li>3) Incident commander</li> <li>4) Security Shift Officer</li> </ol>	<ol style="list-style-type: none"> <li>1) Assess the situation that have to mobilize the ERT to response to the incident</li> <li>2) Communicate via trunk radio (announcement) for the resources need</li> </ol>	Pass the required emergency related training according to the EHS Training Requirement
Emergency Response Level 1B (Emergency Activation)	<ol style="list-style-type: none"> <li>1) Senior Operator of Area affect</li> <li>2) Incident commander</li> <li>3) Emergency Response Team</li> <li>4) Security Shift Officer</li> <li>5) Duty Team members</li> </ol>	<ol style="list-style-type: none"> <li>1) Assess the situation at the scene that need more resource to handle the incident.</li> <li>2) Communicate via trunk.</li> <li>3) Call the Duty team by Security Shift officer (via SMS). ERT/EST by SS</li> </ol>	<p>Passed the required emergency related training according to the EHS Training Requirement.</p> <p>Trained the Emergency Response for Duty Rota team</p>
Emergency Response Level 2	<ol style="list-style-type: none"> <li>1) Senior Operator of Area affect</li> <li>2) Incident commander</li> <li>3) Emergency Response Team</li> <li>4) Security Shift Officer</li> <li>5) Duty Team members</li> <li>6) Mutual Aid Team members</li> <li>7)</li> </ol>	<ol style="list-style-type: none"> <li>1) Assess the situation at the scene that need more resource to handle the incident</li> <li>2) Communicate via trunk</li> <li>3) Call the Duty team by Security Shift officer (via SMS). ERT/EST by SS</li> </ol>	<p>Passed the required emergency related training according to the EHS Training.</p> <p>Requirement.</p> <p>Trained the Emergency Response for Duty Rota team</p>
Emergency Response Level 3	<ol style="list-style-type: none"> <li>1) Senior Operator of Area affect</li> <li>2) Incident commander</li> <li>3) Emergency Response Team</li> <li>4) Security Shift Officer</li> <li>5) Duty Team members</li> <li>6) Mutual Aid Team members</li> </ol>	Full scale emergency, which required more resource to be made available from refinery personnel and other Mutual Aid and Activate the Rayong Province Emergency Response Plan	Same as above

Process Activities	Employee Involvement	How	Training/Competency Assurance of the Involved Employees
<b>Notification and Reporting to Stakeholder</b>			
Notification and reporting to stakeholder- Abnormal situation	1) Environmental 2) CA Department 3) Security Shift officer (off-hour)	1) Telephone and IEAT Notification form (within 10 mins-via fax/Email)	Not required
Notification and reporting to stakeholder in case of emergency	1) External affair duty- Relevant authorities and communities 2) Nurse on Duty- Contract hospital 3) ERC Duty-Rayong Province 4) Duty Manager- Shareholder	1) Telephone and IEAT Notification form (within 10 mins-via fax/Email) 2) Telephone 3) E-mail	Not required
<b>Mutual Aid and Assistance to Third Party</b>			
Assistance to SPRC	1) Mutual aid group (EMAG) 2) Shift Security officer 3) On Scene Commander	1) Contact via telephone with resource required by the Security officer 2) Coordinate with the On Scene when arrival	Mutual aid group members
SPRC Assistance to other companies- Agreement Companies	1) Shift Supervisor on duty 2) ER Coordinator or Emergency management specialist.	1) Coordinate via telephone or trunk radio 2) Provide support according to the agreement or under decision of Shift Supervisor if there is any plant constraint	Not required
SPRC Assistance to other companies- Non agreement companies	1) ER Coordinator 2) Duty Manager 3) Shift supervisor on duty 4) Security Shift Officer	1) Coordinate and cooperate via telephone or trunk radio 2) Consider the plant constraint by Shift supervisor on duty 3) Get approval from Duty Manager which propose by the ER Coordinator	Not required

Process Activities	Employee Involvement	How	Training/Competency Assurance of the Involved Employees
<b>Emergency Exercise</b>			
Set up yearly ER master plan	Emergency Management Specialist and Area owner (PUs Process instructors)	Review; • Shift work schedule • Incident in the past (internal/External) • Past exercise scenario	Work position (Seniors) and exercise
Exercise master plan review and endorsement	QS/3, PUs Shift Supervisor and Area owner	E-Mail (circulation feedback)	Note required See details in the Emergency Response Exercise Guidance (EHS-OT-QS-3005)
Exercise preparation	Emergency Management Specialist	Meet with area owner for the scenario	Not required
Conduct the exercise and report the result	Emergency Management Specialist and Emergency Response Team	Table top exercise and field exercise	Not required
Post review	QS/3 Team and emergency response team	Evaluation and post exercise review meeting	Not required
Record keeping & Follow up	Emergency Management Specialist and whom may concern	Follow up meeting/Email (Exercise report form)	Not required
<b>Fire Fighting Equipment Inspection Master Plan</b>			
Set up yearly Fire Fighting Equipment Inspection	Emergency Management Specialist and fire service contractor	Review the past inspection record and schedule Applicable requirement (procedure/legal)	Education back ground/Experience on fire inspection/testing (Contractor)
Inspection master plan review	QS/3, Emergency Management Specialist, Supervisor and Area owner	E-Mail (circulation feedback)	Not required
Conduct the inspection and testing	Emergency Management Specialist, Area owner and fire service contractor	Field audit and inspection	Education back ground/Experience on fire inspection/testing (Contractor)
Record keeping & Follow up	Emergency Management Specialist and whom may concern	Follow up meeting/Report/E-mail	Not required

**GLOSSARY**

The following terms are used throughout the Emergency Response Plan and have the meanings given below:

<b>Alarm</b>	There are 3 emergency alarm levels for both sites as follow; <b>Level 1</b> Wail tone for 15 second follow by announcement. <b>Level 2</b> Second Wail Tone for 15 second <b>Level 3</b> Third Wail Tone for 15 second <b>All clear</b> 15 seconds of Steady Tone
<b>CCB</b>	Central Control Building is located at PN
<b>EMAG</b>	Emergency Mutual Aid Group, including 9 companies (13 Units) in IEAT-MTP area. There are SPRC, PTTGC-6, PTTGC-2, PTTGC-3, PTTGC-4, PTTGC-5, ROC, TPE, VNT, <u>Covestro (Thailand)</u> , PTT (Gas Separation Plant), IRPC and MOC.
<b>Emergency</b>	A situation in which fire, explosion, Material damage, Destruction, or other circumstances threaten human life, the refinery's operation, company assets, business or environment.
<b>EOC</b>	Emergency Operation Centre
<b>ERP</b>	Emergency Response Plan.
<b>ERC</b>	Emergency Response Coordinator
<b>ERT</b>	Emergency Response Team
<b>EST</b>	Emergency Support Team
<b>FIT</b>	First Intervention Team
<b>IC</b>	Incident Commander
<b>IEAT</b>	Industrial Estate Authority of Thailand
<b>IEAT-MTP</b>	Map Ta Phut Industrial Estate Authority of Thailand
<b>MC</b>	Mutual aid Coordinator
<b>MCB</b>	Marine Control Building
<b>MTP Fire brigades</b>	Map Ta Phut Fire Brigade
<b>OSC</b>	On Scene Commander
<b>PN</b>	Production Unit
<b>PD</b>	The areas of Tank Farm and TTLT
<b>RSO</b>	Radiation Safety Officer
<b>TTLT</b>	Tank Truck Loading Terminal
<b>CMP</b>	Crisis Management Plan
<b>CMT</b>	Crisis Management Team
<b>THAI MECC</b>	Thai Maritime Enforcement Command Center

## 2. DOCUMENT CONTROL AND UPDATING

Controlled copies of the Emergency Response Plan are documented and maintained in the following locations:

- SMART PROCEDURE
- EDMS
- Holders at various locations (see distribution list page 1).

The Emergency Response Coordinator reviews the Emergency Response Plan when there are substantial changes in the document. The Emergency Response Coordinator controls the Emergency Response Plan by:

- Maintaining controlled copies of the Plan in EDMS
- Revising the Plan to comply with the changes in documentation
- Notifying the revision of the Plan to all duty team and distribute controlled revised copies to the holders.

## 3. EMERGENCY LEVEL

### State of Emergency

This section defines the levels of emergency and the resources required for emergency situations of increasing severity.

The following levels of emergency have been defined;

#### Level 1A

**An emergency, which can be handled by personnel available already on site and requires no additional resources to be called in.**

#### Level 1B

**An emergency, which will require some additional resources to those currently available in the refinery. This would be the SPRC Duty Rota Team, ERT or EST Team**

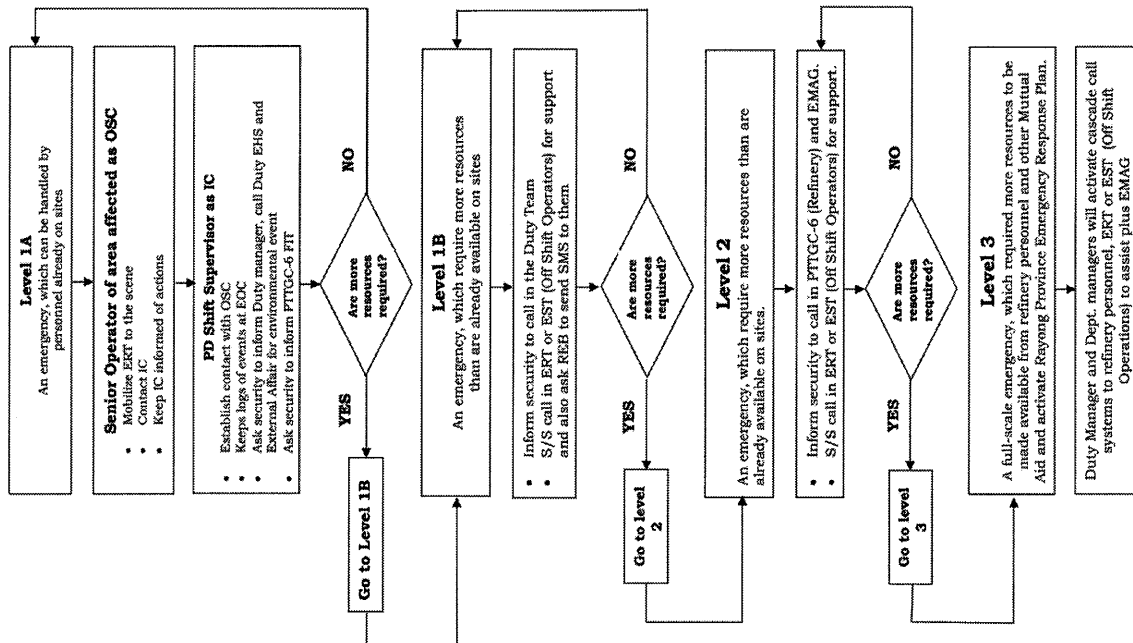
#### Level 2

**An emergency, which will require some additional resources more than SPRC team. This would be the third-party mutual aid teams (EMAG,)**

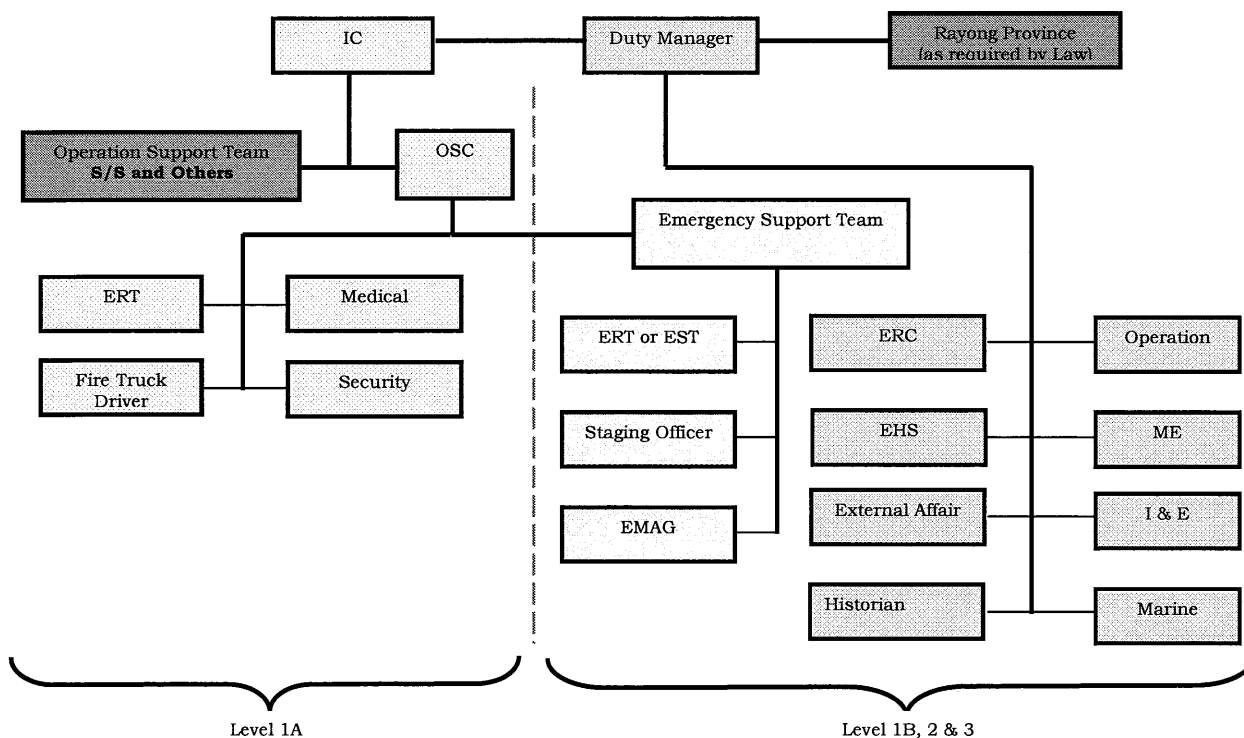
#### Level 3

**A full-scale emergency which requires further resources to be made available from company personnel, other mutual aid teams, Map Ta Phut municipality and Rayong Province support team.**

### 5. EMERGENCY RESPONSE DECISION PROCEDURE



### 4. EMERGENCY RESPONSE ORGANISATION OVERVIEW





## 6. ACTIONS ON EMERGENCY

Actions by	Level 1A	Level 1B	Level 2	Level 3
Authority to signal	Anyone in the refinery		On Scene Commander	On Scene Commander
Observer	Radio by Push emergency button. • Telephone 7191 – Give the name and position, company. – Give location and nature of incident.			
Incident Commander (IC)  (PD Shift Supervisor on shift)	• Switch radio to Emergency Channel • Go immediately to EOC and assume as IC	As for Level 1A  Plus Coordinated with Duty Team	As for Level 1B	As for Level 1B
On Scene Commander (OSC)  (Senior Operator of area affected)	• Ask for ERT by radio • Go immediately to the scene of the incident and assume the role of OSC. • Set up the forward command post. • Communicate with IC on Emergency channel. • Cooperate with board man for plant condition • Supervise ERT leader to control and secure the incident	As for Level 1A  Plus Communicate with IC who is at EOC on Emergency channel	As for Level 1B  Plus Coordinated with EMAG-OSC	As for Level 2  Plus Coordinated with EMAG-OSC, Government-OSC
Shift Supervisor of affected area	• Switch Radio to Area channel / Emergency Channel • Make a decision unit shutdown agreement with OSC followed Leak response protocol. • Control Emergency Shutdown procedures • Consider to inform Off shift operator to aware	As for Level 1A  Plus • Call in off shift to support ERT, shut down activity	As for Level 1B	As for Level 1B
Emergency Response Team (ERT)  (Assigned operators)	• Switch radio to Emergency Channel • Go immediately to the scene of the incident as directed by OSC.	As for Level 1A	As for Level 1B  Plus Coordinated with EMAG-	As for Level 2 Plus Coordinated with EMAG-Government agency



Actions by	Level 1A	Level 1B	Level 2	Level 3
ERT-B Level One B / Two / Three Off Shift Ops.		• Get together at Fire Station and get ready to go to the scene as requested by OSC.	As for Level 1B	As for Level 2
ERT-B from EMAG			Report at Staging area	
ERT-B from Government agency				Report at Staging area
Fire Truck Operator  (Assigned Ops.)	• Switch radio to Emergency Channel • Nominated drivers to take the fire truck to the scene of incident as requested by OSC	As for Level 1A	As for Level 1A	As for Level 1A
Security  (REB)	• Activate the Emergency Alert System as requested by OSC • Call out ERT team, if required by OSC. • Alert ERT EMAG • Provide support as requested by OSC • SMS to Duty Team and all off shift operator to alert and stand by	• Call in duty teams and Mutual Aid team requested by OSC.	• Activate the Emergency Alert System • Call the refinery personnel and mutual aid team as requested by OSC	• As for Level 2 • Activate the Emergency Alert System
Panel man of affected area	• Monitor operation of units from CCB. • Initiate emergency shutdown procedure as instructed by Shift Sup./ Operation Procedures.	As for Level 1A	As for Level 1A	As for Level 1A
Medical Team	• Provide first aid as requested by OSC. • Evacuate by ambulance as needed.	As for Level 1A	As for Level 1A	As for Level 1A
Staff and contractors not involved in emergency response and operations.	Personnel in All operational area must proceed to the nearest safe assembly point, unless directed otherwise by the emergency response team.	As for Level 1A	As for Level 1A	As for Level 1A

## 7. COMMUNICATION METHODS

### Communication to all SPRC personnel and contractor

Emergency situation will be communicated to all personnel by using an Emergency Alarm. There are 3 emergency alarm levels as follow:

- Level 1**     **Wail Tone for 15 second follows by Public Announcement by REB**
- Level 2**     **Second Wail Tone for 15 second follows by Public Announcement by REB**
- Level 3**     **Third Wail Tone for 15 second follows by Public Announcement by REB**
- All Clear**    **Stead Tone for 15 second follows by Public Announcement by REB**

- ♦♦ The communication of an emergency level 1, 2 and level 3 or incident which has significant impact on operation or affect public will be emailed to all SPRC personnel by Duty Manager within 24 hours, which is a similar information reported to Shareholders.
- ♦♦ In the event of Emergency form Neighboring Companies, **which affects SPRC** such as toxic gas release, or incident that occur with the adjacent neighboring company. The communication to all SPRC personnel will be made by using Public Announcement **immediately** after becoming aware of the incident. After that, the Duty Manager will communicate the incident information by email to all SPRC personnel as soon as the information is available, but no later than 24 hours

Communications to related Emergency Response Parties will be by following methods.

Groups	Communications
<b>On Site</b> <b>OSC and ERT</b> <b>Incident Commander</b> <b>Shift Supervisor</b> <b>Security Shift Officer</b> <b>Operations</b> <b>Medical Centre</b> <b>All other Group</b>	<b>Radio:</b> Emergency Channel. <b>Messengers</b> <b>Radio:</b> Emergency Channel <b>Messengers</b> <b>Radio:</b> Normal Channel for Operation/ Emergency Channel <b>Radio:</b> EHS Channel / Emergency Channel <b>Phone:</b> 7090, 7191 <b>Radio:</b> Normal Channel for Operations <b>Radio:</b> EHS Channel / Emergency Channel <b>Phone:</b> 7777 <b>Telephones, Messengers</b>
<b>Call In</b> <b>Duty Rota Team</b>  <b>ERT &amp; EST-B</b> <b>- Level 1B, 2, 3 On Shift Operations from other area</b>  <b>EMAG</b>  <b>Government Agency</b>  <b>All other SPRC Personnel</b>  <b>Mutual Aid</b>	<b>Short Message Service (SMS)</b> and following by mobile and/or home phone to ensure that the duty team members are acknowledged.  <b>Level 1B, 2, 3 : Telephone</b> by Shift Supervisor as priority and back up by SMS sending from REB  <b>Level 2: Trunk and Hotline</b> via Security REB  <b>Level 3: Telephone</b> via Security REB  <b>Telephone by Cascade calling system</b> (It is responsibility of Dept. Managers or their duty persons to call their own staff)  <b>Telephones</b> (refer to Appendix P: Emergency Telephone Numbers)  <b>FYI, Emergency Level 1A at.... (Location)</b>  <b>2222 Level 1B</b> Emergency goes to EOC immediately. <b>2222 M</b> Level 2 Marine Emergency goes to MCB immediately  <b>3333 Level 3</b> Emergency goes to EOC immediately. <b>3333 M</b> Level 3 Marine Emergency goes to MCB immediately  <b>9999</b> Emergency group test, phone 038 699090  <b>0000</b> All Clear.
<b>Short Message Service (SMS) Codes</b>	

All other radio communication must be kept to minimum and only use for URGENT messages.

## 8.2 Notification and Reporting to Stakeholder

In case of abnormal situation, emergency level 1A, 1B, 2, 3, Duty Manager shall ensure that the following stakeholders be notified:

Stakeholders Situations (2)	IEAT (EMCC) <sup>(1)</sup> (require periodically update)	IEAT- MTP Port, Marine Dept	MTP Municipality	Rayong Province	Contract Hospitals	Neighboring community/Company defined in the External Contact List (AM-OT-PA-012)	CVX	CB Certification Body (3)
Abnormal situation which could impact internal and external Environment and communities; - Sound from abnormal operation - light and heat from flare - Nuisance smell	✓	-	✓	-	-	✓	-	-
Emergency Level 1A, 1B	✓	In case of occur at marine terminal.	✓	-	In case of injury and need transfer to hospitals	✓	-	-
Emergency Level 2	✓	The Oil spill case at SPM will notify to Thai MECC	✓	✓		✓	✓	-
Emergency Level 3	✓		✓	✓		✓	✓	✓

### Note:

- (1) EMCC is Environmental Monitoring and Control Center located at IEAT Map Ta Phut Office. Abnormal situation which result to an emergency situation shall notify to the IEAT-MTP (EMCC) within 10 mins (refer to the form in Appendix V&W).
- (2) If the situations occur is resulting to the Emergency Shutdown, the responsible person is required to notify to the IEAT (EMCC) within 10 minutes after aware of the emergency shutdown.
- (3) Ms. Pavinee Sittikomkul (Operation Manager) SGS (Thailand) Limited, Certification and Business Enhancement, Tel. +66 2 6781813 Ext. 2065 Email: [pavinee.sittikomkul@sgs.com](mailto:pavinee.sittikomkul@sgs.com)
- (4) Thai MECC : Thai Maritime Enforcement Command Center ศูนย์บัญชาการเรือไทยประมง โทร. 095-8620506

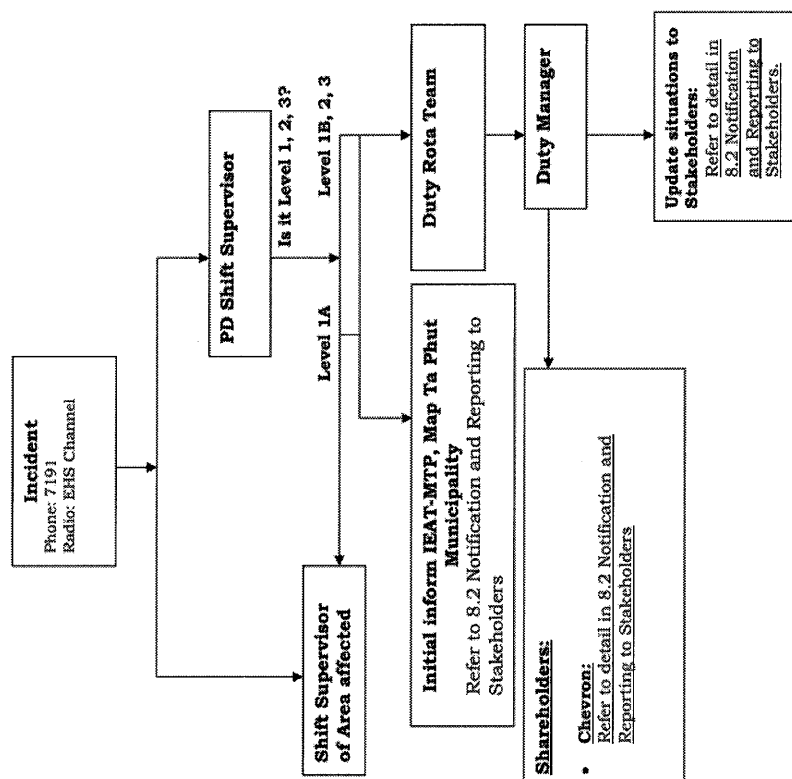
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## 8. NOTIFICATION AND REPORTING

### 8.1 Notification Flowchart





Situations	Notified By	Stakeholders	Contact channels
<b>Abnormal situation;</b> - Sound from abnormal operation - Light and Heat from flare - Nuisance smell	<b>On-Hour:</b> Environmental Specialist	IEAT-MTP (EMCC)	Duty phone: 081-732-3485, Phone:038-683933 Hotline: 1504, Trunk: EMCC Channel Fax: 038-685756 Email emcc.ieat@gmail.com
	<b>Off-Hour:</b> SSO	MTP Municipality	Phone: 038-685191 Radio:162.550 MHz
	CA Department	Communities	Defined in External Contact List (AM-OT-CA-012)
	<b>On-Hour:</b> CA Department <b>Off-Hour :</b> SSO	Companies	Defined in External Contact List (AM-OT-CA-012)
<b>Emergency Level 1A, 1B</b>	Same as abnormal situation which could impact internal and external environment, community and neighboring company.		
<b>Emergency Level 2, 3</b>	External Affair Duty	IEAT-MTP (ECC)	Duty phone: 081-732-3485, Phone:038-683933 Hotline: 1504, Trunk: EMCC Channel Email emcc.ieat@gmail.com Fax: 038-685756 (refer to IEAT-MTP Reporting Form Appendix U)
		MTP Municipality	Phone: 038-685191, Radio:162.550 MHz
		MTP Port	Phone: 038-683305-8, Fax:038-683309 (refer to MTP-Port Reporting form Appendix V)
		Communities/Companies	Defined in External Contract List (AM-OT-CA-012)
		Thai MECC (in case of Oil Spill)	Phone 095-8620596
	Nurse on Duty	Contract Hospital	Defined in Emergency Telephone Number (EHS-OT-QS-3003)
	ERC Duty	Rayong Province	<b>PorPor Rayong 089-9696765</b> <b>Rayong Welfare 065-5078682</b> Email rayong@labour.mail.go.th
	Duty Manager	Shareholder (CVX)	If require assistance contact to Chevron Emergency Information Center : (+1)-510-231-0623
		Shareholders (BOD)	Draft the notification for CE to send to Board of Directors (BOD)(1).
		CB Certification Body	Ms. Pavinee Sittikomkul (Operation Manager) SGS (Thailand) Limited, Certification and Business Enhancement, Tel. +66 2 6781813 Ext. 2065 Email: pavinee.sittikomkul@sgs.com
		SPRC staff (All)	By e-mail

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		Mailboxes)	
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**Note;****(1) Using of notification template;**

1. I am required to notify you of an incident that occurred on (date) at (time) at (location).
2. One sentence description of incident
3. One sentence description of impact
4. One or two additional paragraphs should address authorities notified, other organizations involved, current status, and current actions being taken.
5. Close with the identity of the individual sending the notification, the reporting unit, and contact information for follow-up questions including cell or home phone numbers.
6. Any additional detail, if desired, can be in attachments.

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**8.2.1 Labor law** (Safety Occupational Health and Working Environment Act (B.E2554)

In case of Hazardous chemical release or fire or explosion, the following actions are required;

- 1) In case of the incident resulting to fatality case, shall notify to the department of Labor Protection and Welfare (Rayong) via telephone, fax or other channel immediately and formal letter within 7 days.
- 2) In case of the incident resulting to operation shutdown or cause injury from both fire or explosion, shall notify to the department of Labor Protection and Welfare (Rayong) via telephone, fax or other channel immediately and formal letter within 7 days.

The formal letter shall comply with the notification of Department of Labor Protection and Welfare (refer to Appendix T- The Reporting Form to the Labor Protection and Welfare)

**8.2.2 Factory Law** (B.E. 1992)

It is required that any incident which cause fatality or lost time injury or illness (> 72 working hours lost) or cause operation shutdown (> 7 days) be reported in a letter to Ministry of industry Officers (Rayong Industrial Work Office) within 3 days

In case of Radiation incident shall immediately inform to the Ministry of Industry when become aware of an incident.

**8.2.3 EIA Mitigation Measures**

In any situation which could impact environment will notify to Office of Natural Resource and Environment Policy and Planning and the Office of Natural Resource and Environment Rayong.

**8.2.4 Radiation Safety Law (Ministry Regulation B.E.2550, Permission of Radiation)**

In case of radiation incident resulting leak of radiation source, the company Radiation Safety Officer (RSO) shall notify to the Office of Atomic For Peach immediately.

**9. CRISIS MANAGEMENT AND BUSINESS CONTINUITY PLAN****9.1 Objective**

SPRC Crisis Management and Business Continuity Plan is aimed to provide a management process in order to strategically plan, direct and coordinate all actions and responses to reduce impact of crisis on people, environment and company business and reputation

The plan is developed to respond the crisis in a timely and coordinated manner to support the SPRC Emergency Response plan; and manage crisis to ensure business continuity

Note:

Crisis: Any incident that poses an actual or potential threat to SPRC's long-term ability to do business due to impact on its reputation and standing, legal and financial liabilities and ability to operate

**9.2 Activation and Deactivation of SPRC-CMP****9.2.1 Activation**

Duty Manager with the consultation with Chief Executive Officer, will partially or fully activate SPRC-CMP depending on the necessary management efforts required for such crisis.

**9.2.2 Deactivation**

Duty Manager will deactivate the SPRC-CMP when he feel that all issues are addressed to the extent that the incident is no longer a threat to health, to safety and the environment; and there is no significant on the image of SPRC and Shareholders.

**9.3 SPRC Crisis Management Team (CMT)**

All Leadership Team Members (LT) are the member of the team. When SPRC-CMP is activated, the team will be met at M-226 Board.

**9.4 Roles & Responsibilities of SPRC Crisis Management Team**

The scope and extent of crisis management tactical and strategic actions carried out by the SPRC-CMT will depend on the nature and potential or actual consequences of the incident

In general terms, the SPRC CMT is to:

♦ Provide technical, logistic, legal, human resources, corporate affairs and financial support and assistance to the emergency response and management efforts.

♦ Identify the short and long-term strategic implications of the incident for the operability, image and commercial position of SPRC business.

- ♦ Develop, resource and action appropriate strategies to limit potentially adverse consequences to the business arising from the incident.
- ♦ Provide information and recommendations on incident related policy and strategic issues to the Shareholders.
- ♦ Develop and implement a long-term recovery plan.

Individual SPRC CMT members have specific responsibilities. Overall, the SPRC CMT is responsible for minimizing impacts and managing a rapid recovery by:

- ♦ On activation, establishing and assessing the situation caused by the incident and the initial effects on personnel and operations. Investigating all other facets of the incident: technical, financial, human resources, legal, corporate affairs, commercial and business.
- ♦ Identifying and analysing the short and long-term strategic implications of the incident for the operability, image and commercial position of the SPRC business.
- ♦ Establishing and maintaining coordinated and secure communications links with the affected entity and the Shareholders (if activated);
- ♦ Developing, resourcing and implementing appropriate tactics and strategies to limit potentially adverse consequences to the business arising from the incident, particularly those concerning in-country media, government and other public affairs matters.
- ♦ Liaising with the Emergency Response Organization; providing tactical and strategic support and monitoring that local emergency response efforts to follow the policies and strategies for managing the incident established by the SPRC CMT.
- ♦ Identifying other stakeholders and the consequences for them.
- ♦ Developing and coordinating a strategy to effectively manage internal and external communication flows; including those with stakeholders such as shareholders, customers, contractors and suppliers.
- ♦ Providing support to SPRC personnel and next of kin on all matters.
- ♦ Information management and security; and sharing within the team information accumulated during interactions with the affected entity and other stakeholders.
- ♦ Collecting, collating and securing all documentation related to the incident, which is generated by the SPRC CMT and support activities.
- ♦ Supporting in the planning and implementation of the recovery phase.

Preparation of post-incident reports assessing the effectiveness of the SPRC CMT's response and the institution of procedural (or other) Changes in the SPRC Emergency Response Plan, if necessary.

## 9.5 Schedule of Authority

The schedule of authority prescribes the approval limits for SPRC-CMT members who can approve cash and credit purchases during the crisis. This is in accordance with the Manual of Delegated Authorities (MODA).

## 10. Leak Response Guides Decision

### 10.1 Objective

This Leak Response Protocol attempts to mitigate risk in responding to leaks by providing additional guidance to Operations and bringing standardization to leak response decision-making.

### 10.2 Scope and Definition

A "leak" is defined as an unexpected loss of primary containment which has a potential to have a negative impact on operations, the safety of employees, and/or the environment.

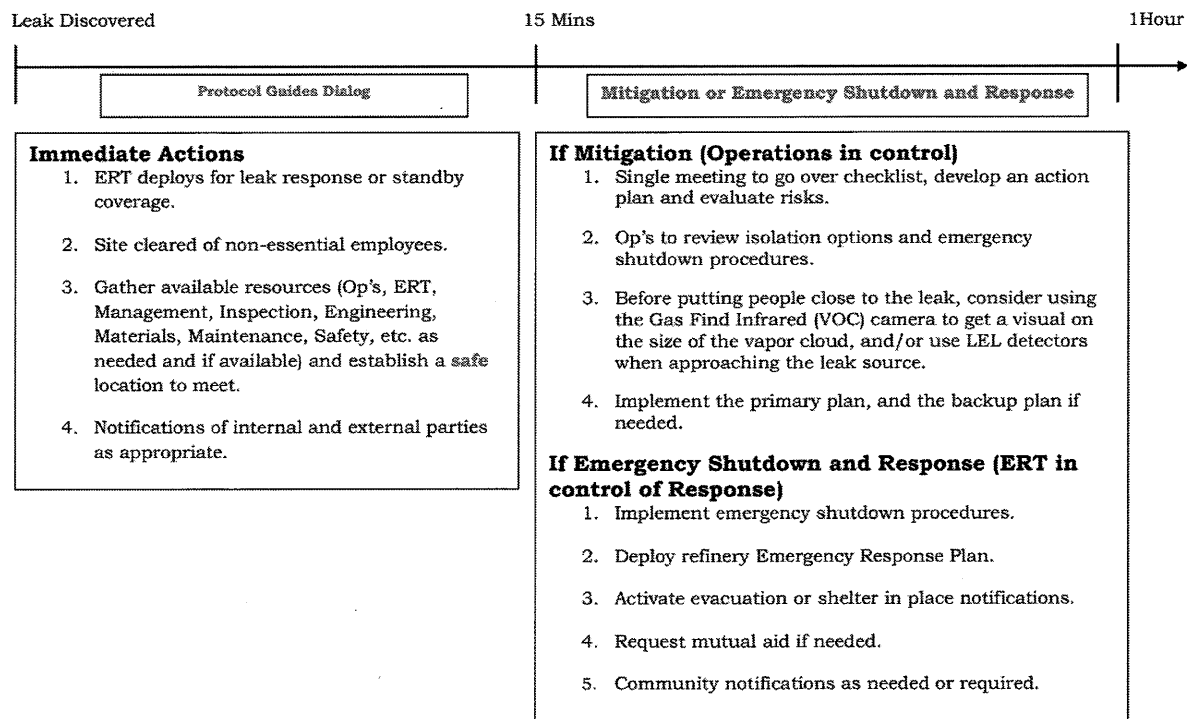
Incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel, are not included.

### 10.3 Overview

If there is any doubt about what to do, shut down the plant or move it to a safe condition.

If there is no time to review options, shut down the plant or move it to a safe condition. In some cases it may not be immediately clear what action should be taken to best protect people, the plant and the environment. If there is time to review options, get all available parties together in a meeting so all issues and concerns can be considered. After all the inputs have been gathered, develop an action plan, make sure it is clearly communicated to everyone involved, and then move forward to implement it. Utilize the Leak Response Protocol and Leak Response Flow Chart to guide the decision-making.

## 10.4 Leak Response Timeline

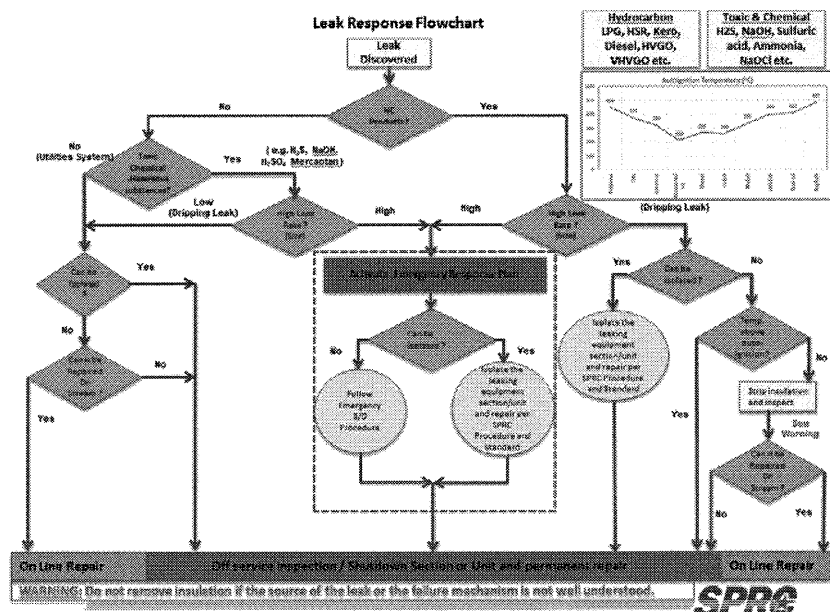


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### 10.5 Leak Response Flow Chart



More details about the Leak Response Protocol is refer to EHS-WI-QS-3013\_Leak Response Protocol [EHS-WI-QS-3013 Leak Response Protocol](#)

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## 11. EVACUATION PROCEDURES

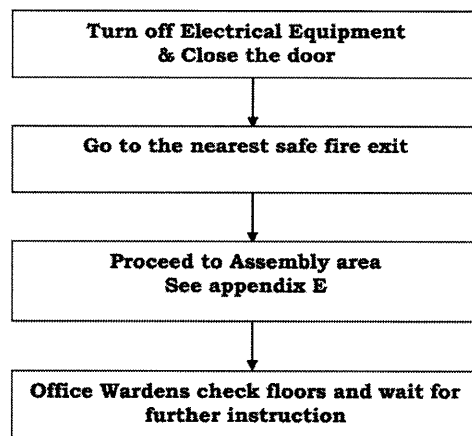
### 11.1 In case of Fire:

#### 11.1.1 Actions for Building Evacuation in case of Fire in Building

1. Pull the fire alarm switch or break the fire break glass
2. Calling Security Office at 7191 to state your name and location of the fire
3. Extinguish the fire if you have had fire training and you think you can do
4. Switch off electrical equipment if time permit and close the door (do not lock)
5. Evacuate from the building by using the nearest fire exit
6. Proceed to assembly area, report to your Office Warden and wait for further instruction

**Do not stay away or re-enter a building prior receiving the advice from Office Warden or Public Announcement made by REB**

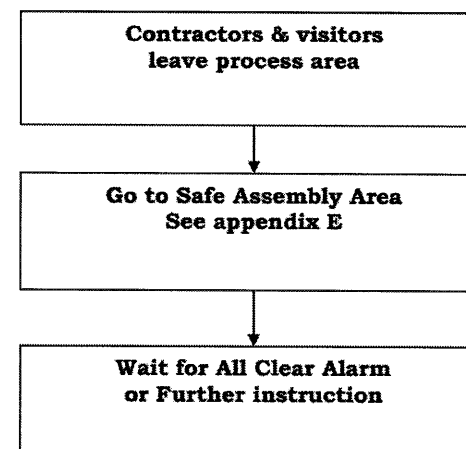
#### Action on Building Fire Alarm



#### 11.1.2 Actions for Other Working Areas Evacuation in case of Fire in other working area

1. The personnel in the area of the alarm, who are not essential to emergency response or operations, must immediately stop work and go to the nearest safe emergency assembly area.
2. Evacuations must take place across wind away from fire incident.
3. It is the responsibility of the supervisors to account for their own personnel.
4. Personnel must remain at the assembly area until the " All Clear " has been sounded, or unless directed otherwise by emergency personnel.

#### Action on Refinery Alarm



### 11.2 In case of Smell or Toxic Gas Leak:

(from both SPRC internal incident and Neighboring Company Incident)

In the event of emergency caused by the smell or toxic gas leak from both SPRC internal source and neighboring company, which affects to personnel in SPRC premises, the incident can be classified into 2 levels;

- |                |   |
|----------------|---|
| <b>Level 1</b> | Only information of incident, do not need evacuation of the personnel.  |
| <b>Level 2</b> | The incident becomes more serious and the personnel on the affected area need to be either sheltered-in-place or evacuated. |

#### 11.2.1 Actions for Building Occupants

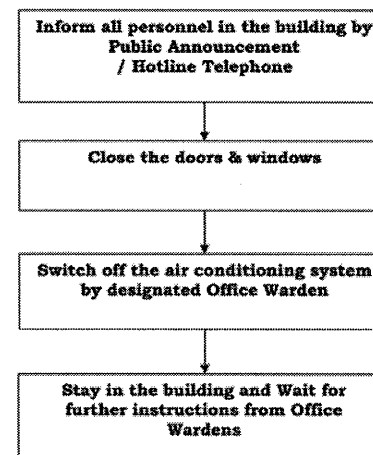
##### LEVEL 1

- On 1) receiving an emergency call from incident's company or IEAT-MTP or 2) notification from SPRC personnel in the field, the Security at REB will inform Shift Supervisor of affected area and Duty Manager
- Security at REB informs personnel in the affected building by Public Announcement or Hotline Telephone to stay in the building – Do Not Panic.
- Office Warden will prepare evacuation in case of evacuation needed.
- Office Warden keeps update on situation until situation is back to normal.

##### LEVEL 2

- On 1) receiving an emergency call from incident's company or IEAT-MTP or 2) notification from SPRC personnel in the field or, 3) detecting the smell inside the building, the Security at REB will inform Shift Supervisor of affected building(s) and Duty Manager. **Then, activate Emergency Level 2**
- Security at REB will inform personnel in the affected building by Public Announcement or Hotline Telephone.
- Shift Supervisor of affected area will assign Senior Operator to be OSC.
- OSC will cooperate with Office Warden to respond the incident either Shelter-In-Place or evacuate the personnel in the building to the safe assembly area depending on the situation.
- OSC will be informed of the current situation via Security at all time until the situation is back to normal.

### Action Steps

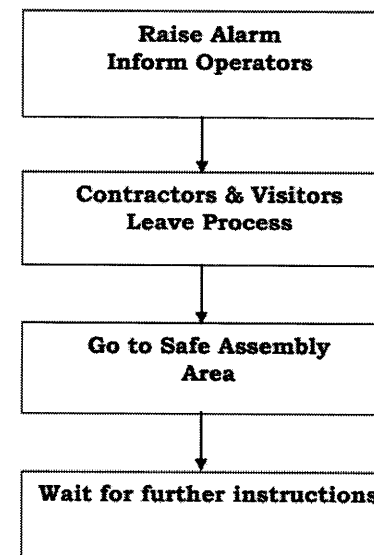


**11.2.2 Actions for Personnel in Other Working Areas****LEVEL 1**

- On 1) receiving an emergency call from incident's company or IEAT-MTP or 2) notification from SPRC personnel in the field, the Security at REB will inform Shift Supervisor of affected area and Duty Manager
- Shift Supervisor will consider the action according to the information provided.
- Shift Supervisor will prepare evacuation in case of evacuation needed.
- Shift Supervisor keeps update on situation until situation is back to normal.

**LEVEL 2**

- On 1) receiving an emergency call from incident's company or IEAT-MTP or 2) notification from SPRC personnel in the field, the Security at REB will inform Shift Supervisor of affected area(s) and Duty Manager. **Then, activate Emergency Level 2**
- Shift Supervisor will assign Senior Operator to be OSC.
- OSC will evacuate the personnel of the affected areas to the safe assembly areas. Evacuation must take place across the wind direction.
- OSC will assign the operators with SCBA to the unsafe assembly areas in order to direct the people to the safe assembly areas
- OSC will be informed of the current situation via Security at all time until the situation is back to normal.

**Action Steps****11.3 Neighbouring Community/Company Notification**

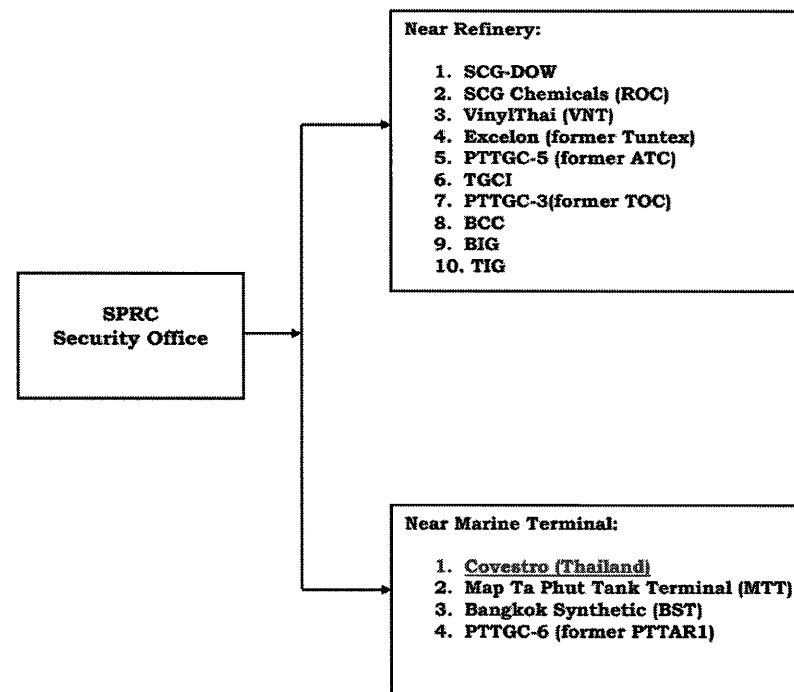
When emergency and abnormal situation which could effect to neighboring community /company, SPRC shall notify to the community leader or his deputy and company contact person refer to External Contact List (AM-OT-CA-012) for early aware refer to 8.2 Notification and Reporting to Stakeholder.

When a community evacuation is recommended, Map Ta Phut Fire Department and the Rayong Disaster Prevention and Mitigation office (PorPor) will be notified by Emergency Response Coordinator during on hours and Shift Security Officer during off hour. The Map Ta Phut Fire Department and the Rayong Disaster Prevention and Mitigation office (PorPor) will provide evacuation information. The Rayong Disaster Prevention and Mitigation office (PorPor) will then supervise the community evacuation with liaison with local police officials. **The Provincial Emergency Response Plan has to be activated.**

#### 11.4 Emergency Contact Points In Case of Neighbouring Company Incident

(Smell or Toxic Gas Release Incident)

Below is the list of companies which have a possibility to affect SPRC once their operation upset.



## 12. DEACTIVATION AND RECOVERY

### 12.1 Deactivation

The authority for deactivating an emergency response is vested in the On-Scene Commander who will consult with the Incident Commander. Deactivation should begin when it is considered that the emergency has been contained, and satisfactorily overcome in all respects.



The activities and procedures which must be undertaken to **recover** from an emergency incident includes, but is not limited to:

- ☐ The cleanup, maintenance and testing of equipment.
- ☐ The re-commissioning of facilities, plant and equipment.
- ☐ The replenishment of stocks (such as, firefighting foam, spill cleanup materials, replacement parts).
- ☐ The returning of equipment to outside contractors and mutual aid organizations.
- ☐ The accounting for all expenses incurred as a result of the incident.
- ☐ The filing of insurance claims
- ☐ Preparation and dispatch of final reports to relevant Shareholders, Government and local authorities.

### 12.2 Re-commissioning

Before re-commissioning plant or equipment which may have been involved in the emergency or affected by it, a thorough and detailed inspection must be carried out to ensure that the integrity of equipment has not been adversely affected.

### 12.3 Incident Investigation

It is the responsibility of the next level of management above the On-Scene Commander to designate the team responsible for performing the appropriate incident investigation. All incidents, which have resulted in the activation of an emergency response, must be investigated.



**NOTE:** Part of the incident investigation must be devoted to a critique of the emergency response itself. Detailed recommendations for improvements to the Emergency Response Plan and/or to Contingency Plans should be made.

## 13. POST INCIDENT REVIEW

The Company requires that a post-incident review be conducted to examine the Company's response to the emergency incident.

The Incident Commander or the On-Scene Commander shall convene the review within forty-eight hours of the Incident conclusion. Those attending shall include the Manager Process Safety & QEHS, Emergency Response Coordinator, and all employees who participated in the incident. Minutes shall be kept. The review shall determine:

- ☐ Were employees properly informed of Company procedures?
- ☐ Did employees respond according to Company procedures?
- ☐ Were employee's responses timely?
- ☐ Are the procedures adequate?
- ☐ What problems were encountered during the response activities?
- ☐ What improvements can be made?
- ☐ How can similar events be avoided in the future?

If public emergency services were involved they will be invited to participate in the critique.

All recommendation and feedback received from the post incident review shall be tracked and follow up by Emergency Response Coordinator. The status update of the action items shall kept in the share drive and communicate to all duty rota members. However, the update status of the actions shall be updated at least 2 times/year by incorporating with the exercise feedback highlight update and sharing.

## 14. APPENDIX

### APPENDIX A ROLES AND RESPONSIBILITIES

**1. Incident Commander (IC)****Who:** PD Shift Supervisor on shift**Report to:** Duty manager**Location:** EOC (Fire Station)**Emergency level:** 1A, 1B, 2, 3**Roles:** To control all activities during emergency**Responsibilities:** On receiving the emergency alarm:

- ☐ Switch radio to emergency channel
- ☐ Inform PU manager of affected area
- ☐ Set up contact with OSC and inform Security Shift Officer
- ☐ Ensure that the ERT on duty are the person who fit for duty
- ☐ Initiate site head count (Reference Appendix F)
- ☐ Organize and control all activities in the EOC until the Duty Manager arrives.
- ☐ Ensure a log is kept of all activities.
- ☐ Decide with OSC the level of emergency, and initiate call-in.
- ☐ Receive situation reports from the OSC and take appropriate actions.
- ☐ If needed ensure that the fire pump has started and that the fire panel is monitored.
- ☐ Liaise with outside 3rd parties until the communications team is formed.
- ☐ Contact other companies who may be affected by the incident.
- ☐ Arrange for refreshments to be delivered to the incident scene via the EOC Team.
- ☐ Provide regular situation reports to all relevant groups via telephone or messenger.
- ☐ Arrange for relief teams to be sent to the incident scene as required.
- ☐ For external requests for assistance from Mutual Aid Partners, determine if possible to assist and provide Fire Truck driver as circumstance warrant.

**The PD Shift Supervisor shall notify Duty Manager, Production Unit manager of affected areas, EHS and External Affairs duty persons if the following incidents occur:**

- Injuries requiring hospitalization (transfer to a hospital).
- Oil Pollution.
- Air Pollution.

**2. On Scene Commander (OSC)****Who:** Senior Operator of area affected / EST (G/H)**Report to:** Incident Commander**Location:** At the scene of the incident.**Emergency Level:** 1A, 1B, 2, 3**Roles:** To control all activities at the scene of incident.**Responsibilities:** On receiving the emergency alarm;

- ☐ Go to incident scene immediately and consider activate the emergency level.
- ☐ Switch to Emergency channel.
- ☐ Set up a command point (OSC Vehicle) at a safe location, wearing the Full Fire bunker gear, OSC helmet.
- ☐ Assigned the operator drive the OSC vehicle to command post.
- ☐ Establish radio contact with the Incident Commander (IC) and supply situation reports.
- ☐ Account for all personnel at the scene of the incident.
- ☐ Scenario briefing and setup the strategy, tactics, resources to all responders prior go to the incident scene.
- ☐ Assigned the responder record the SCBA & incident log at the OSC vehicle.
- ☐ Control all rescue and first aid activities at the scene of the incident.
- ☐ Apply Leak Response Protocol for unit shutdown.
- ☐ Asked agreement from Shift Supervisor for unit shutdown.
- ☐ Cooperated with boardman for plant condition and emergency shutdown.
- ☐ Establish casualty control area when required.
- ☐ Considered raise or reduce an emergency level.
- ☐ Assess the situation is safe for responding, if the situation is raised to high risk must command ERT-Leader to retract to a safe location.
- ☐ Assigned 2 ERT Leader to lead response the situation (1 person from PN and 1 person from PD)
- ☐ Liaise with mutual aid focal point person when called.
- ☐ Set up Hot Zone and assure personnel have proper PPE
- ☐ Required the HAZMAT Suit in case of toxic/hazardous substance spill/leakage.
- ☐ Request ambulance if needed and arrange for casualty treatment and evacuation.
- ☐ Deactivate the emergency when it is considered that the emergency has been contained, and satisfactorily overcome in all respects with consult IC

Remark the OSC who passed the area cross-training must have well the knowledge of Unit Isolation, Unit Shutdown, and Start-up.

**3. Production Unit Shift Supervisor of affected area**

**Who:** Shift Supervisor of affected area on shift

**Report to:** Incident Commander

**Location:** CCB or the scene of incident

**Emergency Level:** 1A, 1B, 2, 3

**Role:** To control overall plant operation.

**Responsibilities:**

- ☐ Switch radio to emergency channel
- ☐ Coordinate with IC and OSC
- ☐ Make decision with OSC on plant emergency operation such as shutdown the unit, bypass equipment followed Leak response Protocol.
- ☐ Back up IC or OSC
- ☐ Ensure sufficient manpower available, call extra operators if required.

#### 4. Emergency Response Team Leader (ERT-Leader)

**Who:** 2 persons Assigned by OSC (1 from PN & 1 from PD)

**Report to:** On Scene Commander

**Location:** At the scene of the incident.

**Emergency Level:** 1A, 1B, 2, 3

**Roles:** Front line Responder at the scene

**Responsibilities:** On receiving the emergency alarm;

- ☐ Switch radio to Emergency channel.
- ☐ Go to incident scene and report to OSC.
- ☐ Response the incident as directed by the OSC.
- ☐ Control the ERT followed OSC's mission, objectives, and strategy.
- ☐ Keep feedback communication of situation and mission to OSC
- ☐ Ensure all the ERT are safe during response.
- ☐ Ask resources support to achieve the mission, strategy.
- ☐ Assess the situation is safe for responding, if the situation is raised to high risk must command ERT to retract to a safe location.
- ☐ Required the HAZMAT Suit in case of toxic/hazardous substance spill/leakage.

#### 5. Emergency Response Team (ERT)

**Who:** Nominated on shift operators

**Report to:** Emergency Response Team Leader

**Location:** At the scene of the incident.

**Emergency Level:** 1A, 1B, 2, 3

**Roles:** Front line Responder at the scene

**Responsibilities:** On receiving the emergency alarm;

- ☐ Switch radio to Emergency channel.
- ☐ Go to incident scene and report to OSC.
- ☐ Response the incident as directed by the ERT-Leader.
- ☐ Assure proper PPE must be wearied related incident Fire / Chemical Spill case
- ☐ Keep the mission complete safely.
- ☐ Reported to ERT Leader and retract to the safe location if the situation raised to high risk.
- ☐ Act to Rescuer

#### 6. Fire Truck Drivers

**Who** Nominated on shift operators (PN=1, PD=1), under the control of the OSC

**Report to** On Scene Commander

**Location** Fire Station and the scene of the incident

**Emergency Level** 1A, 1B, 2, 3

**Responsibilities**

On receiving the emergency alarm;

- ☐ Switch radio to emergency Channel.
- ☐ Requested the safe route and command post location from OSC.
- ☐ FTD 1: Go immediately to fire station and take the first fire truck to the scene of the incident when requested by OSC.
- ☐ FTD 2: Go immediately to the fire station and wait for instructions.
- ☐ Contact the OSC and report location.
- ☐ Operate the fire trucks as directed by the OSC.
- ☐ Competency to operate Fire Truck and able to discharge foam as required.
- ☐ Able to estimate time of foam consumption table when required foam top up.

#### 7. Duty Rota Team

**Who** 1) Duty Manager,  
2) Operation Duty,

- 3) External Affairs,
- 4) EHS,
- 5) Emergency Response Coordinator,
- 6) Historian (Marine),
- 7) Mechanical, and
- 8) Instrument & Electrical Duty Persons

**Location** EOC (Fire Station).

**Emergency level** 1B, 2, 3

**Roles** To support all activities as requested by IC and contact third parties during emergency.

#### General Responsibilities

- ☐ **First person to arrive must establish contact with Incident Commander and act as Duty Manager until the Duty Manager Arrives**
- ☐ Keep a register of all personnel present.
- ☐ Keep a log of all activities.
- ☐ Ensure all personnel who are not directly involved in the emergency, including personnel at assembly areas, are kept informed.
- ☐ Ensure that a head count is done.
- ☐ Inform shareholders.
- ☐ Prepare a preliminary statement.
- ☐ Report to Authorities in accordance with statutory requirements.
- ☐ Liaise with local, national and international authorities.
- ☐ Liaise with the media.
- ☐ Liaise with local industries.
- ☐ Liaise with the local hospitals regarding any casualties.
- ☐ Answer queries from relatives of staff on site.
- ☐ Control all communications in and out of the refinery.
- ☐ Call on any other specialist organizations as required.
- ☐ Arrange for food and drink for emergency teams.
- ☐ Arrange for extra security.

## 7.1 Duty Manager

### Role

- To handle on-site emergency activity and ensure appropriate emergency procedures are activated. Act as site spokesperson for enquiries, including the media, if required.
- To lead the EOC organization through the emergency, and to manage the activities of the Duty Team, concentrating primarily on strategy development and monitoring management of all activities.

### Responsibilities

- ☐ Set up EOC and adjust, as appropriate, as the situation develops.
- ☐ Co-ordinate the efforts of the Duty Team.
- ☐ Take only those decisions, which cannot be delegated.
- ☐ Authorize commitments, deviations from normal procedures, press releases (in conjunction with the Public Affair Manager, the Initial Response Statement is in appendix G), etc., as required.
- ☐ Appoint the Company spokesperson.
- ☐ Ensure that all personnel not directly involved in the emergency are kept informed.
- ☐ Notify IEAT and update on the status.

### Specific Tasks

- ☐ Implement site Emergency Response Plan.
- ☐ Notify the CEO, DO and ensure that PN, PD are communicated.
- ☐ Notify to all related stakeholders, (Refer to Section 8.2 Notification and Reporting to Stakeholder) and also communicate to all SPRC Staff by e-mail.
- ☐ Provide a regular update on the status of the emergency to CEO, DO and Shareholders and establish the frequency for update briefings.
- ☐ Maintain a log of important events, commitments, decisions, etc., and pass hourly to CEO and Secretarial Services. Monitor external communications and ensure that these take place at an adequate level of frequency.
- ☐ Set up teams to address the short-term reinstatement or permanent restoration.

### Checklist

- ☐ Ascertain what has happened
  - reason
  - scope
- ☐ Establish resources required
  - organization type
  - mobilizes
- ☐ Establish information flow
  - who is the Incident commander
  - injuries/deaths
  - frequency of update reports
  - authorities involved
  - who is spokesperson
- ☐ Establish timetable for;
  - Internal briefing
  - Media briefing (if necessary)
  - Management strategy
- ☐ Commence strategy development

### Plus 1 hour

- ☐ Ascertain what has happened.
- ☐ Are resources sufficient and have been notified.
- ☐ Is there sufficient field support.
- ☐ Where is the media activity center?
- ☐ Are all sources of information being monitored.
- ☐ What are the emerging issues?
- ☐ Has a public release been made?
- ☐ Are we supporting the authorities sufficiently?

### Plus 5 hours

- ☐ Review what has happened.
- ☐ Review resources (both Emergency Operation Center Team) and determine need to establish shifts.
- ☐ What is our media strategy and is the Company being proactive.
- ☐ What commitments have been made and are deadlines being met.

### 5 Hours and beyond

- ☐ Every three hours revisit the Plus 5 hours checklist.

### DUTY MANAGER

- PRIORITIES:**
1. **Preservation of human life, health and well being**
  2. **Protection of the environment**
  3. **Protection of Company Asset**
  4. **Restoration of disrupted utilities**
  5. **Resumption of normal production**

### Aide Memoir Level 1B/2/3 Emergency

1. **Nominate historian**
2. **Consider incident:**
  - ☐ What happened?
  - ☐ Victims? (Fatalities, injuries)?
  - ☐ Personnel missing? (All personnel accounted for?)
  - ☐ Medical assistance required?
  - ☐ Current process status?
  - ☐ Any toxic/radioactive releases?
  - ☐ Weather conditions? (wind direction)
  - ☐ Road barriers set up?
  - ☐ Authorities and/or other outside parties informed?
  - ☐ Time?
  - ☐ Escalation possibilities? (Safety/Health/Environmental)
3. **Consider possibilities:**
  - ☐ What kind of equipment do we need?
  - ☐ Enough personnel available? (ERT in attendance/additional operators for running units/ fitters/instrument technicians?) Any personnel called in?
  - ☐ What kind of extinguishing agents do we need and how much?
  - ☐ Do we need assistance (mutual aid)?
4. **Be in control:**
  - ☐ Think about relief and refreshments for crew.
  - ☐ Keep an eye on drainage systems.
  - ☐ Check procedures, prioritize and delegate.
5. **Notifications**
  - ☐ Shareholders
  - ☐ Authorities
  - ☐ CEO, DO
  - ☐ SPRC Staff
6. **After the incident:**
  - ☐ Think about protection of open flammable and/or toxic products
  - ☐ Think about protection of collapsing structures.
  - ☐ Debrief / interview involved personnel
  - ☐ Maintain / secure incident site for investigation
  - ☐ Deal with emotional stress to employees / families / responders particularly if deaths or significant injuries occurred
  - ☐ Restock emergency response equipment ( firefighting, first aid, HAZMAT, PPE )
  - ☐ Check equipment and clean it.
  - ☐ Reload and refuel truck.
  - ☐ Clean protective clothing

## 7.2 Operation Duty

**Report to:** Duty Manager

### Role

To provide support to Shift Supervisor on all operational matters during emergency when emergency level 1B, 2, 3 at EOC.

To be the Operation Support Team member when emergency level 3

### Responsibilities

- ☐ Call in other staff member of Operation Duty.
- ☐ Inform PN/PD as considered appropriate.
- ☐ Be aware of operational requirements and issues during emergency.
- ☐ Provide assistance by operational experience and liaison with the operating units an appropriate plan of action in emergencies. Contact operations personnel that may provide additional information.

## 7.3 External Affair Duty - Corporate Affairs Issues

**Report to** Duty Manager

### Role

- To provide a link with the Duty Manager on corporate affairs aspects associated with the emergency and establish information flows and timings of briefings.
- To keep an open line of communication with appropriate organizations / national authorities.

### Responsibilities

- ☐ To maintain a log of issues and identify key information which is likely to be required by the Emergency Operations Team.
- ☐ In conjunction with the Duty Manager to establish a pro-active media liaison and public affairs strategy.
- ☐ To brief the Duty Manager / CEO on media interest, issues developing and requests from the media for information.
- ☐ To assist in developing/delivering a response to the media as directed by the Duty Manager / CEO
- ☐ Inform appropriate organizations on aspects of the crisis that may affect them.
- ☐ Obtain from affected organizations, information that may be of assistance to the Company.
- ☐ Coordinates and processes to buy additional resources including foods, refreshment, and other facilities to support Emergency Response Team in event of Emergency. These responsibilities can ask support from Mechanical / Instrument & Electrical Duty to help by mobilizes additional resource. The list of vendor/supplier are defined in External Contact List (AM-OT-CA-012)

### Specific Tasks

- ☐ Call in other staff members of CA/HR and EA Duty
- ☐ Maintain a log of media activity identifying the line of questioning being adopted by the media and community and issues developing. Pass this information to the Duty Manager /CEO on a regular pre-agreed frequency.
- ☐ Establish contact numbers where the media can call for information.
- ☐ Enact the requirements and requests of the Duty Manager.
- ☐ Prepare media, community, and staff briefing material as requested by the Duty Manager.

- ❑ Check contacts listed in Appendix P (Emergency Telephone Numbers) against the type of emergency being managed, and ensure appropriate liaison links are established and maintained, including precautionary contact.
- ❑ Consider, in conjunction with the Duty Manager, additional organizations with whom liaison should be established.
- ❑ Determine whether liaison officers should be sent to outside organizations and advise the Duty Manager, arrange accordingly.
- ❑ Report regularly to the Duty Manager.
- ❑ Keep a record of contact with authorities and pass to Secretarial Services hourly.
- ❑ Coordinate with CA AD to make the rooms available for presses and media.
- ❑ In case of any tanks fire occurred, inform to the Department of Energy Business
- ❑ To support on cash box and arrangement.

#### 7.4 External Affair Duty - Human Resource Issues

**Report to** Duty Manager

##### **Role**

- To provide advice to Duty Manager on personnel/welfare aspects associated with the emergency, and establish information flows and timings of briefings.
- To provide and maintain appropriate legal advice regarding Human Resources' aspects as required.

##### **Responsibilities**

- ❑ To brief the Duty Manager on personnel and welfare issues relating to staff.
- ❑ Maintain a list of personnel on site and the status of casualties.
- ❑ Enact Company personnel policies relating to staff welfare.
- ❑ Co-ordinate with hospitals for the treatment of injured persons provides additional support of required.
- ❑ Ensure appropriate legal advice is available for the Duty Manager when making critical decisions and press releases.

##### **Specific Tasks**

- ❑ Call in other staff members of CA/HR and EA Duty
- ❑ Establish a list of personnel on site and forward to the Duty Manager on a regular basis.
- ❑ Establish the names of casualties and forward to the EOC Team and the CEO on regular basis or when significant information becomes known.
- ❑ Identify welfare requirements and seek direction on a response strategy.
- ❑ If required make arrangements to advise or visit the next of kin of any casualties.
- ❑ Arrange for the movement of staff dependents to be with injured employees.
- ❑ Arrange for the co-ordination of grief counseling.
- ❑ Establish the relatives contact numbers at SPRC, and in Bangkok, and advise to staff and relatives so that they can receive information on assistance and status of family members.
- ❑ Monitor the quality of medical treatment being given to injured staff to ensure it is appropriate.

- ❑ Coordinate and ensure the switchboard operator is aware of the incident and fully manned.
- ❑ Make a room and telephones available for answering incoming calls.
- ❑ Ensure that all personnel not directly involved in the emergency are kept informed, including personnel at the assembly areas.

#### Policy for Notification of Next of Kin

##### Notification of Death

The responsibility for notification of next of kin lies with the company for staff and with the contractor for contract staff. Any enquiries related to the physical well being of SPRC staff, contractors, etc., will be directed to the appropriate employer.

Every endeavor should be made for a senior representative from the Company to be present when notifying the next of kin.

##### Notification of Injuries

The responsibility for notification of next of kin lies with the Company for staff and with the contractor for contract staff. Any enquires related to the physical well being of SPRC staff, contractors, etc., will be directed in the first instance to SPRC Management.

- \*\* No name of injured or death person should be given to the media until it is verified that next of Kin have been informed.**

## 7.5 EHS Duty

**Report to** Duty Manager

#### Role

- Provide advice on EHS related aspects to the Duty Manager, identify reporting and liaison requirements to the Public Affair focal point.

#### Responsibilities

- ❑ Advise on EHS requirements to assist in the containment of any physical situation.
- ❑ Identify parties (authorities, neighbors) to be contacted or advised of the situation as dictated by statutory and other requirements.
- ❑ Advise to the Duty Manager of any investigation required by authorities and any associated requirements.

#### Specific Tasks

- ❑ Call in other members of the EHS personnel.
- ❑ Provide technical advice on EHS equipment and other resources to be utilized to control any situation and contain its impact.
- ❑ Advise the requirements under the various EHS regulations and other statutory reporting requirements.
- ❑ Advise to the OSC through IC about suspension of emergency response operation when the scene atmosphere result in a IDLH level and/or to involve an imminent danger condition
- ❑ Advise to the OSC through IC to decrease level of respiratory protection when the air monitoring at the scene result that the situation is safe to decrease level of protection ( refer to EHS-SP-QS-0017 Respiratory Protection Program.doc )
- ❑ Provide technical data as is required by the emergency response organization and the Duty Team.
- ❑ Call in the company Radiation Safety Officer (RSO) in case of radiation incident ( Khun Suchart B (IR/2) Tel.087-833-8957
- ❑ Keep monitoring and tracking of an injured person and head count details (to update to the Duty Team members)



**7.6 Emergency Response Coordinator (Duty)****Report to** Duty Manager**Roles** To provide advice to Duty Manager /OSC on all Emergency Response aspects.

To be member of Emergency Support Team when emergency level 3

**Location** Emergency Level 1B at the EOC.

Emergency Level 2 / 3 report to Duty Manager and Act to leader of Emergency Support Team also between EOC with Fire Station.

**Responsibilities**

- ☐ Call in other staff members of ERC Duty.
- ☐ Advise on using all firefighting equipment.
- ☐ Advise the OSC through IC on strategy, objective, tactics, and resources.
- ☐ Brief the situation to ERC member when they arrived.
- ☐ Record the external communication and information.
- ☐ Assign Emergency Response Coordinator member go to incident scene to assist OSC on control activities at the scene if level 2 or 3.
- ☐ Coordinate with Mutual Aid Teams.
- ☐ Assign Emergency Response Coordinator member to be the Mutual Aid Coordinator and Staging Officers when emergency level 2 or 3.
- ☐ Evaluate and calculate the needed resources to control the situation.
- ☐ Coordinate more resources from EMAG and Government.
- ☐ Assigned the QS/31 or QS/32 go to incident scene to assist OSC on level 1B (if required on a working day).

**Note: When a community evacuation is recommended, Map Ta Phut Fire Department and the Rayong Disaster Prevention and Mitigation office (PorPor) will be notified by Emergency Response Coordinator during on hours.**

**7.7 Marine Duty****Report to** Duty Manager**Role**

To provide marine technical and marine pollution advice in general, give support to the Duty manager on all emergencies.

**Responsibilities**

- ☐ Call in members of Marine Duty.
- ☐ Be aware of the planned ship movements.
- ☐ Give marine technical advice to Duty manager on all marine matters, which are outside the normal operational routine.
- ☐ Advise the Trading Department of ship acceptance criteria for anticipated ship chartering requirements
- ☐ Act as the historian (in case of not related to the marine incident)

**7.8 Mechanical / Instrument & Electrical Duty****Report to** Duty Manager**Role**

To coordinate and direct mechanical / I&E maintenance and Logistic Concerns (facilities, foods, etc.) to support Emergency Response Team in event of emergency.

**Responsibility**

- ☐ Call in other staff members of the Maintenance
- ☐ Assists Duty Manager on logistics / equipment issues.
- ☐ Provide mechanical, electrical and instrument assistance.
- ☐ Assigns work locations and preliminary work tasks to section personnel.
- ☐ Identifies services and support requirements for plan and expected operations.
- ☐ Provide support to External Affair Duty for mobilizing additional resources including foods, refreshment, and other facilities to support Emergency Response Team in event of Emergency.
- ☐ Reviews Incident Action Plan and estimate section requirement for next operation period.
- ☐ Assist in developing a recovery plan.
- ☐ Provide specialized maintenance / construction services as required.
- ☐ Coordinate equipment inspectors as needed.
- ☐ Coordinates turnaround-planning capabilities to assist with the orderly restoration of services.
- ☐ Provide specialized services relating to engineering drawing, documentation of equipment, operational procedures relevant to the process involved.

**In event of process plant and /or off sites equipment breakdown, the mechanical /I&E duty person shall do the following additional:**

- ☐ Respond promptly (establish verbal response where possible) to a request for assistance from the Operations and determine, as far as possible, the scope of the work and the skill(s) required.
- ☐ Inform the relevant maintenance area supervisor(s) the next working day about detail of maintenance action taken during call out and required follow up action.
- ☐ Inform PN/PD Superintendence Mechanical of serious matters as soon as possible.

**8. Operations Support Team****Who** Affected area Manager, off-shift Shift Supervisors, off-shift Senior Operator, Process engineers**Location** CCB**Emergency level** 3**Responsibilities**

**Main priority is to support, and take over some of the responsibilities**

- ☐ Keep a register of all personnel present.
- ☐ Provide technological to the operating shift.
- ☐ Provide panel assistance.
- ☐ Provide supervisory assistance as requested by the IC/ OSC or operating shift.
- ☐ Provide assistance / relief for the On Scene Commander if requested.
- ☐ Provide assistance for the Incident Commander / On Scene Commander if requested.
- ☐ Assist outside operators to bring plants to a safe condition.

**9. Emergency Support Team (Day Staffs)****Who** Maintenance group, Emergency Response Coordinator group**Location** Fire Station**Emergency Level** 2, 3**Responsibilities**

- ☐ **The first person to arrive will establish contact with the IC until the Emergency Response Coordinator arrives. The following responsibilities will be assigned by the Emergency Response Coordinator.**
- ☐ Keep a register of all personnel present.
- ☐ Keep a log of all activities.
- ☐ Assist OSC on control activities at the scene.
- ☐ Advise on using all firefighting equipment.
- ☐ Appoint radio operator and Historian.
- ☐ Collect and register radios as people arrive.
- ☐ Check pool vehicles for availability.
- ☐ Arrange transport for personnel and equipment to go to the incident scene.
- ☐ Provide back up for the ERT at the incident scene as required using trained personnel.
- ☐ Prepare and provide fire-fighting equipment as required from the fire station.
- ☐ Nominate Personnel to assist as Mutual Aid Coordinators.
- ☐ Provide messengers as required by Incident Commander / On scene Commander.
- ☐ Provide guides for outside agencies arriving at the refinery.
- ☐ Assist with traffic control at the main gate and approach roads, as requested by security.
- ☐ Ensure that all communications systems remain operable.
- ☐ Coordinated with REB to Open the workshop and warehouse.
- ☐ Arrange for extra personal protective equipment to be available.
- ☐ Provide transport assistance.

- ☐ Keep all radio transmissions to a minimum.
- ☐ To be the Staging Officers
- ☐ If necessary arrange for 24 hours coverage by splitting team into 2 shifts

All members of this team must bring with them PPE and any radios or pool vehicles assigned to them.

**If assigned as the Mutual Aid Coordinator, he will coordinate with Mutual Aid Teams (Refer to Appendix D Mutual AID and Assisting to third parties).**

**10. Emergency Support Team (EST) PU Operations team****Who** On-shift EST and Off shift EST**Report to** SS**Location** Fire Station**Emergency level** 1B, 2, 3**Responsibilities**

- ☐ Switch radio to Emergency channel and report to OSC
- ☐ Contact fire station for request fire bunker gear with SCBA and dress up.
- ☐ Go to the incident scene and report to OSC
- ☐ Response to the incident as directed by the OSC.

**11. Operating Shift****Who** On shift operators, under control of Shift Supervisor of area where the incident occurred**Report to** Shift Supervisor**Location** CCB**Emergency level** 1A, 1B, 2, 3**Responsibilities**

- ☐ Activate Fix fire water system where available.
- ☐ Activate Emergency Isolate Valves to stop fuel source.
- ☐ Liaise with OSC
- ☐ Bring plants / systems to a safe level of operation.
- ☐ Request additional operational resources when necessary.

**12. Historian****Who** An assigned Administrative Assistance or Marine Duty (if available)(Assigned by Duty Manager)**Report to** Duty Manager**Location** EOC**Role** To act as official recorder for the EOC**Responsibilities**

- ☐ Ensure that all events are accurately recorded in the EOC logbook as they occur.
- ☐ Liaise with the radio operator to ensure that all information is recorded.
- ☐ Keep the Duty Team informed of any significant events or changes in the status of the emergency.

**Specific Tasks**

- ☐ Ensure sufficient log sheets are available.
- ☐ Check the whiteboard for up to date information.
- ☐ Record all events accurately and clearly including incident type, location, date and times.
- ☐ Inform the Duty Manager of significant events or changes in the status of the emergency.
- ☐ Liaise with the radio operator so that all events are recorded.

**13. Switchboard Operator****Who** Receptionist/ Security Shift Officer**Report to:** HR**Location** Reception table / REB**Role** Operate the refinery switchboard.**Responsibilities**

- ☐ Separate emergency calls from normal business calls.

**Specific Tasks**

- ☐ Direct emergency calls to EOC or other numbers as and when directed by the Duty Manager.
- ☐ Direct normal business calls to the requested person or department secretary where possible. If not possible take the name and contact number of the caller.
- ☐ Keep the switchboard as clear as possible for emergency calls.
- ☐ Contact security to attend to unauthorized visitors.

**Do not give out any statements about the emergency.****14. Office Wardens****Who** Regular building staff who have been assigned**Report to** REB**Location** Responsible Zone**Roles** To ensure all building occupants area safely evacuate during building emergency.**Responsibilities**

- ☐ Department heads or managers will nominate wardens and deputies.
- ☐ There will be a minimum of two wardens present at all times on each level of a building.
- ☐ If wardens are going to be absent from the building then they must inform their deputy
- ☐ The building will be separated into sections for checking.
- ☐ Each warden and deputy will have a floor plan showing areas to be checked.
- ☐ If it is safe to do so. On hearing the fire alarm the wardens will ;  
Check all the rooms in their area of responsibility, and they will make sure that the occupants have left or are leaving the building.
- ☐ When a room has been checked the warden will close the door.
- ☐ When all the rooms have been checked the wardens will go to the assembly area.
- ☐ They will confirm with each other that the building has been evacuated.
- ☐ They will check with the senior personnel from each department, using the printout from the computer access control system supplied by security, to ensure everybody is accounted for.
- ☐ The wardens will report to the REB or IC with their findings.

**Where office wardens have radios, they should be taken with them to the assembly areas.**

**15. Security**

**Who** All security personnel on site under the direction of  
the Security Shift Officer

**Report to** OSC

**Location** REB

**Emergency Level** 1A, 1B, 2, 3

**Responsibilities**

- ☐ Monitor all emergency radio communications.
- ☐ Close the road, which related to the incident and take care of traffic.
- ☐ Ensure emergency radio traffic recorded.
- ☐ Follow instructions of the OSC.
- ☐ Emergency road closing.
- ☐ Emergency gate closing.
- ☐ Site accesses control.
- ☐ Cooperate with law enforcement as required.
- ☐ Keep a log of all activities.
- ☐ Operate the refinery switchboard (out of hours).
- ☐ Call in, as requested by the IC
  - \* Duty Rota Team
  - \* Mutual aid
  - \* Others requested by IC/OSC
- ☐ Get confirmation from duty team members of acknowledging via phone call.
- ☐ Control all traffic into and out of the refinery.
- ☐ Liaise with the police for roadblocks outside property as required.
- ☐ Prepare lists of all personnel on site using access control.
- ☐ Restrict all entry to the Refinery to emergency vehicles and personnel.
- ☐ Keep the incident area free of all non-emergency vehicles and personnel.
- ☐ Ensure that all the master keys are available ready for use at the main gate.

- ☐ Have a mobile security guard ready to open emergency gates if required.
- ☐ Call in extra security guards as required
- ☐ Notify to the stakeholder refer to section 8.2 Notification and Reporting to Stakeholder

**16. Staging Officer****Who** Member of the Emergency Response Coordinator Group**Report to** OSC**Location** Staging Areas will be assigned by OSC**Emergency level** 2, 3**Responsibilities**

- ☐ Establish Staging Area Layout.
- ☐ Maintain radio communication with OSC and other Staging Officers.
- ☐ Request maintenance/fuel service for equipment at Staging Area as appropriated.
- ☐ Request and prepare all equipment and make available as required by the OSC and report resource status changes.
- ☐ Maintain Staging Area Resources Form.
- ☐ Maintain Unit Log
- ☐ Assembly and release of fire protection or emergency equipment and supplies to support the emergency response action.

All resources within the designated Staging Areas are under the direct control of the Staging Officer and should be available as soon as possible.

**17. Medical Team****Who** Medical Clinic Nurses**Report to** OSC**Location** Medical Clinic and scene of the incident.**Emergency level** 1A, 1B, 2, 3**Responsibilities**

On receiving the emergency alarm;

- ☐ Switch radio to Emergency Channel.
- ☐ Provide first aid as requested by the OSC.
- ☐ Evacuate injured personnel by ambulance.
- ☐ Pass the information of injured or death to External Affair Duty Person / Duty Manager.

**18. Legal Advisor****Who** Corporate Legal Counsel and Company Secretary**Location:** EOC (Fire Station)**Emergency level:** 2, 3**Roles:** To be an advisor on legal issues**Responsibilities:**

This person is responsible for the following:

- ☐ Coordinating with outside Thai legal counsel, Shareholder companies, CPC General Counsel and other Chevron in-house counsel (Singapore) on all issues relating to legal liability of SPRC and shareholders.
- ☐ Render legal advice and assistance to the Treasurer's Unit related to Traders Insurance Policy and /or other related insurance policy coverage, claims procedures and on matters related to legal interpretation of scope, degree and type of liability for which insurance will respond.
- ☐ Provide ad-hoc legal advice to Incident Commander on issues, which may have Thai, USA, Chevron or Shareholder legal implications.
- ☐ Ensure appropriate legal advice is available for the Duty Manager when making critical decisions and press release.
- ☐ Assist the Duty Manager and other Emergency Response Team members in respect of legal matters related to Emergency Response aspects
- ☐ Provide and maintain appropriate legal advice as required.

**APPENDIX B DUTY ROTA GUIDELINE FOR EMERGENCIES****1. Generic Guidelines**

The Duty Rota is intended to provide support to the operating shifts in resolving Emergency and non-routine matters in various disciplines, outside normal working hours.

Furthermore, all positions of the Duty Rota will be called in the event of a Level 1B or Level 2 or Level 3 emergency.

**2. Emergency Duty Rota List**

Common group: Duty Manager, Operations, External Affairs, EHS, Emergency Response Coordinator, Marine, Mechanical Duty and Instrument & Electrical Duty.

**Note:** For Maintenance and Support Groups Duty details refer to the Maintenance and Support Groups Duty Guidelines.

**3. Nomination to Duty Rota**

Staff are nominated to duty rota for a period 7 consecutive calendar days starting on Friday morning at 0730 hrs.

The duty rota is updated weekly by AD/6 and distributed to all duty holders and other concerned persons. Line managers are responsible for providing AD/6 with the information on forward planning of the duty rota.

Changes during a duty rota week are allowed, and are the responsibility of the person scheduled for duty and must always be communicated by the person requesting the change, to AD/6, Security Shift Officer and Duty Manager. This change must be to another qualified duty person.

Duty Team member who is a lady, there is a Labor Law Protection stated that **no work during 22:00-06:00hrs is allowed when getting pregnant**, as a result, the lady who is getting pregnant will not be on duty.

**Note: QS, PU Managers or AS shall approve Qualified Duty Persons. The Duty Rota nomination form is EHS-FO-QS-3011 Duty Rota Nomination Form.doc available in EDMS**



#### 4. Communications and Transport

Staff on duty who are the first line of emergency i.e. Emergency Duty Rota, will have a duty vehicle available if required, a mobile telephone, which must be handed over in working order to the next person on duty.

#### 5. Duty Rota Short Message Service (SMS) Test

The Duty Rota SMS test will be happened every Friday at 1930 hrs. The message will be “ **9999 Emergency Group Test, phone 038-699090**”. When this message is received the duty person must call to REB and confirm his/her SMS reception.

If by 2030 hrs the duty person has not been received SMS, he/she must call REB and inform security shift officer on non-receiving message. Security shift officer will then do an individual SMS test for that particular duty person. In case of SMS failure, SSO will immediately call to all duty rota member.

#### 6. Personal Protective Equipment (PPE)

Staff on duty must have their SPRC standard PPE available when responding to an emergency. PPE should be kept in the duty vehicle for after hour's response.

#### 7. Generic Duty Rota Responsibilities

- ☐ Be within a 60 minutes radius of SPRC at all times.
- ☐ Be available to go directly to the refinery at any time.
- ☐ Carry the duty mobile phone at all times.
- ☐ Be aware of specific responsibilities during an emergency.
- ☐ When receiving SMS, responding as directed by the message.
- ☐ Ensure that the duty mobile telephone is working all times.
- ☐ Immediately report any problems with duty communications equipment to Helpdesk.
- ☐ Inform AD/6 of any changes to the Duty Rota schedule.
- ☐ Must not have a blood alcohol level above 0 mg%
- ☐ Notify AD/6 of any changes in home and mobile phone numbers.
- ☐ When receiving SMS, the duty team members shall call back to REB in order to acknowledge and advise their status of availability.
- ☐ If receiving “ All Clear” message during on the way to refinery in case of emergency level 1B/2/3, the duty team should continue to refinery for the summary of situation.

#### 8. Specific Roles and Responsibilities (refer to Appendix A)

## APPENDIX C EMERGENCY CONTINGENCY PLAN

### 1. Hydrogen Sulphide (H<sub>2</sub>S) Leak

#### Hazards of H<sub>2</sub>S

H<sub>2</sub>S normally enters the body through inhalation. It is a highly toxic gas with an odor of rotten eggs at low concentrations. The toxic effects of H<sub>2</sub>S are rapid, and death can occur very quickly. Many liquid and gaseous hydrocarbons may contain H<sub>2</sub>S in sufficient concentrations to present a potential hazard to personnel, and the environment. A small quantity of H<sub>2</sub>S in the atmosphere (500 ppm) is enough to render a victim unconscious, and can cause death if rescue does not take place immediately.

#### REMEMBER:

**50% OF PEOPLE KILLED IN H<sub>2</sub>S INCIDENTS ARE WOULD BE RESCUERS. THEREFORE ENSURE ALL PRECAUTIONS ARE TAKEN BEFORE ATTEMPTING ANY RESCUE OPERATIONS.**

#### Types of Leak

##### Minor Leak

Unlikely to affect any one outside the immediate area involved, and not requiring outside assistance.

##### Major Leak

Likely to cause a spread of gas affecting surrounding plants and/or the public outside the refinery boundary, or requiring assistance from outside the area involved.

The Shift Supervisor of the area affected will decide on the type of leak.

#### Notification of leak

- Notify the Shift Supervisor
- Notify Security to stand by.
- Notify the Duty Rota Team in the event of a major leak.

**Actions on Minor Leak**

- The Senior Operator of affected area becomes OSC will direct the operations to repair the leak.
- Two operators working together in SCBA and personal H<sub>2</sub>S monitors will secure the plant boundary.
- Two operators working together in SCBA and with personal H<sub>2</sub>S monitors will search the area for casualties, notify Emergency On Scene commander if any are found and begin rescue operations.
- Consider wind direction and evacuation of affected areas including assembly areas.
- All evacuations and movements should be across wind away from the leak.
- All roads in affected area to be closed.
- Isolate and de-pressure the leaking equipment to reduce/eliminate the leak.


**Action on Major Leak**

- Action as for minor leak plus the alarm is to be sounded for a level 1B or level 2 or level 3 emergency.
- Notify personnel in buildings down wind of the leak.
- All personnel involved in the emergency must be wearing SCBA and carry personal H<sub>2</sub>S monitors.

**Note: If H<sub>2</sub>S detected at the fence line at concentration of 5 ppm. or more, activate Community Evacuation Plan (see 11.3 Community Evacuation of this plan) and refer to EHS-WI-QS-2025 Hydrogen Sulfide Work Instruction.doc**

**2. Radiation Emergencies****In the event of an emergency such as:**

- Leak or contamination of radiation source.
- Observed or suspected damage to radiation equipment, a radiation source, or its container.
- Observed or suspected malfunction of radiation equipment, or shutter control mechanisms.
- Suspected or actual losses of radiation source.
- Fire explosion or other disaster.

**In cases of emergency involving radiation the EHS-SP-QS-0014 Radiation Safety.doc  must be followed.**

### 3. Bomb Threat

#### Introduction

Bomb threats will usually be made directly to the refinery, but may also be made through the news media, police or other third party.

#### Threats may come from:

- Misguided practical jokers.
- Malcontents presently or previously employed by the Company or a Contractor deliberately causing inconvenience and disruption to production without sinister motivations for injury or damage.
- Extremist organizations operating primarily in the fields of local or national politics with malicious intent.

#### Threats are usually made by:

- Telephone to the refinery usually to the switchboard operator.
- Telephone to the local police or other authorities.
- Communication to the local news media.
- Anonymous Letters  
Note; Letters containing information on the alleged placing of a bomb should be handed to the police for any action they think is required. The letter should be handled as little as possible and by the minimum number of people.

#### NO BOMB THREAT CAN BE IGNORED

**The decision to evacuate some or all personnel must rest with the OSC / Incident Commander presents when the message is received. Duty manager must be informed.**

#### Handling bomb threat calls

The most like persons to receive the call are:

#### During Normal Working Hours

- Switchboard Operators.
- Managers.
- Secretaries.

#### After Hours

- Security Personnel.
- Control Room Operators.

#### Responsibilities

The person receiving the bomb threat call shall;

- Ask questions from caller
- Immediately notify Security

#### Security Shift Officers:

- Notify the Shift Supervisor who will then establish an evaluation team.
- Contact the police.
- Follow Bomb Threat Instruction in Security Work Instruction.

#### Evaluation Team:

Evaluation Team is consisted of OSC, IC, and ERT. Duty Manager must be informed. Upon notification the evaluation team will proceed directly to the EOC. The person receiving the threat will meet with the team on its arrival.

#### The Evaluation Team will:

- Evaluate the threat.
- Decide on a course of action in conjunction with the advice of the police.
- Call in Duty Manager and key personnel to assist in a search if required.
- Reconvene with the police and other parties upon discovery of a suspected, or actual, device to discuss decision/action.
- Advise the Control room not to use portable radios until further notice.

#### Searching Procedures

- When a decision has been made to search, the OSC will designate the personnel most familiar with the target area to carry out a systematic search including with the Security Shift officer (or competence person).
- Communications will be by telephone (desk phone), radios or 'runners'.
- If a suspicious object is located then it must not be touched, its location conveyed to the Duty Manager and the area cordoned off.

Firefighting equipment should be set up in strategic positions.

Duty Manager will contact the local police or bomb disposal squads ( by assistance of Security Shift Officer), if they are not already on site. Notify all staff.

**Remark: The mobile is not allow to use during searching**



### 3.1 BOMB THREAT CHECKLIST

NAME OF EMPLOYEE \_\_\_\_\_ TIME \_\_\_\_\_ DATE \_\_\_\_\_

#### QUESTIONS TO ASK

1. Has a bomb been placed or is the caller threatening to place one? \_\_\_\_\_
1. Was it mailed? \_\_\_\_\_
2. Where is bomb going to explode? \_\_\_\_\_
3. Where is bomb right now? \_\_\_\_\_
5. What kind of bomb is it? \_\_\_\_\_
6. What does it look like? \_\_\_\_\_
7. Why did you place the bomb? \_\_\_\_\_
8. Where are you calling from? \_\_\_\_\_

#### WRITE OUT THE MESSAGE IN ITS ENTIRETY USING EXACT WORDING

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

#### CALLER'S IDENTITY

Male \_\_\_ Female \_\_\_ Adult \_\_\_ Juvenile \_\_\_ Accent \_\_\_ Approximate Age \_\_\_

#### ORIGIN OF CALL

Local \_\_\_ Long Distance \_\_\_ Booth \_\_\_ Unknown \_\_\_ Internal \_\_\_ (From within  
SPRC) if internal leave line open for tracing the call.

#### LANGUAGE

Excellent \_\_\_ Good \_\_\_ Fair \_\_\_ Poor \_\_\_ Foul \_\_\_ Other \_\_\_

#### SPEECH

Fast \_\_\_ Slow \_\_\_ Lisp \_\_\_ Distinct \_\_\_ Distorted \_\_\_ Slurred \_\_\_ Stutter \_\_\_ Nasal \_\_\_ Other \_\_\_

#### ACCENT

Foreign \_\_\_ Race \_\_\_ Local \_\_\_ Not Local \_\_\_ Region \_\_\_

#### BACKGROUND NOISES

Animals \_\_\_ Airplanes \_\_\_ Bedlam \_\_\_ Factory Machines \_\_\_ Music \_\_\_ Mixed \_\_\_  
Office Machines \_\_\_ Traffic \_\_\_ Trains \_\_\_ Party Noise \_\_\_ Voices \_\_\_ Quiet \_\_\_

#### VOICE CHARACTERISTICS

Loud \_\_\_ Soft \_\_\_ Deep \_\_\_ High Pitch \_\_\_ Raspy \_\_\_ Pleasant \_\_\_ Intoxicated \_\_\_ Other \_\_\_

#### MANNER

Calm \_\_\_ Angry \_\_\_ Rational \_\_\_ Laughing \_\_\_ Irrational \_\_\_ Coherent \_\_\_ Incoherent  
\_\_\_ Deliberate \_\_\_ Emotional \_\_\_ Righteous \_\_\_

Link to Telephone bomb threat form [EHS-FO-QS-3050 Telephone Bomb Threat Form.doc](#) 



### 3.2 Mail Bomb Recognition Checklist

**Mail bombs have exhibited unique characteristics, which should be helpful in identifying a suspect item. The following could be of assistance when opening mail:**

#### Envelope

- ❖ Envelope will be lopsided or uneven in weight or packaging with possible cutting or pasting.
- ❖ Excessive use of securing materials such as sealing tape or string.
- ❖ Feelings of springiness or sponginess in the top, bottom or sides.
- ❖ Protruding wires, tinfoil or string.
- ❖ Oily stains or discoloration ("Sweating" of plastic explosive).
- ❖ Peculiar odor. Sometimes smells like almonds.
- ❖ Sloshing, buzzing or ticking sounds. Inks, particularly reds and blues may bleed, staining the envelope.

#### Weight

- ❖ Heavier than usual for its size.
- ❖ Weight uneven or volume distribution uneven with possible bulging.
- ❖ Heavier than usual for its class of mail. (For example, an airmail envelope weighing more than 2 ounces).

#### Rigidity

- ❖ Greater than normal, particularly along its center length.

#### Thickness

- ❖ Not uniform, or with bulges.
- ❖ For medium size envelope, the thickness of a small book and fairly rigid.
- ❖ For larger envelopes, bulkiness, an inch or more in thickness.

#### Address

- ❖ No return address.
- ❖ Hand printed or poorly printed or typed address.
- ❖ Incomplete or erroneous destination address.
- ❖ Foreign, poor or disguised handwriting.
- ❖ Restrictive markings such as Private, Confidential, Personal, or Eyes-Only.
- ❖ Marked (written or stamped) airmail, Special Delivery, Certified or Registered.
- ❖ Mail designated Rush, Handle with Care or Fragile.
- ❖ Misspelled words, particularly those in common business usage.

#### IF YOU SUSPECT A MAILING AND ARE UNABLE TO VERIFY THE CONTENTS:

- ❖ **DO NOT OPEN THE ARTICLE.**
- ❖ Isolate the mailing and secure the immediate area.
- ❖ Notify Supervisor and Shift Security Officer.
- ❖ **DO NOT** put the article in water or confined space such as a desk.
- ❖ If possible, open windows and doors in the immediate area to assist in venting potential explosive gases

#### 4. Marine Terminal / SPM Emergencies

##### 4.1 Marine Terminal Emergency

All Jetty operations must stop and product flows must be isolated

In case of fire in Marine Terminal Area, Senior Operator of Marine Terminal will be OSC and control all activities at the scene of incident and report to Incident Commander (PD Shift Supervisor) at EOC. ERT Team will be mobilized from Marine Terminal Areas. If the incident is associated with oil spill, the OSC should call Marine on Duty person to deal with oil spill.

In the case of a fire on a ship the SPRC emergency organization will assist as requested by the person in charge of the ship.

**It is not necessary to wait for a formal request from the ship before action is taken.**

##### Command

In the case fire on the jetty itself, the command will be referred to Emergency Response Plan. In the case of a fire on a ship, the command will be the ships master and or the harbormaster. The refinery emergency organization will assist as requested.

##### Notification

1. In case of fire on ship, the following parties shall be notified by Ship Master

- Ship agency
- Ship Charterer
- Ship Owner

2. SP Department will notify off taker/Charterers

##### Additional resources

In case of additional resources such as ships should be requested via MTP Port Authority

#### 4.2 SPM Emergency

##### 4.2.1 Emergency situation " Fire on the tanker which secured at the SPM "

**The following steps must be taken;**

- The tanker must raise alarm consisting of a series of long blast on the ship's whistle, each blast being not less than 10 seconds in duration.
- Mooring Master on board the tanker inform to Marine control building & towing tug to be on stand by and inform to Marine Manager.
- Marine Manager will inform to duty Manager & Oil Movement - Dispatch Manager for the situation at the SPM.
- All cargo, bunkering or ballasting operations must be stopped.
- Tanker's main engines & steering gear brought to stand by condition.
- Activated fire-fighting team on board the vessel.
- Discussion between the Master and the Mooring Master whether the tanker can move under her own power or not.
- If the tanker can move under her own power, then the towing tug can be released from the stern of the tanker to assist in Fire Fighting. SPM maintenance vessels need to have all firefighting equipment in ready to use including foam compound as well.
- If the tanker cannot move under their own power so the decision have to be made between the team whether or not require assistance from firefighting tug or assistance from Refinery ERT team.
- Mooring Master needs to have a close communication with the MCB regarding the outside assistance from the tugboat, rescue launches, medical aid and ambulance, port authority.

##### Emergency Removal of a Tanker from a berth.

- If a fire on a tanker which secured at the SPM cannot be controlled. It may be necessary to consider whether or not the tanker should be removed from the berth.
- Planning for such an eventuality may requires consultation between Master, Mooring Master, Marine Manager, Emergency Response Coordinator and Oil Movement & Dispatch Manager.
- The safe location for anchoring is 3 miles South of SPM.

**Rescue Launch**

- The work boat on the SPM maintenance vessel will act as a rescue launch for the recovery of personnel who may be in the water or the evacuation of personnel who may be injured from the fire.

**Launch detailed of these duties should have the following equipment;**

- A communication link capable of being integrated into the control center communication system ( Marine band or mobile phone )
- Fixed or portable search lights for operations during darkness or periods of reduced visibility.
- Self contained breathing apparatus
- Resuscitation equipment
- The crews of the rescue launch should have knowledge of first aid and know how to use artificial respiration.

**Communication**

- Via Marine band ch. 67 , UHF trunk radio in emergency channel or by mobile phone.
- SCM tug boat on Marine band ch. 11 or by telephone (038) (684556-9)

**4.2.2 Emergency situation “ Fire on the SPM “****Fire on the SPM which no tanker berthing at the SPM**

- SPM maintenance vessel will be on standby, activated firefighting team on the vessel and make firefighting equipment ready to combat with the fire.
- Communicate to MCB and Marine Manager . Approaching to SPM and sprayed water to SPM as soon as possible.
- Marine Manager will inform to duty Manager & Oil Movement - Dispatch Manager for the situation at the SPM .
- Mooring Master will travel to SPM by SPRC speed boat if the weather permit.
- SPM maintenance vessel will send the photo via e mail so Marine duty team can assess the situation from time to time. and discussion have to be made between the team whether or not require assistance from firefighting tug or assistance from Refinery ERT team.
- After the fire stopped, the Marine team need to investigate for the cause of the fire and check for the condition of the SPM whether fit for purpose or not and may be need to launch the procedure “ contingency plan when SPM being out of order “

**Fire on the SPM which tanker still discharging at the SPM**

- The tanker must raise alarm consisting of a series of long blast on the Ship's whistle, each blast being not less than 10 seconds in duration.
- Mooring Master on board the tanker inform to Marine control building & towing tug to be on stand by and inform to Marine Manager.
- Marine Manager will inform to duty Manager & Oil Movement - Dispatch Manager for the situation at the SPM
- All cargo, bunkering or ballasting operations must be stopped.
- Tanker's main engines & steering gear brought to stand by condition and Released towing tug to be stand by as firefighting tug.
- Activated fire-fighting team on board the vessel.
- The ship's fire main should be pressurized and water fog applied to the SPM and tanker 's forecastle.
- Marine duty team can assess the situation from time to time. And discussion have to be made between the team whether or not require assistance from SC firefighting tug or assistance from Refinery ERT team.
- Mooring Master need to ask our rigger to stand by at the ship's manifold and ready for hose disconnection if necessary.
- Ensuring the unmooring equipment on the tanker must be brought to state of immediate readiness and ready for use.

**Communication**

- Via Marine band ch. 67 , UHF trunk radio in emergency channel or by mobile phone.
- SCM tug boat on Marine band ch. 11 or by telephone (038) (684556-9)

**4.2.3 Emergency situation “ Tanker grounding during maneuvering at the SPM Area prior Mooring Master boarding “**

The following step must be taken;

- Tanker need to inform to Ship's owner & agent.
- The agent will inform to MCB and Mooring Master in charge of that tanker.
- If the grounding area is not within the Map Ta Phut SPM area ( 3 mile south of SPM then the Marine team need to assess the situation via the ship's agent.
- If the grounding cause the spill, Please see oil spill plan scenario “ vessel grounding “
- If the grounding area is within the Map Ta Phut SPM then Mooring Master will ask the SPM maintenance vessel to search around the ship.

- Tanker must check the sounding of all cargo tank, ballast tank and fuel tank whether the quantity was still the same or not. The sounding of the tank need to check from time to time until the situation was improved.
- The ship's owner must contact to the outside tug assistance for assisting from aground position by discussing with the Mooring Master as well.
- Mooring master can feed initial information for the tide table and the current direction.
- When vessel afloat again, the diving inspection need to be done to confirm for the condition of the vessel and the class surveyor need to be approved for the fitness of the ship before the decision of berthing the tanker at the SPM had been made.

#### 4.2.4 Emergency situation " Vessel grounding during maneuvering at the SPM Area during Piloting by SPRC Mooring Master"

The following step must be taken;

- Stopped maneuvering on the tanker and inform to MCB and Marine Manager to know the initial condition.
- Marine Manager will inform to all concerned parties and call for standby.
- Tanker must check the sounding of all cargo tank, ballast tank and fuel tank whether the quantity was still the same or not. The sounding of the tank need to check from time to time until the situation was improved.
- During the tanker check the sounding of all tank, the maintenance vessel can check around the tanker whether have an oil spill or not.
- If oil spill occurred, activated oil spill response plan as per SPRC OSRP.
- If no oil spill occurred, the Master & Mooring Master need to discussion with SPRC Marine team.
- Time of high water, the assistance of the SC tug, assistance from SPM maintenance vessel need to be considered to assist the tanker to afloat condition.
- When vessel afloat again, the diving inspection need to be done to confirm for the condition of the vessel and the class surveyor need to be approved for the fitness of the ship before the decision of berthing the tanker at the SPM had been made.

#### Control Center

During the emergency at the SPM, MCB conference room will act as control center and discussion have to made between the Marine team and the emergency team from the refinery. The final decision will come from Duty Manager & Oil Movement – Dispatch Manager.

**Remark : Reliable communications are essential in dealing successfully with emergency situations. Because of their importance, consideration**

**should be given to setting up a secondary system to take over if the main system is put out of action.**

**6. TLT Emergencies**

In event of an emergency at the Tank Truck Loading Terminal area the response will be as for all other refinery emergencies.

**7. SPRC pipelines Emergencies**

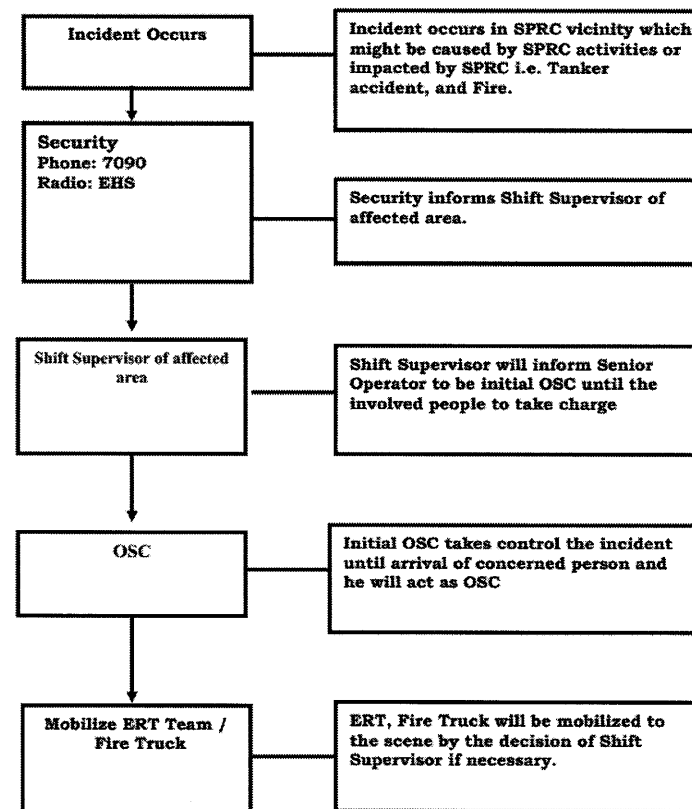
In event of an emergency at pipelines which are SPRC responsibility (see Appendix O) the response will be as for the refinery emergency as following:

- On receiving an emergency call, the PD Senior Operator (Tank Farm) will go to the scene and act as On Scene Commander.
- The ERT will be mobilized to the scene.
- The OSC will set up a command post at the scene and direct firefighting and rescue operations.
- OSC coordinated with OSC-EFT (Eastern Fluid Transportation)
- The PD Shift Supervisor will act as IC sets up the EOC.
- OSC report situation to IC.

**8. Off Site Facilities Incident in SPRC Vicinity**

In event of an emergency off site facilities in SPRC vicinity which might be caused by either SPRC activities or not SPRC activities, but nearby SPRC perimeter (i.e. Tanker accident, Fire). The guidelines have to be carried out as follows:

- Inform Security
- Security informs Shift Supervisor of location affected.
- Senior Operator of affected area will be the initial OSC.
- ERT team will be mobilized by Shift Supervisor consideration.
- Inform involved persons who are responsible to be in charge.





## 9. Off Site Road Accidents Involving Product from SPRC

The tanker drivers must be aware of the actions to be taken in an emergency. It is the responsibility of the Road Tanker-Depot Manager of each company (PTT, Caltex, and Shell) to ensure that the drivers are aware of their instructions in the actions to be taken in an emergency.

In the event of SPRC being contacted about an incident concerning a Road Tanker, which was loaded at SPRC terminal, the following procedure should be followed:

### In case of incident occurs in IEAT-MTP Area:

#### Truck Accident:

- The person who is aware of the incident should inform the SPRC TTLT Operation Coordinator and Security Shift Officer at Refinery Entrance Building (REB). Then REB inform to Emergency Response Coordinator
- The TTLT Operation Coordinator will then inform the Depot Managers of Off takers and Security Shift Officer
- SPRC will assist when receiving a request from an Authority or Customer
- The TTLT Operation Coordinator considers assisting by consulting with PD Manager in Day working hour and keep inform Duty Manager.
- The TTLT Operation Coordinator considers assisting by consulting with Duty Manager in Off hour and keep inform PD Manager.
- The TTLT Operation Coordinator will coordinate with SPRC concern party to assist the Truck accident and keep inform to PD Manager or Duty Manager

#### Truck Fire:

- The person who is aware of the incident should inform the SPRC TTLT Operation Coordinator and Security Shift Officer at Refinery Entrance Building (REB). Then REB inform to Emergency Response Coordinator
- The TTLT Operation Coordinator will then inform the Depot Managers of Off takers and Security Shift Officer
- SPRC will provide a Fire Truck to assist when receiving a request from an Authority
- The TTLT Operation Coordinator request support from Emergency Response Coordinator
- Emergency Response Coordinator considers assisting by consulting with Duty Manager for get approve to send SPRC Fire truck to support and keep inform to Duty Manager.
- The decision to supply this equipment will be with Duty manager.

### In case of incident occurs out of IEAT-MTP Area:

- SPRC will provide a Fire Truck to assist when receiving a request from an Authority
- Emergency Response Coordinator considers assisting by consulting with Duty Manager.
- The decision to supply this equipment will be with **Duty manager**.

## Emergency Contact Numbers.

TTLT Operation Coordinator:

Office: 038-699289

Mobile phone: 081- 863-8023 (TTLT Coordinator)

Security Shift Officer: 038-699090

For others referred to [EHS-OT-QS 3003 Emergency Telephone Number.doc](#)

## 10. Failure of SPRC Trunked Radio system procedures

### 10.1 Fall Back Mode

There are three fall back modes available on SPRC Trunked Radio System:

- Zone Isolated Wide Area Trunking
- Local Site Trunking
- Direct Mode Operation

For zone isolated wide area and local site trunking, the radios will switch to available site automatically, and radios will work as normal.

SPRC defines the direct mode in detail of EHS-OT-QS-3010 Trunk Radio Emergency Procedure.doc (Page 5).

### 10.2 Direct Mode Operation (DMO)

If all connections to the Radio Network Infrastructure are lost (CAT main site, SPRC backup sites, and SPRC site down), each SPRC radio can enter into direct mode operation (DMO). This means that the radio will use its own antenna and amplifying power to communicate with other radios that support DMO and are within range of 0.5-1 kilometer.

During DMO mode operation, radios at SPRC site will not be able to connect to those at MCB, except one fixed radio at Area 5 panel (Backup MCB machine). Similarly, MCB radios will not be able to communicate with SPRC site radios, except one fixed radio at MCB Operation Board panel (SPRC Area 5 Backup) machine.

### In case of incident occur during radio total fail (Direct mode)

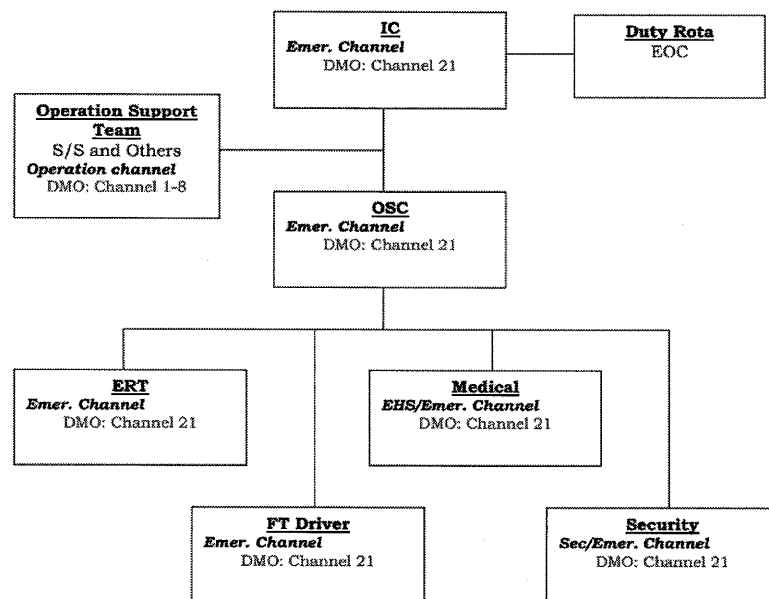
When all available network is lost, the radio displays channel indicates "No Service" word

**Incident commander** informs REB for announcement

REB announce by radio each direct mode channel to switches the radio to "**DMO**" and selects **emergency channel** for direct mode in case of trunk radio is totally failed.

During trunk fail period, minimize the usage of radio communication is required. The command to response action is mainly conduct from on scene commander on site, incident commander or duty manager to first intervention team and support team.

**10.3 Workflow of communications to related trunk radio partial or total failure** (Direct Mode) during incident or emergency cases will be by following methods;



**Note:**

1. IC will get the process information by contacting with Area Shift Supervisor via internal telephone (extension number).

2. The followings are the recommendation emergency exercise programs

**Exercises**

- Level 1A/1B Operation on shift Weekly
- Level 2 Emergency Response Teams /EMAG 2 times/year
- Level 3 Emergency Response Teams /EMAG/Rayong Province 1 time/year

**Evacuation** Building Occupants 1 time/year/Building zone

It shall be set up the mandatory emergency exercise at least once a year with practice the trunk radio failure for ensuring all back up mode of radio system (Wide area backup-Local site and DMO mode) has good reliability of communication.

3. The link is the trunk radio emergency procedure, which is provided the operation guideline to shift staff on the principle of trunk radio system including emergency

response action during trunk radio failed EHS-OT-QS-3010 Trunk Radio Emergency Procedure.doc

**10.4 SPRC Portable Radio Channel Configuration**

Trunk Radio " Normal "	Use Wide Area of Local Site Trunking	Area/Location
↓	<ul style="list-style-type: none"> <li>- Talk groups run on radio frequency channel.</li> <li>- North site has 16 talk groups opposite.</li> <li>- Controller monitors anyone making a call.</li> <li>- Intrinsically safe (use color stickers).</li> <li>- 2 batteries provided per radio.</li> <li>- Battery conditioning required every 3 months.</li> <li>- North site: REB CCB W/S TTLT</li> <li>- Helpdesk handles all repairs, returns, transfers etc</li> </ul>	A1 A2 A3 A4 A5 Marine TTLT PNM PDM RELIB CTM CTM Project Tank/OSI/NM Paint/Civil Scaff/Insula Rigging 1 Rigging 2 Taxi 1&2 EHS/SEC/MED Security EMER
" Direct Mode"	## Failure of all radio networks: Use DMO mode	North Site
↓	<ul style="list-style-type: none"> <li>- Manually switch to DOM</li> <li>- Point to point" conversation only.</li> <li>- Limited distance e.g. 500 - 1 km.</li> <li>- Sensitive to obstructions e.g. walls etc.</li> <li>- Only use when "controller &amp; base" have failed</li> <li>- On screen radio will show "DMO"</li> <li>- On Screen radio will show symbol "I-&gt;I"</li> <li>- Standby at appropriate channel.</li> <li>- Monitor channel before calling.</li> </ul>	DMO-A1 DMO-A2 DMO-A3 DMO-A4 DMO-A5 DMO-Marine DMO-TTLT DMO-PNM DMO-PDM DMO-RELIB DMO-CTM DMO-CTM Project DMO-Tank/OSI/NM DMO-Paint/Civil DMO-Scaff/Insula DMO-Rigging 1 DMO-Rigging 2 DMO-Taxi 1&2 DMO-EHS/SEC/MED DMO-Security DMO-EMER

**11. Product Contamination Procedure**

In event of SPRC products which become off specification either at the refinery or at discharging port of customers. The response will be referred to **Non Conforming Products Procedure**

**12. Oil /Chemical Spill/Release and Leak on land**

The response of Oil / Chemical Spill/ Release on Land will be referred to **EHS-WI-QS-3003 Hazardous Material Release, Spill and Leak.doc**

**13. Marine Oil Spill**

The response of Marine Oil Spill Plan will be referred to **EHS-WI-QS-3001 Oil Spill Response contingency Plan.doc**

**APPENDIX D MUTUAL AID and ASSISTING TO THIRD PARTIES**

The following mutual aid has been agreed, to provide assistance in case of an emergency at installations in the industrial estate.

**1. Assistance to SPRC**

In the case of SPRC requiring assistance from outside sources the following is a list of resources in the order to be called in:

The Emergency Mutual Aid Group (EMAG) is consisted of SPRC, ROC, PTTGC2 (PTT-Chem I1) , PTTGC3 (former PTTChem-I4), PTTGC4 (former PTTARO-1), PTTGC5 (former PTTAR2-RIL) and PTTGC6 (refinery), PTT (gas Separation Plant), VNT, Covestro (Thailand), IRPC, TPE and MOC

On arrival at the refinery mutual aid teams will stand by at REB for PN until they are required by the OSC or IC. The Mutual Aid coordinator will take them to the incident scene and liaise with the OSC.

**2. SPRC Assistance to Other Companies****2.1 Agreement Companies**

In the case of a request to SPRC for mutual aid from one of the EMAG members, SPRC has to immediate provide for the equipment. The mutual aid company will call assistance via the REB and/or SPRC EMAG representative (Lead Emergency Management and Emergency Management Specialist)

The equipment will be supplied and the decision to supply this equipment will rest with the **Shift Supervisor** at the time.

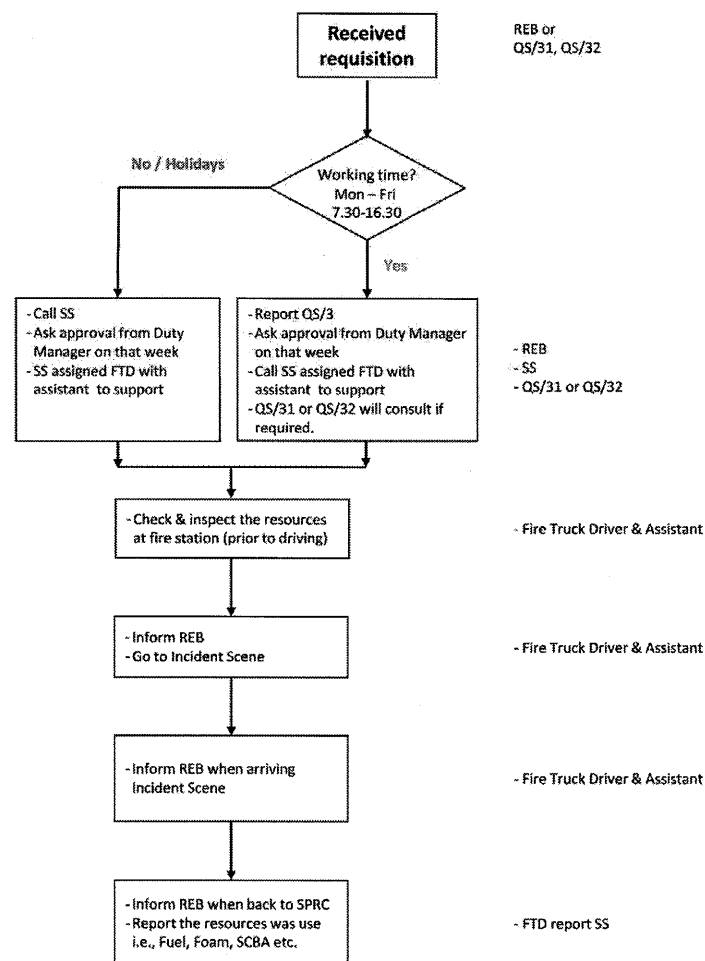
For Fire Truck driver and an assistant or other personnel if needed will be arranged by **Shift Supervisor**. More consult or advice will be supported by Emergency Management Specialist if required.

**2.2 Non Agreement Companies**

In case of the other companies which not in agreement need assistance from SPRC. SPRC will provide a Fire truck and necessary equipment. Fire Truck driver and an assistant or other personnel if needed will be arranged by Lead Emergency Management (**should not be Operators**)

**The decision to supply this equipment will be with Duty manager.**

**SPRC will provide a Fire Truck, driver and Fire Truck operator plus other equipment and personnel as necessary to either Agreement Companies or Non Agreement Companies.**

**Flowchart of SPRC Assistance to Other Companies****Noted**

- Record information & resources was to requested.
- Use Fire Truck check list for resources clarification with EMAG or other company requester
- In case of the other companies which not in agreement need assistance from SPRC will be arranged by Lead Emergency Management (should not be Operators)

**3. Mutual Aid Coordinators**

ERC members or persons nominated from the Emergency Support Team will be assigned and wear a **reflective vest marked "MC"**

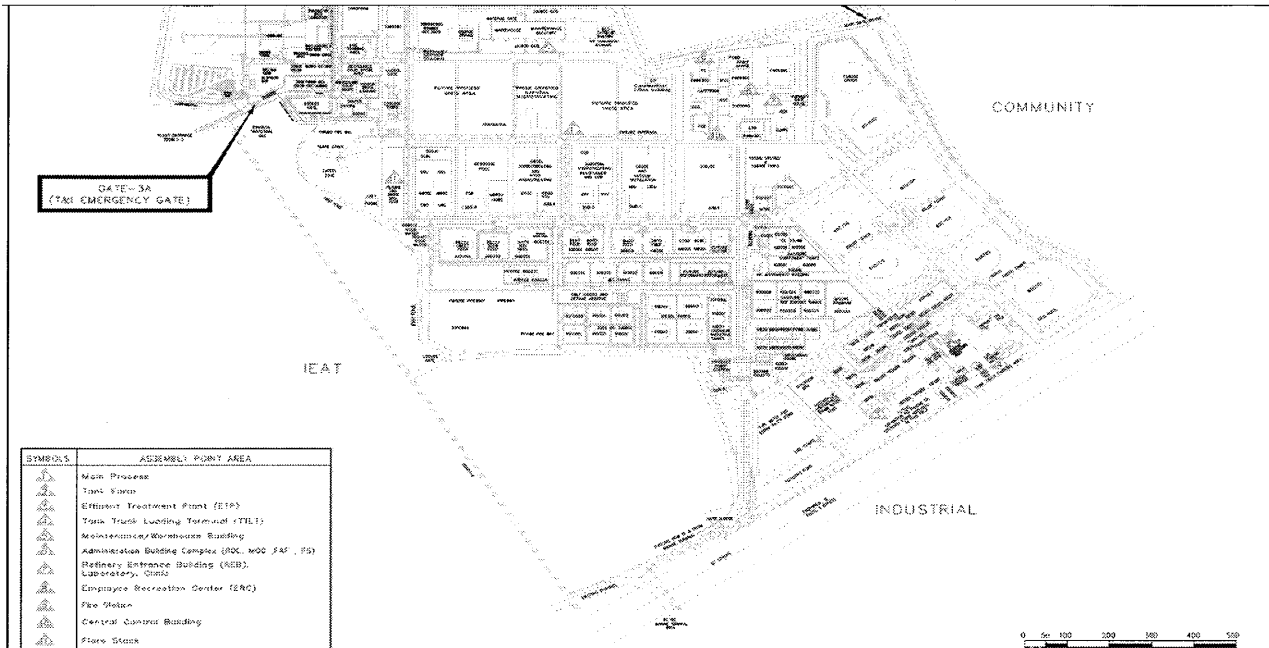
Mutual aid fire trucks should be parked in the vicinity of REB for PN in a safe location. If mutual aid fire trucks are required on site they must be accompanied at all times by SPRC personnel.

Mutual Aid Coordinator should log in equipment, personnel, and quantity of foam of Mutual Aid Team. Brief of emergency situation should be made to Mutual Aid Teams.

**Note: At the first stage of emergency if needs assistance from Mutual Teams, the security personnel will be the Mutual Aid Coordinators until ERC members arrive.**

## APPENDIX E EMERGENCY ASSEMBLY AREAS

### Refinery Assembly Areas

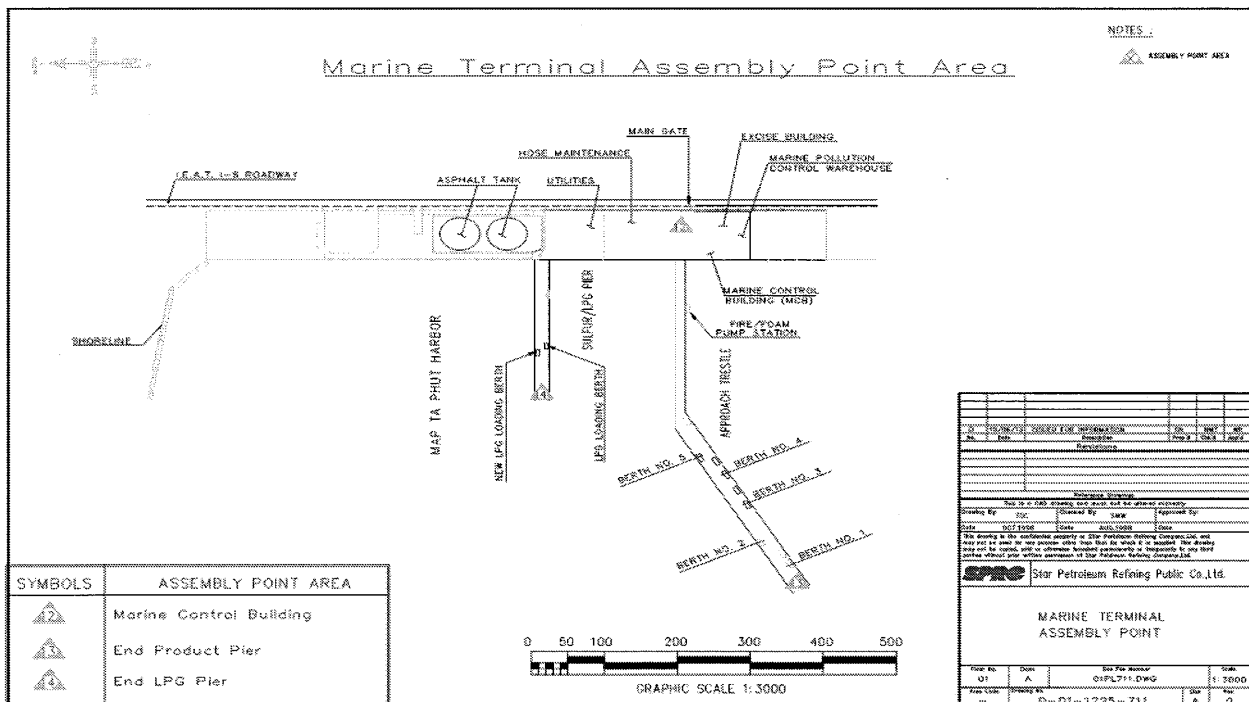


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### Marine Terminal Assembly Areas



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## APPENDIX F HEAD COUNT PROCEDURES

### 1. HEAD COUNT PROCEDURES

All personnel not involved in the emergency must go to an assembly area.  
Contractors are responsible for their own personnel.  
SPRC personnel are responsible for their visitors.

- It is responsibility of the Incident Commander or the Duty Manager to assign the person to do a head count.
- It is the responsibility of the On Scene Commander to account for all personnel in the incident area.
- Security will take the names of any person leaving the refinery during an emergency.

The person assigned to do the head count will follow the following procedure:

#### Process Area (See Appendix E Emergency Assembly Areas)

1. Check the number of jobs in the work permit from the permit rooms (COS shelters).
2. Check with supervisor of each job about the number of persons at the assembly area No. 1 in front of the CCR/Platformer.
3. Check with supervisor of each job about the number of persons at the assembly area No. 2 at the west of Oil Movement Building (OMB).
4. Check with supervisor of each job about the number of persons at the assembly area No. 3 at the ETP.

**Admin. Building Complex / Employee Recreation Center/ Marine Building/ Construction Building/Warehouse and TLT (See Appendix E Emergency Assembly Areas)**

Check with the office wardens for personnel at the assembly areas.

When moving around between assembly areas always take into account the type of incident and the wind direction.

Inform the Incident Commander / Duty Manager of the results of the head count and action taken.

## APPENDIX G PRESS RELEASES GUIDELINES

### 1 PRESS RELEASES GUIDELINES

Communicating in an emergency/a crisis Public attention in the event of an emergency or a crisis, particularly media attention, can be overwhelming so bear these points in mind:

- **Concern:** show that the company cares for those affected
- **Clarity:** adopt a clear media response statement
- **Co-ordination:** ensure that it is widely understood who is the spokesperson
- **Co-operation:** maintain a good working relationship with the media and other agencies
- **Consistency:** ensure that you come across clearly and without contradiction and that your facts are verified at source
- **Consultation:** if a joint-venture partner or contractor is involved, consult them before any statement are made
- **Control:** centralize and control the flow of information by
  - Response statement cleared by Duty Manager
  - Prepared answers to expected media questions
  - Regular news briefing if appropriate
  - Factual information to offset rumor using every means of communication
  - No unauthorized interviews or statements
  - Only ONE spokesperson at any one time to avoid confusion

#### CAUTION – don't

- Admit legal liability unless specifically empowered to do so
- Lie or try to hide behind " NO COMMENT"
- Blame anyone or anything
- Release details of cost estimate of damage or loss



## 2. INITIAL RESPONSE STATEMENT

(To be completed by Duty Manager then pass on to External Affairs Duty)

When: Date \_\_\_\_\_ Time \_\_\_\_\_

What happened: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Where exactly: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Any fatality/injured: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

How many people are on site: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What actions being taken: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

What effects will the incident have on operation/production: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

SPRC is still investigating the cause of this incident and at this point in time is not able to provide any details until the investigation is complete.

Completed by: \_\_\_\_\_ (Duty Manager)



## 3. MEDIA AND OFFICIALS OFFICES

PA department designates the offices for the media and officials for working during an emergency when they needed as following:

**Officials:** Room Number R-106

**Media:** Room Number R 106

External Affairs to request IT duty person to set appropriate equipment, but cover the following as minimum:

- ♦ Facsimile Machine
- ♦ Telephones
- ♦ Computer
- ♦ Copy machine

**APPENDIX H FOAM SUPPLIERS****2.1 Red Alert Service (National Foam Inc.- Kidde Fire Fighting)**

Tel: + 610-363-1400

**2.2 Ansul**

Tel: Local distributor TTK: (+66 or 0) 2704 6430

**2.3 Chemguard**

Tel: +1-817-473-9964

**2.4 National Foam Universal Gold 1/3%**

Tel: +668-9079-9448 or 02-026-0470-92 # 506

**APPENDIX I DRINKING WATER AND REFRESHMENTS**

The drinking water for emergency support is kept in the Fire Station storeroom both sites call security for the keys.

In case of long period of incident, which need cash for arranging refreshments and/or meal, External Affair duty will be the person to support.

**APPENDIX J TRANSPORTATION**

In case of emergency the duty vehicles and TAXI will be parked at the car park nearby the fire stations and leave the key in the ignition sockets

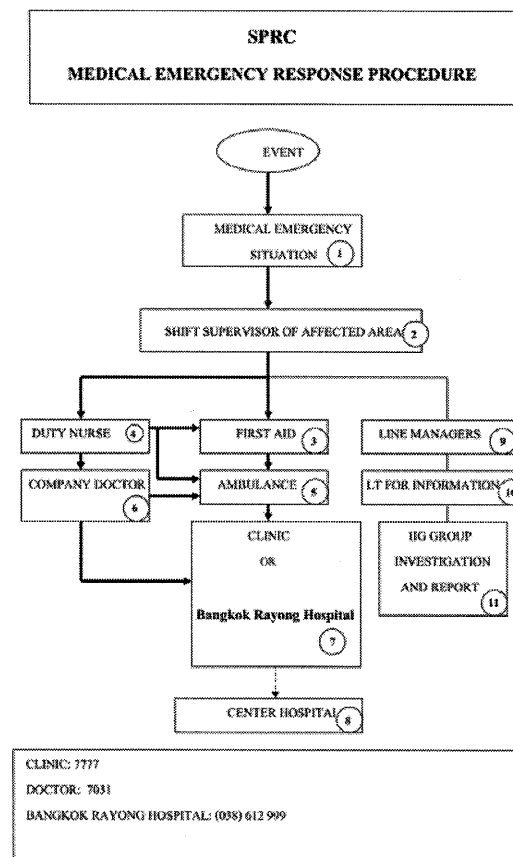
There is a driver available (stand by Lab) during off-hours at the shelter and vans are parked in the car parking shelter with the key are left in the ignition socket. Phone Number **7089**

During off hours and holiday Taxi (pick up truck) will be parked beside the REB and key will be kept at REB.

**APPENDIX K EMERGENCY ALARM TEST**

The emergency alarms will be tested each Wednesday at 1330 hrs. Follow by the All clear.

The Emergency telephone 7191 will be tested after the emergency alarm test, Security room, Medical Clinic and also the Fire station when manned.

**APPENDIX L MEDICAL ERP PROCEDURE**

In cases of emergency involving medical needed the EHS-WI-QS-2005 Medical Emergency Response Plan.doc must be follow



**APPENDIX M EMERGENCY TRAINING AND EXERCISES**

All personnel working in the refinery must be trained in emergency response. The type of training will depend on the individuals work location and job. The followings are the recommendation training and exercise programs.

Training Course as list:

- Basic Fire Fighting
- Basic Office Fire Fighting
- Advanced Fire Fighting
- Fire Command (For OSC and IC)
- Breathing Apparatus
- Hazmat
- Rescue
- Fire Truck Driver

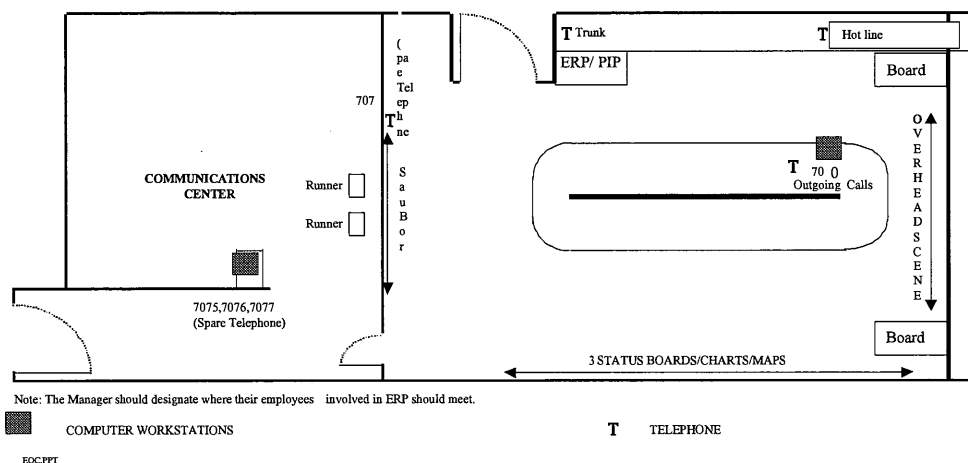
Refer to EHS-OT-QS-001 EHS Standard Training Program

Exercises	Operation on shift	Weekly
▪ Level 1A or 1B		
▪ Level 2	Emergency Response Teams /EMAG	2 times /year
▪ Level 3	Emergency Response Teams /EMAG/Rayong Province	1 time/year
Evacuation	Building Occupants	1 time/year/Building zone
Refer to <u>EHS-OT-QS-3005 Emergency Response Exercise Guidance.doc</u>		

**Note: For Oil Spill response training refer to EHS-OT-QS-0001 EHS Standard Training Program**

**APPENDIX N EMERGENCY OPERATION CENTER LAYOUT**

**EMERGENCY OPERATIONS CENTER (EOC) LAYOUT PLAN**  
(FIRE STATION TRAINING ROOM F-115)



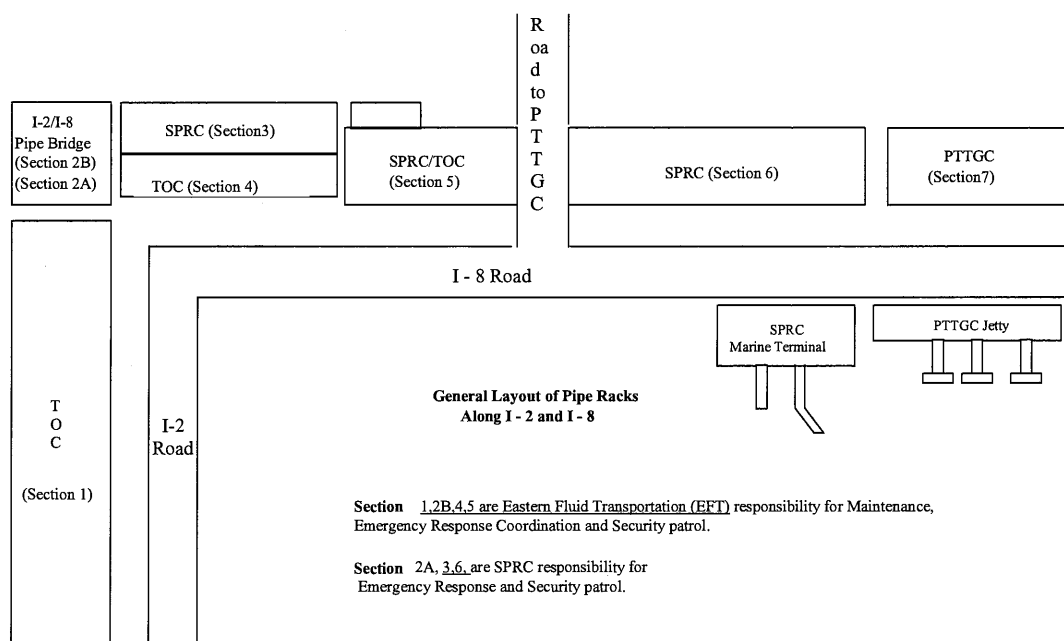
**APPENDIX P EMERGENCY TELEPHONE NUMBERS**

The Corporate Affairs and Emergency Response Coordinator are responsible for obtaining and updating a list of applicable local and national government contacts, with support and supervision by QEHS. This list is updated six monthly or when changed as detailed at [EHS-OT-QS-3003 Emergency Telephone Number.doc](#)

**APPENDIX Q SPRC FLU PANDEMIC BUSINESS CONTINUITY PLAN**

The Flu Pandemic Business Continuity Plan is the plan to control the possible impact of Flu Pandemic and monitor the phase of Pandemic plan, which is recommended by WHO or Shareholder.

Influenza pandemics result in serious health effects to large proportions of the population with significant disruption to the community, economy and businesses. See more details in [EHS-OT-QS-3017 SPRC Flu Pandemic Business Continuity Plan](#).

**APPENDIX O PIPE LINE LAY OUT**

## APPENDIX R MUTUAL AID AGREEMENT BETWEEN SPRC & PTTGC-6

In order to support each other in case of emergency, the followings have been discussed and agreed to be a guideline for both SPRC and PTTGC-6

### 1. Emergency Support Team;

- Both companies will support 2 operation staff (ERT Team members) to be the ERT back up team for each other in case of calling and can support. All members will equip with full bunker gears or other personal protective equipment that suit for the emergency case.
- All ERT team members support will be under supervision of on scene commander of the incident happening company.

### 2. Communication channel:

- In case of need support ERT back up from the other site shall PD shift supervisor (SPRC) or RM shift supervisor (PTTGC6) as Incident commander (IC) notify to Shift Security Officer on shift (SPRC REB) or Security Leader (PTTGC-6 Security Center) to call to the other Site (REB or Security Center) for requesting help via Hot Line.
- Incident Commander (IC) shall specify other equipment need beyond full bunker gears that need support such as Fire truck, Ambulance, Foam Truck, Oil spill equipment or others to the Shift Security Officer (SSO) or Security Leader during calling too.

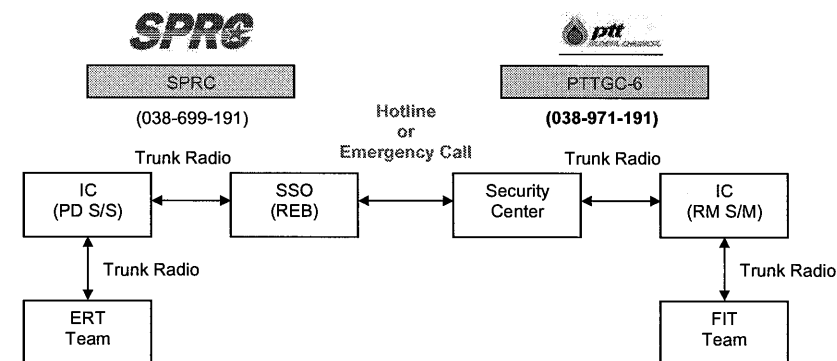
### Exercise:

To ensure reliability of guideline implementation, we agreed;

- Do testing the communication channel and ERT team according agreed by emergency exercise together (schedule will be combined in to existing master exercise schedule in each site).
- Do the communication testing to ensure that the channel set is work: Every Friday (19.30 hrs) each site by SSO will ring the hotline provide to do the test to ensure it work and record status of testing under SMS call back from emergency duty Rota team.

### Remark;

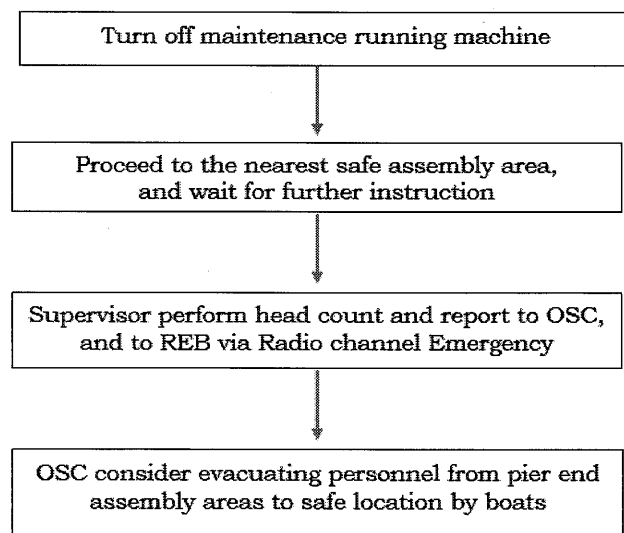
- It is the right of the company to deny on supporting of ERT team when request in case that there is an emergency case happen at site or other site which have agreed to provide support.



## APPENDIX S PIER EVACUATION GUIDELINE

Personnel evacuating from product pier and LPG pier can go to either:

- assembly point 12 (near MCB main gate), or
- pier end assembly areas, if it is not safe to go to assembly point 12 (e.g. fire on pier or on ship alongside)



**Remark** 1) Under circumstances, OSC may consider evacuate all personnel at the marine terminal to pier end assembly areas, e.g. the shore assembly point 11 is unsafe for such.

2) Boat crew will provide life vests or other kinds of flotation devices to personnel embarking.

## APPENDIX T The Reporting form to the Labour Protection Welfare

แบบ สปร. ๕

แบบแจ้งการเกิดอุบัติเหตุร้ายแรง หรือการประสบอันตรายจากการทำงาน

ตามมาตรา ๓๔ (๑) และ (๒) แห่งพระราชบัญญัติความปลอดภัย อาชีวอนามัย และสภาพแวดล้อมในการทำงาน พ.ศ. ๒๕๕๔

- (๑) ชื่อสถานที่ประกอบการ.....  
เลขทะเบียนการค้า.....ประเภทกิจการ.....  
ที่ตั้งเลขที่.....หมู่ที่.....ต./ร./ซอย.....ถนน.....ตำบล/แขวง.....  
อำเภอ/เขต.....จังหวัด.....รหัสไปรษณีย์.....โทรศัพท์.....  
จำนวนลูกจ้างทั้งหมด.....คน
- (๒) ความเสียหายจากการเกิดอุบัติเหตุร้ายแรง หรือการประสบอันตรายจากการทำงาน  
☐ เสียชีวิต จำนวน.....ราย คำนวณอายุชดเชย (ระบุชื่อ - สกุล อายุ เพศ ตำแหน่ง)  
☐ บาดเจ็บ/เจ็บป่วย จำนวน.....ราย คำนวณอายุชดเชย (ระบุชื่อ - สกุล อายุ เพศ ตำแหน่ง)  
☐ ทรัพย์สินเสียหาย จำนวน.....บาท  
☐ มีการรณยูการผลิต
- (๓) สถานที่เกิดเหตุ.....  
วัน/เดือน/ปี ที่เกิดเหตุ.....เวลา.....น.
- (๔) สาเหตุของการเกิดอุบัติเหตุร้ายแรง หรือการประสบอันตรายจากการทำงาน.....  
.....  
.....
- (๕) การดำเนินการแก้ไขและป้องกันการเกิดซ้ำ กรณีเกิดเหตุตามมาตรา ๓๔ (๒).....  
.....  
.....

ข้าพเจ้าขอรับรองว่าข้อความข้างต้นเป็นความจริงทุกประการ

ลงชื่อ.....นายจ้าง/ผู้รับผิดชอบอำนาจ  
(.....) ประทับตรา/ฝ่ามือ  
ตำแหน่ง.....  
วันที่.....เดือน.....พ.ศ. ....

## APPENDIX U IEAT-MTP Emergency Reporting Form



แบบรายงานแจ้งเหตุการณ์ผิดปกติ / เหตุฉุกเฉิน เบื้องต้น  
ของผู้ประกอบการพื้นที่นิคมอุตสาหกรรมและท่าเรืออุตสาหกรรมมาบตาพุด

<p>เรียน ผู้อำนวยการศูนย์เฝ้าระวังและควบคุมคุณภาพสิ่งแวดล้อม (EMCC)          สำหรับโรงงาน/สถานประกอบการ          รายงานภายใน 10 นาที หลังเกิดเหตุ</p>	<p>สำหรับโรงงาน/สถานประกอบการ          รายงานภายใน 10 นาที หลังเกิดเหตุ</p>
<p>สำเนาเรียน <input type="checkbox"/> ผอ. สนม. <input type="checkbox"/> ผอ. สพร.</p> <p>ขอรายงานแจ้งเหตุการณ์ผิดปกติ / เหตุฉุกเฉิน เบื้องต้น ดังนี้</p> <p>ลักษณะเหตุการณ์</p> <p><input type="checkbox"/> ไฟไหม้ <input type="checkbox"/> ระเบิด <input type="checkbox"/> ก๊าซ/สารเคมีอันตรายรั่ว <input type="checkbox"/> น้ำมันหกรั่วไหล <input type="checkbox"/> อื่นๆ ระบุ .....</p> <p>ชื่อโรงงาน/บริษัท ที่เกิดเหตุ ..... นิคมฯ .....</p> <p>ความรุนแรง</p> <p><input type="checkbox"/> เล็กน้อย <input type="checkbox"/> ปานกลาง <input type="checkbox"/> มาก <input type="checkbox"/> อื่นๆ .....</p> <p>เหตุการณ์เบื้องต้น (ระบุเหตุการณ์ที่เกิดขึ้นคร่าวๆ เกิดอะไร ที่ไหน ผลกระทบต่อภายนอก)</p> <p>วันที่เกิดเหตุ ..... เวลา ..... น.</p> <p>เหตุการณ์เบื้องต้น</p> <p>ชื่อผู้แจ้ง (ตัวบรรจง) ..... หมายเลขโทรศัพท์ที่ติดต่อกลับได้ .....</p>	
<p>ศูนย์สื่อสารและรับแจ้งเหตุ</p> <p><input type="checkbox"/> สนท./EMCC Fax: 0-3304-7041 Fax: 0-3868-3941 โทร: 0-3868-3933 มือถือ 0-81732-3485 Line ID : adminemcc</p> <p><input type="checkbox"/> สนม. Fax: 0-38017-496 โทร: 0-3868-5776</p> <p><input type="checkbox"/> สพร. Fax: 0-3868-3178 โทร: 0-38687-819 มือถือ 0-988452-426</p> <p><input type="checkbox"/> RL Fax: 0-38915-316 โทร: 0-38915-285</p>	
<p>สำหรับ: เจ้าหน้าที่ศูนย์เฝ้าระวังและควบคุมคุณภาพสิ่งแวดล้อม (EMCC)</p> <p>ผู้รับแจ้งเหตุ (ตัวบรรจง) : ..... เวลาที่รับแจ้ง : ..... น.</p> <p>การดำเนินการ</p> <p><input type="checkbox"/> แจ้งเจ้าหน้าที่เวร กณธ. <input type="checkbox"/> รายงาน ผอ. นิคมฯ .....</p> <p><input type="checkbox"/> ออกตรวจสอบพื้นที่ที่เกิดเหตุ .....</p> <p><input type="checkbox"/> แจ้งเตือนโรงงาน/ชุมชน ที่อาจได้รับผลกระทบ .....</p> <p><input type="checkbox"/> แจ้งขอความช่วยเหลือจากหน่วยงานที่เกี่ยวข้อง</p> <p><input type="checkbox"/> ดังกล่าว .....</p> <p><input type="checkbox"/> โรงพยาบาล .....</p> <p><input type="checkbox"/> ตำรวจ .....</p> <p><input type="checkbox"/> อื่นๆ .....</p>	
<p>หมายเหตุ : ผอ.สนท. หมายถึง ผู้อำนวยการสำนักงานนิคมอุตสาหกรรมมาบตาพุด</p> <p>ผอ.สพร. หมายถึง ผู้อำนวยการสำนักงานท่าเรืออุตสาหกรรมมาบตาพุด</p> <p>ผอ.สนม. หมายถึง ผู้อำนวยการสำนักงานนิคมอุตสาหกรรมร่วมพัฒนาในระบอบอุตสาหกรรม</p> <p>ท่าเรือที่กำกับดูแล นิคมอุตสาหกรรมดับเพลิงและขจัดมลพิษ (มาบตาพุด)</p> <p>นิคมอุตสาหกรรมอมตะซิตี้, นิคมอุตสาหกรรมมาบตาพุด, นิคมอุตสาหกรรม ชาร์จ โกลด์</p> <p>ฉบับที่ 10 Jan 19</p>	

## APPENDIX V MTP- Port Abnormal Situation and Emergency Reporting Form



แบบรายงานแจ้งเหตุการณ์ผิดปกติ / เหตุฉุกเฉิน เบื้องต้น  
ของผู้ประกอบการพื้นที่นิคมอุตสาหกรรมและท่าเรืออุตสาหกรรมมาบตาพุด

<p>เรียน ผู้อำนวยการศูนย์เฝ้าระวังและควบคุมคุณภาพสิ่งแวดล้อม (EMCC)          สำหรับโรงงาน/สถานประกอบการ          รายงานภายใน 10 นาที หลังเกิดเหตุ</p>	<p>สำหรับโรงงาน/สถานประกอบการ          รายงานภายใน 10 นาที หลังเกิดเหตุ</p>
<p>สำเนาเรียน <input type="checkbox"/> ผอ. สนม. <input type="checkbox"/> ผอ. สพร.</p> <p>ขอรายงานแจ้งเหตุการณ์ผิดปกติ / เหตุฉุกเฉิน เบื้องต้น ดังนี้</p> <p>ลักษณะเหตุการณ์</p> <p><input type="checkbox"/> ไฟไหม้ <input type="checkbox"/> ระเบิด <input type="checkbox"/> ก๊าซ/สารเคมีอันตรายรั่ว <input type="checkbox"/> น้ำมันหกรั่วไหล <input type="checkbox"/> อื่นๆ ระบุ .....</p> <p>ชื่อโรงงาน/บริษัท ที่เกิดเหตุ ..... นิคมฯ .....</p> <p>ความรุนแรง</p> <p><input type="checkbox"/> เล็กน้อย <input type="checkbox"/> ปานกลาง <input type="checkbox"/> มาก <input type="checkbox"/> อื่นๆ .....</p> <p>เหตุการณ์เบื้องต้น (ระบุเหตุการณ์ที่เกิดขึ้นคร่าวๆ เกิดอะไร ที่ไหน ผลกระทบต่อภายนอก)</p> <p>วันที่เกิดเหตุ ..... เวลา ..... น.</p> <p>เหตุการณ์เบื้องต้น</p> <p>ชื่อผู้แจ้ง (ตัวบรรจง) ..... หมายเลขโทรศัพท์ที่ติดต่อกลับได้ .....</p>	
<p>ศูนย์สื่อสารและรับแจ้งเหตุ</p> <p><input type="checkbox"/> สนท./EMCC Fax: 0-3304-7041 Fax: 0-3868-3941 โทร: 0-3868-3933 มือถือ 0-81732-3485 Line ID : adminemcc</p> <p><input type="checkbox"/> สนม. Fax: 0-38017-496 โทร: 0-3868-5776</p> <p><input type="checkbox"/> สพร. Fax: 0-3868-3178 โทร: 0-38687-819 มือถือ 0-988452-426</p> <p><input type="checkbox"/> RL Fax: 0-38915-316 โทร: 0-38915-285</p>	
<p>สำหรับ: เจ้าหน้าที่ศูนย์เฝ้าระวังและควบคุมคุณภาพสิ่งแวดล้อม (EMCC)</p> <p>ผู้รับแจ้งเหตุ (ตัวบรรจง) : ..... เวลาที่รับแจ้ง : ..... น.</p> <p>การดำเนินการ</p> <p><input type="checkbox"/> แจ้งเจ้าหน้าที่เวร กณธ. <input type="checkbox"/> รายงาน ผอ. นิคมฯ .....</p> <p><input type="checkbox"/> ออกตรวจสอบพื้นที่ที่เกิดเหตุ .....</p> <p><input type="checkbox"/> แจ้งเตือนโรงงาน/ชุมชน ที่อาจได้รับผลกระทบ .....</p> <p><input type="checkbox"/> แจ้งขอความช่วยเหลือจากหน่วยงานที่เกี่ยวข้อง</p> <p><input type="checkbox"/> ดังกล่าว .....</p> <p><input type="checkbox"/> โรงพยาบาล .....</p> <p><input type="checkbox"/> ตำรวจ .....</p> <p><input type="checkbox"/> อื่นๆ .....</p>	
<p>หมายเหตุ : ผอ.สนท. หมายถึง ผู้อำนวยการสำนักงานนิคมอุตสาหกรรมมาบตาพุด</p> <p>ผอ.สพร. หมายถึง ผู้อำนวยการสำนักงานท่าเรืออุตสาหกรรมมาบตาพุด</p> <p>ผอ.สนม. หมายถึง ผู้อำนวยการสำนักงานนิคมอุตสาหกรรมร่วมพัฒนาในระบอบอุตสาหกรรม</p> <p>ท่าเรือที่กำกับดูแล นิคมอุตสาหกรรมดับเพลิงและขจัดมลพิษ (มาบตาพุด)</p> <p>นิคมอุตสาหกรรมอมตะซิตี้, นิคมอุตสาหกรรมมาบตาพุด, นิคมอุตสาหกรรม ชาร์จ โกลด์</p> <p>ฉบับที่ 10 Jan 19</p>	

**15. REFERENCE LIST**

The following references were used for this document:

*Chevron: Global Manufacturing Loss/ Near Loss Classification and Reporting Metrics*

*Rayong Province Emergency Response Plan*

*IEAT-IEAT-MTP Port Emergency Response Plan B.E.2558*

*Chevron Leak Response Protocol June 2015*

## **Oil Spill Response Drills**

## MARINE TERMINAL - OIL SPILL RESPONSE DRILL

Schedule to practice drill for each shift A, B, C, and D

Equipment	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Oil Spill Boom	A	B	C	D	A	B	C	D	A	B	C	D
Weir Skimmer - MiniMax	A	B	C	D	A	B	C	D	A	B	C	D
Boat Dispersant Refill/Spray	A	B	C	D	A	B	C	D	A	B	C	D

**Notes:** Events can be simulated as if the boom had been launched and deployed at spill location. Skimmer can be launched with means of ropes at boom ramp or at berth as appropriate. Boat can help transport or slowly tow the skimmer to desired location. Be advised to prime Spate Pump with water for quicker suction. Boat dispersant refill is to be simulated with fresh water. \*\*\* Clean/rinse and dry off equipment before storing \*\*\*

Date/Time	17 Jan 24 / 14:30-15:30	WF Shift	A	SC Shift/Foreman	Mr. Prakob
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### SCENARIO

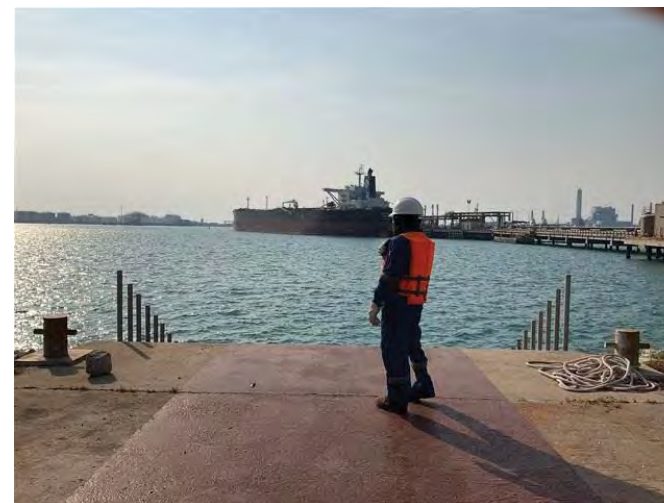
SCENARIO			
Spill Location	Berth 2		
Product/Quantity/Area Size	Black oil (FO-5) / 1 M3 / Area 20 m <sup>2</sup>		
Wind Direction/Speed	155 deg / 10 knot	Tide	1.7 meter still
OSR Equipment	Boom 50 x 2 meter		
General Scenario	Fuel oil spilled by overflow from ship's mast riser while loading at berth no. 2		

### EVENTS

Time	Description
14:30	<b>Ship Officer</b> calling to MCB for emergency stop loading fuel oil at <b>berth no.2</b> due to overflow from ship's mast riser.
14:31	<b>MCB Panel man</b> stop loading and all valves closed.
14:35	<b>Berth operator</b> go to berth no.2 and found black oil spill to ship deck and overflow to sea around <b>20 m<sup>2</sup></b> at port side of ship.
14:35	<b>Senior operator</b> informed to Shift Supervisor, Marine duty, Port control and inform to SP team. <b>Senior operator</b> acting to <b>OSC</b> then informed to IC and REB for announce Oil spill response <b>Tier 1A</b> .
14:15	<b>IC &amp; OSC</b> and <b>ERT</b> setting team for prepare Oil spill equipments
14:50	<b>OSC</b> request <b>SC</b> and <b>ERT team</b> commence deployed boom by tug <b>RS-18 &amp; SC-22</b>
15:00	Boom 50 x 2 m. was deployed to spill area for contain and protect sensitive area.
15:10	Recover the oil by using skimmer and apply dispersant after got approve from PCD
15:10	Assign RS-14,RS-27 to spray dispersant.
15:20	<b>Berth operators</b> do survey around all berth and LPG pier for find out another oil slick.
15:30	- Exercised over.

Comments/Rem

Comments/Remarks:





## MARINE TERMINAL - OIL SPILL RESPONSE DRILL

Schedule to practice drill for each shift A, B, C, and D

Equipment	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Oil Spill Boom	A	B	C	D	A	B	C	D	A	B	C	D
Weir Skimmer - MiniMax	A	B	C	D	A	B	C	D	A	B	C	D
Boat Dispersant Refill/Spray	A	B	C	D	A	B	C	D	A	B	C	D

**Notes:** Events can be simulated as if the boom had been launched and deployed at spill location. Skimmer can be launched with means of ropes at boom ramp or at berth as appropriate. Boat can help transport or slowly tow the skimmer to desired location. Be advised to prime Spate Pump with water for quicker suction. Boat dispersant refill is to be simulated with fresh water. \*\*\* Clean/rinse and dry off equipment before storing \*\*\*

Date/Time	08 Feb 24 / 10:00-11:30	WF Shift	B	SC Shift/Foreman	Mr. Trairong
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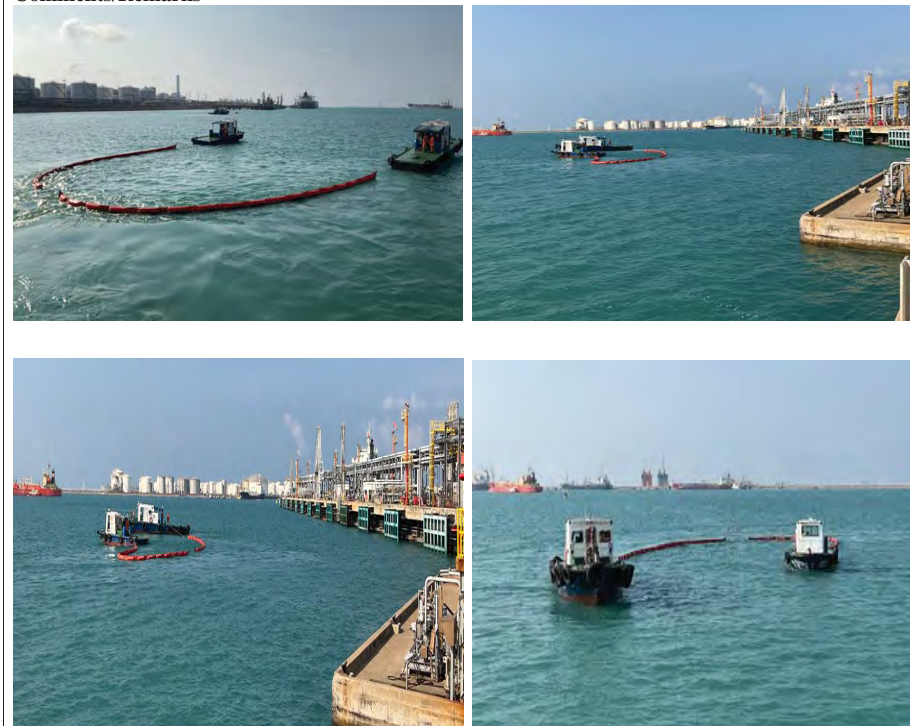
### SCENARIO

SCENARIO			
Spill Location	Tug Berth		
Product/Quantity/Area Size	Black oil (slop) / 1 M3 / Area 15 m <sup>2</sup>		
Wind Direction/Speed	154 deg / 9.6 knot	Tide	1.2 meter still
OSR Equipment	Boom 50 x 2 meter		
General Scenario	Slop oil spilled by overflow from oily slop tank while heavy raining at Tug berth		

### EVENTS

Time	Description
10:00	SPM Mooring master calling to MCB for informed at Tug berth has oily water over flow to the sea.
10:01	MCB Panel man informed to outside and senior operator.
10:03	Berth operator go to Tug berth and found black oil overflow to sea around 20 m <sup>2</sup> at around the tug berth area.
10:10	Senior operator informed to Shift Supervisor, Marine duty, and Port control. Senior operator acting to OSC then informed to IC and REB for announce Oil spill response Tier 1A.
10:15	IC & OSC and ERT setting team for prepare Oil spill equipments
10:50	OSC request SC and ERT team commence deployed boom by tug RS-18 & SC-22
11:00	Boom 50 x 2 m. was deployed to spill area for contain and protect sensitive area.
11:10	Recover the oil by using skimmer and apply dispersant after got approve from PCD
11:10	Assign RS-14,RS-27 to spray dispersant.
11:20	Berth operators do survey around all berth and LPG pier for find out another oil slick.
11:30	- Exercised over.
Comments/Rem	

### Comments/Remarks



## MARINE TERMINAL - OIL SPILL RESPONSE DRILL

Schedule to practice drill for each shift A, B, C, and D

Equipment	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Oil Spill Boom	A	B	C	D	A	B	C	D	A	B	C	D
Weir Skimmer - MiniMax	A	B	C	D	A	B	C	D	A	B	C	D
Boat Dispersant Refill/Spray	A	B	C	D	A	B	C	D	A	B	C	D

**Notes:** Events can be simulated as if the boom had been launched and deployed at spill location. Skimmer can be launched with means of ropes at boom ramp or at berth as appropriate. Boat can help transport or slowly tow the skimmer to desired location. Be advised to prime Spate Pump with water for quicker suction. Boat dispersant refill is to be simulated with fresh water. \*\*\* Clean/rinse and dry off equipment before storing \*\*\*

Date/Time	11 Mar 24 / 11:00-12:30	WF Shift	C	SC Shift/Foreman	Mr. Trairong
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### SCENARIO

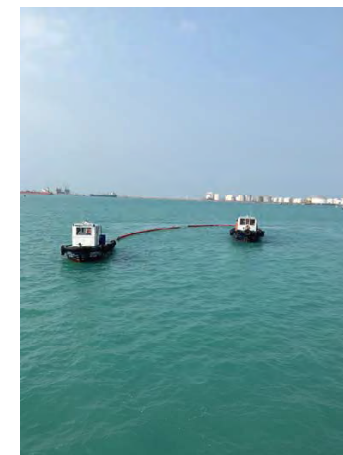
Spill Location	Tug Berth		
Product/Quantity/Area Size	Black oil (slop) / 1.5 M3 / Area 30 m <sup>2</sup>		
Wind Direction/Speed	242 deg / 9 knot	Tide	1.2 meter still
OSR Equipment	Boom 50 x 2 meter		
General Scenario	Slop oil spilled by overflow from oily slop tank cause 66G801 not auto mode.		

### EVENTS

Time	Description
11:00	Berth Operator calling to MCB for informed at Tug berth has oily water over flow to the sea.
11:01	MCB Panel man informed to outside and senior operator.
11:03	Berth operator go to Tug berth and found black oil overflow to sea around 30 m <sup>2</sup> at around the tug berth area.
11:10	Senior operator informed to Shift Supervisor, Marine duty, and Port control. Senior operator acting to OSC then informed to IC and REB for announce Oil spill response Tier 1A.
11:15	IC & OSC and ERT setting team for prepare Oil spill equipments
11:50	OSC request SC and ERT team commence deployed boom by tug RS-23 & RS-27
12:00	Boom 50 x 2 m. was deployed to spill area for contain and protect sensitiv area.
12:10	Recover the oil by using skimmer and apply dispersant after got approve from PCD
12:10	Assign RS-14,RS-27 to spray dispersant.
12:20	Berth operators do survey around all berth and LPG pier for find out another oil slick.
12:30	- Exercised over.

Comments/Rem

### Comments/Remarks



**MARINE TERMINAL - OIL SPILL RESPONSE DRILL****Schedule to practice drill for each shift A, B, C, and D**

Equipment	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Oil Spill Boom	A	B	C	D	A	B	C	D	A	B	C	D
Weir Skimmer - MiniMax	A	B	C	D	A	B	C	D	A	B	C	D
Boat Dispersant Refill/Spray	A	B	C	D	A	B	C	D	A	B	C	D

**Notes:** Events can be simulated as if the boom had been launched and deployed at spill location. Skimmer can be launched with means of ropes at boom ramp or at berth as appropriate. Boat can help transport or slowly tow the skimmer to desired location. Be advised to prime Spate Pump with water for quicker suction. Boat dispersant refill is to be simulated with fresh water. \*\*\* Clean/rinse and dry off equipment before storing \*\*\*

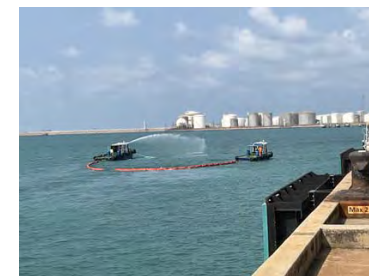
Date/Time	06 APR 24 / 09:00-11:30	WF Shift	D	SC Shift/Foreman	Mr. Pisan
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**SCENARIO**

Spill Location	Berth 1				
Product/Quantity/Area Size	Black oil (F/O 180cst) / 0.3 M3 / Area 30 m <sup>2</sup>				
Wind Direction/Speed	348 deg / 5 knot			Tide	1.0 meter still
OSR Equipment	Boom 50 x 2 meter				
General Scenario	F/O 180cst spill from ship manifold when loading				

**EVENTS**

Time	Description
09:00	Ship Operator phoenix 99 calling to MCB for informed at Berth 1 has oil spill from ship manifold
09:01	MCB Panel man informed to outside and senior operator to verify
09:05	Berth operators go to Berth 1 and found black oil spill to sea around 30 m <sup>2</sup> at around the Berth 1 area and inform to MCB panel.
09:05	MCB Panel man stop loading product at Berth 1 and closed all valve.
09:07	Senior operator informed to Shift Supervisor, Marine duty, and Port control. Senior operator acting to OSC then informed to IC and REB for announce Oil spill response Tier 1.
09:30	IC & OSC and ERT setting team for prepare Oil spill equipments
09:37	OSC request SC and ERT team commence deployed boom by tug RS-18 & RS-23
09:40	Boom 50 x 2 m. was deployed to spill area for contain and protect sensitiv area.
10:30	Recover the oil by using skimmer.
10:35	Assign RS-18 to spray water ,RS-14, RS-27 set skimmer
11:20	Berth operators and SC-22 site survey around all berth and LPG pier for find out another oil slick.
11:30	- Exercised over.
Comments/Rem	

**Comments/Remarks**



**MARINE TERMINAL - OIL SPILL RESPONSE DRILL**

Schedule to practice drill for each shift A, B, C, and D

Equipment	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Oil Spill Boom	A	B	C	D	A	B	C	D	A	B	C	D
Weir Skimmer - MiniMax	A	B	C	D	A	B	C	D	A	B	C	D
Boat Dispersant Refill/Spray	A	B	C	D	A	B	C	D	A	B	C	D

**Notes:** Events can be simulated as if the boom had been launched and deployed at spill location. Skimmer can be launched with means of ropes at boom ramp or at berth as appropriate. Boat can help transport or slowly tow the skimmer to desired location. Be advised to prime Spate Pump with water for quicker suction. Boat dispersant refill is to be simulated with fresh water. \*\*\* Clean/rinse and dry off equipment before storing \*\*\*

Date/Time	19 May 24 / 10:30-11:30	WF Shift	A	SC Shift/Foreman	Mr. Jakkarin
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**SCENARIO**

Spill Location	Berth 2		
Product/Quantity/Area Size	Black oil (FO-5) / 1 M3 / Area 20 m <sup>2</sup>		
Wind Direction/Speed	155 deg / 10 knot	Tide	1.7 meter still
OSR Equipment	Boom 50 x 2 meter		
General Scenario	Fuel oil spilled by overflow from ship's mast riser while loading at berth no. 2		

**EVENTS**

Time	Description
10:30	<b>Ship Officer</b> calling to MCB for emergency stop loading fuel oil at <b>berth no.2</b> due to overflow from ship's mast riser.
10:31	<b>MCB Panel man</b> stop loading and all valves closed.
10:35	<b>Berth operator</b> go to berth no.2 and found black oil spill to ship deck and overflow to sea around <b>20 m<sup>2</sup></b> at port side of ship.
10:35	<b>Senior operator</b> informed to Shift Supervisor, Marine duty, Port control and inform to SP team. <b>Senior operator</b> acting to <b>OSC</b> then informed to IC and REB for announce Oil spill response <b>Tier 1A</b> .
11:15	<b>IC &amp; OSC</b> and <b>ERT</b> setting team for prepare Oil spill equipments
11:50	<b>OSC</b> request <b>SC</b> and <b>ERT team</b> commence deployed boom by tug <b>RS-18 &amp; SC-23</b>
11:00	Boom 50 x 2 m. was deployed to spill area for contain and protect sensitive area.
11:10	Recover the oil by using skimmer and apply dispersant after got approve from PCD
11:10	Assign <b>RS-14, RS-27</b> to spray dispersant.
11:20	<b>Berth operators</b> do survey around all berth and LPG pier for find out another oil slick.
11:30	- <b>Exercised over.</b>
Comments/Rem	



Comments/Remarks:



## MARINE TERMINAL - OIL SPILL RESPONSE DRILL

Schedule to practice drill for each shift A, B, C, and D

Equipment	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Oil Spill Boom	A	B	C	D	A	B	C	D	A	B	C	D
Weir Skimmer - MiniMax	A	B	C	D	A	B	C	D	A	B	C	D
Boat Dispersant Refill/Spray	A	B	C	D	A	B	C	D	A	B	C	D

**Notes:** Events can be simulated as if the boom had been launched and deployed at spill location. Skimmer can be launched with means of ropes at boom ramp or at berth as appropriate. Boat can help transport or slowly tow the skimmer to desired location. Be advised to prime Spate Pump with water for quicker suction. Boat dispersant refill is to be simulated with fresh water. \*\*\* Clean/rinse and dry off equipment before storing \*\*\*

Date/Time	09/06/24 10:30-12:30	WF Shift	B	SC Shift/Foreman	Mr. Pisan
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### SCENARIO

Spill Location	Berth 2		
Product/Quantity/Area Size	Black oil (F/O 380cst) / 0.5 M3 / Area 50 m <sup>2</sup>		
Wind Direction/Speed	286 deg / 6 knot	Tide	1.2 meter still
OSR Equipment	Boom 50 x 2 meter		
General Scenario	F/O 380cst overflow from ship's tank (5P) when loading		

### EVENTS

Time	Description
10:30	Chief officer "FR 99" calling to MCB for informed at Berth 2 has oil spill from ship's tank 5P product overflow
10:32	MCB Panel man informed to outside and senior operator to verify
10:35	Berth operators go to Berth 2 and found black oil overflow from ship's tank to sea around 30 m <sup>2</sup> at around the Berth 5 area and inform to MCB panel.
10:36	MCB Panel man stop loading product at Berth 2 and closed all valve.
10:37	Senior operator informed to Shift Supervisor, Marine duty, and Port control. Senior operator acting to OSC then informed to IC and REB for announce Oil spill response Tier 1.
10:50	IC & OSC and ERT setting team for prepare Oil spill equipments
11:10	OSC request SC and ERT team commence deployed boom by tug RS-18 & RS-23
11:40	Boom 50 x 2 m. was deployed to spill area for contain and protect sensitiv area.
11:50	Recover the oil by using skimmer.
11:55	Assign RS-18 to spray water ,RS-14, RS-27 set skimmer
12:20	Berth operators and SC-22 site survey around all berth and LPG pier for find out another oil slick.
12:30	- Exercised over.
Comments/Rem	

### Comments/Remarks



## การฝึกซ้อมการโต้ตอบสถานการณ์ฉุกเฉิน



# การฝึกซ้อมแผนร่วมกับ IESG



1

# การประชุม EMAG



**ประชุม EMAG ครั้งที่ 3**  
ประจำปี 2566-2567  
วันที่ 6 กันยายน 2566



**ประชุม EMAG ครั้งที่ 4**  
ประจำปี 2566-2567  
วันที่ 20 พฤศจิกายน 2566  
เวลา 13.30-16.00น.



# การประชุม EMAG 2024



EMERGENCY MUTUAL AID GROUP

**ประชุม EMAG ครั้งที่ 5**  
ประจำปี 2566-2567

วันที่ 8 มีนาคม 2567  
เวลา 09.00-12.00น.



EMERGENCY MUTUAL AID GROUP

**ประชุมสมาชิกกลุ่ม EMAG ครั้งที่ 1**  
**ประจำปี 2567-68**  
(1st EMAG Meeting 2024/25)

วัน : 31 พ.ค. 2567  
เวลา : 9.30 – 11.30

สถานที่ : ห้องประชุม Thailand 3 ชั้น 3 อาคาร CBV @ AGC Vinythai Site 1



1

สมาคมอนุรักษ์สภาพแวดล้อมของกลุ่มอุตสาหกรรมน้ำมัน / IESG ปีละ 1 ครั้ง

# การประชุม IESG 2024

[External]พิจารณาการเข้าร่วมการประชุมคณะกรรมการ IERSC ครั้งที่ 1/2567 (19ก.พ.67)

**PK** Patchateeya Kittiwiriyakarn <patchateeya.k@iesg.or.th>  
To : vasupon.dhotiat@shel.com, pakorn@bangchak.co.th, vinnai@bangchak.co.th, vinnai@bangchak.co.th, srakrit.suntanphan@cel.lbp.com, narisara.kawaphan@bp.com, Somsong Phokras, Wewawit.Theplertoon@bangchak.co.th, sossapol.n@irpc.co.th, somchai.ph@irpc.co.th - 27 others  
Cc : Waslop Yammeuang, Paphaphat Khudrak

Minutes\_IERSCMeeting (19Feb2024).docx  
4 KB

Translate message to: English Never translate from Thai Translation preferences

**Subject:** เชิญเข้าร่วมประชุมกรรมการ IERSC ครั้งที่ 1/2567 (19ก.พ.67)  
**When:** 19 กุมภาพันธ์ 2567 09:00 AM-10:30 AM (UTC+07:00) Bangkok, Hanoi, Jakarta.  
**Where:** Microsoft Teams Meeting

เรียน ประธานและกรรมการ IERSCทุกท่าน

นามาน IESG ขอเชิญท่านเข้าร่วมการประชุมคณะกรรมการอนุรักษ์สภาพแวดล้อมในกลุ่มอุตสาหกรรมน้ำมัน (Inland Emergency Response Subcommittee : IERSC) ครั้งที่ 1/2567 ในวันพุธที่ 19 กุมภาพันธ์ 2567 ระหว่างเวลา 09.00 – 10.30น. ผ่านทาง Microsoft Teams สำหรับ presentation ประกอบการประชุม นามานฯ จะส่งเชิญท่านไปทางอีเมล

จึงเรียนมาเพื่อโปรดพิจารณาว่าราชการประชุม

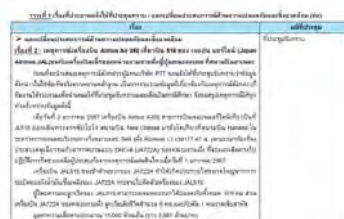
Best Regards,

Patchateeya Kittiwiriyakarn (Mail)  
Administrative Assistant

**Oil Industry Environmental Safety Group Association**  
555 PTT Bhekasong Bld., Ard-Nangong Road, Klong Toey, Bangkok 10260  
Tel: 02-239-7950  
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Microsoft Teams meeting

Join on your computer, mobile app or room device



2



# Emergency Exercise 2024

## 2024 SPRC Emergency Exercise Master Plan

Month	week	Level 1					Table Top Exercise On Every Friday				Observe	Emergency Exercise Level			Oil Spill	Port
		Date	Date	Shift	Area	Name of Unit & equipment	FF#	2	3	Evac.						
January	week 1	1	5	C	A1	Pre-Incident Plan.PN.A1.02C101's PSV pop up vibrate bad leak fire	EHS-OT-QS-3159	QS 32								
	week 2	8	12	D	A2	Pre-Incident plan.PN.A2.10C205 sign glass bad leak cause rich amine&H2S release	EHS-OT-QS-3155									
	week 3	15	19	B	A3	Pre-Incident Plan.PN.A3.28G107 flame inlet bad leak cause rich amine and H2S release	EHS-OT-QS-3149									
	week 4	22	26	A	A4	Pre-Incident plan.PN.A4.17C101's PSV pop up vibrate, bad leak develop vapor cloud	EHS-OT-QS-3167									
	week 5	29	2	C	A2	Pre-Incident Plan.PN.A2.15E201CD bad leak cause WCN vapor cloud release	EHS-OT-QS-3147									
February	week 6	5	9	D	A3	Pre-Incident Plan.PN.A3.33F101 inlet line flame bad leak cause toxic gas release	EHS-OT-QS-3150	QS 31								
	week 7	12	16	B	A4	Pre-Incident Plan.PN.A4.16G303 bad leak at flange inlet cause sour distillate&H2S release and fire	EHS-OT-QS-3154									
	week 8	19	23	A	A5	Pre-Incident Plan.PD.A5.60D330(F) Mogan tank	EHS-OT-QS-3340									
	week 9	26	1	C	A3	Pre-Incident Plan.PN.A3.27G107B discharge flange bad leak cause rich amine and H2S release	EHS-OT-QS-3148									
March	week 10	4	8	D	A4	Pre-Incident Plan.PN.A4.16C307 Outlet flange failure, bad leak cause sour distillateand H2S release	EHS-OT-QS-3158	QS 32								
	week 11	11	15	B	A5	Pre-Incident Plan.PD.A5.60D103 (F) Crude tank	EHS-OT-QS-3305									
	week 12	18	22	A	A6S	Pre-Incident Plan.PD.A6.SPM. Crude oil spill from burst at expansion joint (Oil Spill)	EHS-OT-QS-3412						Oil Spill			
	week 13	25	29	C	A4	Pre-Incident Plan.PN.A4.17G102B's mech seal bad leak cause large volume of LPG vapor cloud	EHS-OT-QS-3153									
April	week 14	1	5	D	A5	Pre-Incident Plan.PD.A5.60D333(F) Jet A1	EHS-OT-QS-3336	QS 32								
	week 15	8	12	B	A6	Pre-Incident -Plan.PD.A6.Gmoline spill at product pier, Berth#2	EHS-OT-QS-3415									
	week 16	15	19	A	A1	Pre-Incident plan.PN.A1.02C141.MRU PSV pop up bad leak and gas cloud	EHS-OT-QS-3144									
	week 17	22	26	C	A5	Pre-Incident Plan.PD.A5.60D342(F)	EHS-OT-QS-3359									
	week 18	29	3	D	A6M	Pre-Incident -Plan.PD.A6.Mogas transfer line to FTT-GC flame leak	EHS-OT-QS-3416									
May	week 19	6	10	B	A1	Pre-Incident Plan.PN.A1.02105 Naphtha Splitter PSV pop up vibrate bad leak, fire	EHS-OT-QS-3140	QS 31					MCB OMB			
	week 20	13	17	A	A2	Pre-Incident Plan.A2.05E101 flame failure cause sulphur leak and catch fire	EHS-OT-QS-3104									
	week 21	20	24	C	A6M	Pre-Incident Plan.PD.A6.Ber#1,(Diesel) leak to pump room catch fire&explosion	EHS-OT-QS-3405									
	week 22	27	31	D	A1	Pre-Incident Plan.PN.A1.02E100/101 Ovh line 42'released jet fire impingment OVH rack and pool fire	EHS-OT-QS-3120						TTLT			
June	week 23	3	7	B	A3	Pre-Incident Plan.PN.A3.31G102B bad leak at discharge flange cause sour water and H2S release	EHS-OT-QS-3152	QS 31								
	week 24	10	14	A	A2	Pre-Incident Plan.PN.A2.15C201 HD5 reactor drum failure spill and pool fire	EHS-OT-QS-3134						Warehouse			
	week 25	17	21	C	A1	Pre-Incident Plan.PN.A1.02C109'S PSV pop up vibrate bad leak, fire	EHS-OT-QS-3161									
	week 26	24	28	D	A3	Pre-Incident Plan.PN.A3.34F101 inlet flange failure bad leak cause rich amine and H2S release	EHS-OT-QS-3151									
	week 27	1	5	B	A4	Pre-Incident plan.PN.A4.16E307 shell side outlet flame leak fire	EHS-OT-QS-3125						MOC&ROC			
July	week 28	8	12	A	A2	Pre-Incident Plan.PN.A2.10C301's PSV pop up vibrate bad leak, fire	EHS-OT-QS-3164	QS 32					LAB			
	week 29	15	19	C	A2	Pre-Incident Plan.PN.A2.05G104A/B bad leak cause sulphur vapor cloud, release	EHS-OT-QS-3127									
	week 30	22	26	D	A3	Pre-Incident Plan.PN.A3.33F101 inlet line flame bad leak cause toxic gas release	EHS-OT-QS-3150						EP			
	week 31	29	2	B	A4	Pre-Incident Plan.PN.A4.16G204B Mech seal failure fire and explosion cause radio active	EHS-OT-QS-3156									
	week 32	5	9	A	A5	Pre-Incident plan 60D312(F) Chemical Naptha Tank	EHS-OT-QS-3339									
August	week 33	12	16	C	A3	Pre-Incident Plan.PN.A3.28G107 flame inlet bad leak cause rich amine and H2S release	EHS-OT-QS-3149	QS 32					COS			
	week 34	19	23	D	A5	Pre-Incident Plan.PD.A5.60D312(F)	EHS-OT-QS-3335									
	week 35	26	30	B	A4	Pre-Incident Plan.PN.A4.16G303 bad leak at flange inlet cause sour distillate&H2S release and fire	EHS-OT-QS-3154									
	week 36	2	6	A	A6M	Pre-Incident Plan.PD.A6.Berth 2.Fuel oil spill at product pier (Spill)	EHS-OT-QS-3413									
September	week 37	9	13	C	A4	Pre-Incident Plan.PN.A4.16C307 Outlet flange failure, bad leak cause sour distillateand H2S release	EHS-OT-QS-3158	QS 31					CCB			
	week 38	16	20	B	A5	Pre-Incident plan 60D105(R) Crude Oil Tank (Rim seal fire)	EHS-OT-QS-3159									
	week 39	23	27	D	A6S	Pre-Incident Plan.PD.A6.SPM. Crude oil spill from subsea hose leak (Oil Spill)	EHS-OT-QS-3419						Oil Spill			
	week 40	30	4	A	A1	Pre-Incident Plan.PN.A1.02C109.Desalter PSV pop up bad leak and catch fire	EHS-OT-QS-3143									
	week 41	7	11	C	A5	Pre-Incident Plan.PD.A5.60D285(F) DHUO feed Tank	EHS-OT-QS-3327									
October	week 42	14	18	D	A6S	Pre-Incident Plan.PD.A6.SPM. Crude oil spill from subsea hose leak (Oil Spill)	EHS-OT-QS-3419	QS 31								
	week 43	21	25	B	A1	Pre-Incident plan.PN.A1.02E100/101 Ovh line 42'released jet fire impingment OVH rack and pool fire	EHS-OT-QS-3120									
	week 44	28	1	A	A2	Pre-Incident Plan.PN.A2.10C301's OVH flange failure cause hot diesel release	EHS-OT-QS-3106									
	week 45	4	8	C	A6M	Pre-Incident Plan.PD.A6.Berth 3.Fuel oil spill at product bert (30 ton)	EHS-OT-QS-3415									
November	week 46	11	15	D	A1	Pre-Incident Plan.PN.A1.02C141.MRU PSV pop up bad leak and gas cloud	EHS-OT-QS-3144	QS 32								
	week 47	15	22	B	A2	Pre-Incident Plan.PN.A2.05G104A/B bad leak cause sulphur vapor cloud, release	EHS-OT-QS-3127									
	week 48	25	29	A	A3	Pre-Incident Plan.PN.A3.27G107B discharge flange bad leak cause rich amine and H2S release	EHS-OT-QS-3148									
	week 49	2	6	C	A1	Pre-Incident Plan.PN.A1.03E101 6" flame flange release and ignite naphtha rack and pool fire	EHS-OT-QS-3101									
	week 50	9	13	D	A2	Pre-Incident Plan.PN.A2.05C103A/B B5U reactor failure of flange reactor cause bad leak and pool fire	EHS-OT-QS-3128						QS 31			
December	week 51	16	20	B	A3	Pre-Incident Plan.PN.A3.54C105.Fuel gas leak at inlet line of F&G-O drum	EHS-OT-QS-3108									
	week 52	23	27	A	A4	Pre-Incident Plan.PN.A4.21C101 sign glass bad leak cause spent caustic&H2S release	EHS-OT-QS-3134									
	week 53	23	3	C	A2	Pre-Incident plan.PN.A2.10C205 sign glass bad leak cause rich amine&H2S release	EHS-OT-QS-3135									

# Emergency Exercise 2024

## Level 1A

### Monday Night Exercise

## Data link

[illegible]

RE: Emergency Level 1A Drill Report on 26 Feb 2024

**Narongrat Boonlert**  
 ๒๕๖๓ Narongrat Boonlert, Sirinpong Boonlert, Kittayong Chayenongruet, Kant Lankorn, Chaiya Samsornjorn, Montirat Layot, Pichara Sunwongwan,  
 Theksakorn Yotkon, Anurad Saengsri, Intarawuth Naorath, Benchaphat Huangnong, Chansorn Samphong, Patsyphat Phrasomwan, >2 others  
 C2, Bunrat Vongvithayakorn, Sirinpong Boonlert

**Good points**

- CSC: good understanding and follows PCA
- Good practice for Buddies when using the ICR
- Good support from PNs to for Lead Response Protocol
- CSC train team for strategizing and tactics
- All participants have an understanding of role and responsibilities
- The Fire Truck no 1 and CSC vehicle can be operated normally
- Good support from RER

**Opportunity to develop**

- The RER bus and CSC vest are not found in CSC vehicle's doc. Action by OUS11

Done 27 Feb

RE: A-shift Exercise Fire Drill level 1 at 06E101-06E102

**Narongrat Boonlor**

Co- **Banlus Nguntai** • **Changat Singsong** • **Sawas Hanchong** • **Soraset Sotet** • **Nannam Replakun** • **Changae Yikvike** • **Marthong Chumrinn**  
 Co- **Pattongpon Jee** • **Martua Pongrakorn** • **Pongat Wengpham** • **Kasut Boonkong** • **Pachya Boon** • **Jonawut Samthong** • **2 others**

Co- **Rundt Vayuekattani** • **Singap Boonkirk**

Thank you so much for your participation in tonight's Night session.

**Special notes**

100, 200, 300, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200, 1300, 1400, 1500, 1600, 1700, 1800, 1900, 2000, 2100, 2200, 2300, 2400, 2500, 2600, 2700, 2800, 2900, 3000, 3100, 3200, 3300, 3400, 3500, 3600, 3700, 3800, 3900, 4000, 4100, 4200, 4300, 4400, 4500, 4600, 4700, 4800, 4900, 5000, 5100, 5200, 5300, 5400, 5500, 5600, 5700, 5800, 5900, 6000, 6100, 6200, 6300, 6400, 6500, 6600, 6700, 6800, 6900, 7000, 7100, 7200, 7300, 7400, 7500, 7600, 7700, 7800, 7900, 8000, 8100, 8200, 8300, 8400, 8500, 8600, 8700, 8800, 8900, 9000, 9100, 9200, 9300, 9400, 9500, 9600, 9700, 9800, 9900, 10000, 10100, 10200, 10300, 10400, 10500, 10600, 10700, 10800, 10900, 11000, 11100, 11200, 11300, 11400, 11500, 11600, 11700, 11800, 11900, 12000, 12100, 12200, 12300, 12400, 12500, 12600, 12700, 12800, 12900, 13000, 13100, 13200, 13300, 13400, 13500, 13600, 13700, 13800, 13900, 14000, 14100, 14200, 14300, 14400, 14500, 14600, 14700, 14800, 14900, 15000, 15100, 15200, 15300, 15400, 15500, 15600, 15700, 15800, 15900, 16000, 16100, 16200, 16300, 16400, 16500, 16600, 16700, 16800, 16900, 17000, 17100, 17200, 17300, 17400, 17500, 17600, 17700, 17800, 17900, 18000, 18100, 18200, 18300, 18400, 18500, 18600, 18700, 18800, 18900, 19000, 19100, 19200, 19300, 19400, 19500, 19600, 19700, 19800, 19900, 20000, 20100, 20200, 20300, 20400, 20500, 20600, 20700, 20800, 20900, 21000, 21100, 21200, 21300, 21400, 21500, 21600, 21700, 21800, 21900, 22000, 22100, 22200, 22300, 22400, 22500, 22600, 22700, 22800, 22900, 23000, 23100, 23200, 23300, 23400, 23500, 23600, 23700, 23800, 23900, 24000, 24100, 24200, 24300, 24400, 24500, 24600, 24700, 24800, 24900, 25000, 25100, 25200, 25300, 25400, 25500, 25600, 25700, 25800, 25900, 26000, 26100, 26200, 26300, 26400, 26500, 26600, 26700, 26800, 26900, 27000, 27100, 27200, 27300, 27400, 27500, 27600, 27700, 27800, 27900, 28000, 28100, 28200, 28300, 28400, 28500, 28600, 28700, 28800, 28900, 29000, 29100, 29200, 29300, 29400, 29500, 29600, 29700, 29800, 29900, 30000, 30100, 30200, 30300, 30400, 30500, 30600, 30700, 30800, 30900, 31000, 31100, 31200, 31300, 31400, 31500, 31600, 31700, 31800, 31900, 32000, 32100, 32200, 32300, 32400, 32500, 32600, 32700, 32800, 32900, 33000, 33100, 33200, 33300, 33400, 33500, 33600, 33700, 33800, 33900, 34000, 34100, 34200, 34300, 34400, 34500, 34600, 34700, 34800, 34900, 35000, 35100, 35200, 35300, 35400, 35500, 35600, 35700, 35800, 35900, 36000, 36100, 36200, 36300, 36400, 36500, 36600, 36700, 36800, 36900, 37000, 37100, 37200, 37300, 37400, 37500, 37600, 37700, 37800, 37900, 38000, 38100, 38200, 38300, 38400, 38500, 38600, 38700, 38800, 38900, 39000, 39100, 39200, 39300, 39400, 39500, 39600, 39700, 39800, 39900, 40000, 40100, 40200, 40300, 40400, 40500, 40600, 40700, 40800, 40900, 41000, 41100, 41200, 41300, 41400, 41500, 41600, 41700, 41800, 41900, 42000, 42100, 42200, 42300, 42400, 42500, 42600, 42700, 42800, 42900, 43000, 43100, 43200, 43300, 43400, 43500, 43600, 43700, 43800, 43900, 44000, 44100, 44200, 44300, 44400, 44500, 44600, 44700, 44800, 44900, 45000, 45100, 45200, 45300, 45400, 45500, 45600, 45700, 45800, 45900, 46000, 46100, 46200, 46300, 46400, 46500, 46600, 46700, 46800, 46900, 47000, 47100, 47200, 47300, 47400, 47500, 47600, 47700, 47800, 47900, 48000, 48100, 48200, 48300, 48400, 48500, 48600, 48700, 48800, 48900, 49000, 49100, 49200, 49300, 49400, 49500, 49600, 49700, 49800, 49900, 50000, 50100, 50200, 50300, 50400, 50500, 50600, 50700, 50800, 50900, 51000, 51100, 51200, 51300, 51400, 51500, 51600, 51700, 51800, 51900, 52000, 52100, 52200, 52300, 52400, 52500, 52600, 52700, 52800, 52900, 53000, 53100, 53200, 53300, 53400, 53500, 53600, 53700, 53800, 53900, 54000, 54100, 54200, 54300, 54400, 54500, 54600, 54700, 54800, 54900, 55000, 55100, 55200, 55300, 55400, 55500, 55600, 55700, 55800, 5590

# Emergency Exercise 2024

## Level 1B Friday Table-Top Exercise

[Data link](#)

Feedback Tabletop Exercise: 2024 SPRC Emergency Duty Rota - Week 25th (21 Jun - 28 Jun 2024)

**Bundit Vayuwattanasiri**  
To: Sita Kamintagool; Kittipong Nokdara; Yanyong Angklomkleaw; Chutathip Pachyanukul; Nillawan Ponlaboot; Wichien Hermharn; **#All PD Shift Supervisor**; **#All PN Shift Supervisor**; Mayuree Saengloip; Anchulee Kamdee; Cc: Bundit Vayuwattanasiri; Opas Waiyasatja

Dear Duty team of week 25<sup>th</sup> week and All participant  
Thank you so much for your Tabletop Exercise participation.  
Please see the feedback as below.

- Good point
- Good coordinate between IC, OSC, Duty team, Clinic, PN SS, CCB and REB.
  - The communication is clear during the exercise in each duty person.
  - All Duty team have good function of their role & responsibilities.
  - OSC good understand and well action step by step (follow PIP), including shutdown unit follow Leak response protocol. All tactics were us controlling the scenario.
  - EA duty can issue press release during the exercise and verify by duty manager.
  - Good supported by security team on communication, headcount and smell survey.

Any suggestions are welcome. Thank you so much.  
Regards,  
BunditV.

RE: 2024 SPRC Emergency Duty Rota - Week 22nd (31 May - 7 Jun 2024)

**Narongrat Boontor**  
To: Wattana Meechai; Komsit Pinchanhaiyotho; Supaporn Prasankasame; Sumitra Tantidilokkul; Opas Waiyasatja; Thongchai Niyomvitt; Decha Nanthachant; Wattana Phaengsere; Pajin Srimuang; Saknarn Nakula  
Cc: Bundit Vayuwattanasiri; Pongkorn Chochuwong; Teeradech Sakul; Anucha Jaikla; Narong Chantima; Sontorn Sethapak; Puthitorn Kesomsin; Mayuree Saengloip; Anchulee Kamdee; **#All PD Shift Supervisor**; **#All PN Shift Supervisor**; Sita Kamintagool; Siripong Boondirek

- 1 You replied to this message on 10/06/2024 16:01.
- Good point
- The communication during exercise is clear.
  - Good coordination between IC, OSC, CCB, Duty team, Medical team, and REB.
  - OSC follows PIP, Shutdown unit, and uses a Head monitor to cooling structures.
  - Duty manager sharing the evacuation procedure following PMS-03-05-0008.
- Opportunity to improve
- End member has high brightness and cannot adjust. Action by IT.
  - Realise the wording of alert people at on-site building about H2S release to Alert people at down wind building about H2S release action by CS/12.
- Remarks: OPS informed the people who have fatigue are 2 contractors during evacuation to the assembly point.

Any suggestions are welcome. Thank you very.

Feedback from tabletop exercise- Week 19th (10 May - 17 May 2024)

**Siripong Boondirek**  
To: Sita Kamintagool; Wut Sakruat; Pijw Kittichachana; Chaninart Sathithangasing; Angkula Nakrachata-amon; Nontawit Prasarnjorn; Waiyaset Pabkijjareen; Pajin Srimuang; Kittipong Chayavongpatt; Nitsachai Madheang  
Cc: Bundit Vayuwattanasiri; Pongkorn Chochuwong; Teeradech Sakul; Anucha Jaikla; Narong Chantima; Sontorn Sethapak; Puthitorn Kesomsin; Narongrat Boontor; Tanakorn Sophaudum; Nillawan Ponlaboot; Mayuree Saengloip; Anchulee Kamdee; **#All PD Shift Supervisor**; 7 others

- Dear Duty team week 19:
- Thank you for all participants. Please see feedback from services week 19
- Good point
- On scene follow and understand PIP (MIS-03-05-0008)
  - Good communication MTS, OSC, Band team and Medical team
  - All OMS report has been released to cover an update
  - If Press Release has been released by Duty manager
  - Medical team is quick response
- Opportunity to develop
- Duty manager Monitor the vigilance
  - Incident pattern, Warning, warning should be monitoring 1
  - Developing fire Emergency cases to ICS system
- Any comment is welcome  
Regards,  
Siripong

# Emergency Exercise Level 2 at Diesel Tank Apr 2024

## Emergency Exercise Level 2 at Jul 2024

## Building Evacuation Exercise in 2024

# Oil Spill Exercise in 2024

22 มีนาคม 2567 ครั้งที่ 1

## Fire Protection Inspection, Maintenance, Testing Plan 2024

SCHEDULE SERVICE AND MAINTENANCE 2024

PROJECT: STAR PETROLEUM REFINING (M= Monthly, Semi = Semi Annually, A = Annually, T = Test)

Items	Amount	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Quarterly # 1	2500	PD PN											
Quarterly # 2	2500				PD PN								
Quarterly # 3	2500							PD PN					
Quarterly # 4	2500										PD PN		
Semi Annual													
Pre action System ( CCB )	1	M	M	M + Semi	M	M	M	M	M	M + Semi	M	M	M
FM-200 Fixed System ( FAR )	1	M	M	M	M + Semi	M	M	M	M	M	M + Semi	M	M
CO2 Fixed System	6	M	M + Semi	M	M	M	M	M	M + Semi	M	M	M	M
Fire Water Flushing Point	2	M	M + Semi	M	M	M	M	M	M + Semi	M	M	M	M
Automatic Sprinkler	9	M	M + Semi	M	M	M	M	M	M + Semi	M	M	M	M
Foam water sprinkler system	2	M	M	M + Semi	M	M	M	M	M	M + Semi	M	M	M
Water Spray System	35	M	M + Semi	M	M	M	M	M	M + Semi	M	M	M	M
Annually													
Portable Fire extinguisher ( Cartridge + CO2)	965	M	M + A	M	M	M	M	M	M	M	M	M	M
Wheel Dry Chemical	55	M	M + A	M	M	M	M	M	M	M	M	M	M
Hydrant	277	M	M	M	M	M	M + A	M	M	M	M	M	M
Fixed Monitor	116	M	M	M	M	M	M + A + T	M	M	M	M	M	M
Block Valve	148	M	M	M	M	M	M + A	M	M	M	M	M	M
One Man Foam	9	M	M	M	M	M	M + A	M	M	M	M	M	M
Mobile Ground Monitor	11	M	M	M	M	M	M + A	M	M	M	M	M	M
Big Monitor (Big Gun)	2	M	M	M	M	M + A	M	M	M	M	M	M	M
Semi Fixed Foam Connections	42	M	M	M	M	M + A	M	M	M	M	M	M	M
Fire Hose & Supply hose	492	M	M	M	M	M + A + T	M	M	M	M	M	M	M
Fire Hose Reel	55	M	M	M	M	M + A	M	M	M	M	M	M	M
Water Spray System	35	M	M	M	M	M	M	M	M + A + T	M	M	M	M
Fire Pump : performance Test	6	M	M	M	M	M	M + A	M	M	M	M	M	M
Fire Truck : performance test	2	M	M	M	M	FS	M	M	M	M	M	M	M
SCBA and Air Line	90	M	M	M	M	M	M	M + A	M	M	M	M	M
Fire Hose Cabinet	31	M	M	M	M	M	M + A	M	M	M	M	M	M
Fire Hose Rack	4	M	M	M	M	M	M + A	M	M	M	M	M	M
Eye Shower	93	M	M	M	M	M	M	M + A	M	M	M	M	M
Foam Cart	26	M	M	M + A	M	M	M	M	M	M	M	M	M



# Fire Protection Equipment/System Inspection, Maintenance, Testing Plan 2024





## บริษัท เอส ซี แมเนจเม้นท์ จำกัด SC MANAGEMENT CO.,LTD.

สำนักงานใหญ่ : 88 ถนนเคอเพอร์ตันแลนด์ แขวงบางนาเหนือ เขตบางนา กรุงเทพฯ 10260 โทร. 0-2341-9000, 0-2341-9900 โทรสาร. 0-2341-9984  
Head Office : 88 The Parkland Rd., Bangna Nuca, Bangna, Bangkok 10260, Thailand. Tel. (662) 341-9000, (662) 341-9900 Fax. (662) 341-9984

www.scgroupthai.com



### FIRE & OIL SPILL DRILLS REPORT

Date: 27<sup>th</sup> Feb 2024

Ship's name: M.V RS38

Working Place: SPM Buoy

Scope of Work: Rayong Oil Spill Exercises

There was oil spill drill report below

#### Feb 27<sup>th</sup> 2024

- 07:30 Hrs. Departure from MIT wharf heading to SPM terminal.
- 09:00 Hrs. Arrival at the SPM area. Patrol around ISO danger buoy, special mark buoy, racon buoy.
- 09:30 Hrs. Tug boat "RS38" drifting, exercise and testing OSR Equipment
- 09:30 - 10:00 Hrs. Spray boom was tested port and STBD side.
- 10:00 - 10:30 Hrs. Afedo was tested at forward station
- 09:30 – 10:30 Hrs. "The Governor" of Rayong Province and his team arrived on a speedboat to inspect the SPM buoy.
- 10:30 Hrs. OSRE drill and operation test done found satisfactory.
- 11:00 Hrs. Drop anchor.
- 11:30 Hrs. RS38 handed over from U-RAYONG & standby at SPM buoy.

All device were in good condition and ready to used. Our crews are familiarized for their duties and ready for emergency response.

#### Oil spill drill at the SPM terminal

The OSRE were in good condition. Certify the above report are corrected and true.

(Capt.Sanchai Soonsinpai)  
Marine Superintendent Fleet A1



## บริษัท เอส ซี แมเนจเม้นท์ จำกัด SC MANAGEMENT CO.,LTD.

สำนักงานใหญ่ : 88 ถนนเคอเพอร์ตันแลนด์ แขวงบางนาเหนือ เขตบางนา กรุงเทพฯ 10260 โทร. 0-2341-9000, 0-2341-9900 โทรสาร. 0-2341-9984  
Head Office : 88 The Parkland Rd., Bangna Nuca, Bangna, Bangkok 10260, Thailand. Tel. (662) 341-9000, (662) 341-9900 Fax. (662) 341-9984

www.scgroupthai.com



### PICTURES DRILL REPORT

Date: 27<sup>th</sup> Feb 2024

Ship's name: M.V RS38

- Spray boom was tested port and STBD side.



- Afedo was tested at forward station.



"The Governor" inspect the SPM buoy



(Capt.Sanchai Soonsinpai)  
Marine Superintendent Fleet A1



บริษัท เอส ซี แมเนจเม้นท์ จำกัด  
SC MANAGEMENT CO.,LTD.

สำนักงานใหญ่ : 88 ถนนตะนาวรัตนบุรี แขวงบางนาเหนือ เขตบางนา กรุงเทพมหานคร 10260 โทร. 0-2341-9000 โทรสาร. 0-2341-9001  
Head Office : 88 The Parkland Rd., Bangna Nuca, Bangna, Bangkok 10260, Thailand. Tel. (662) 341-9000 Fax. (662) 341-9001



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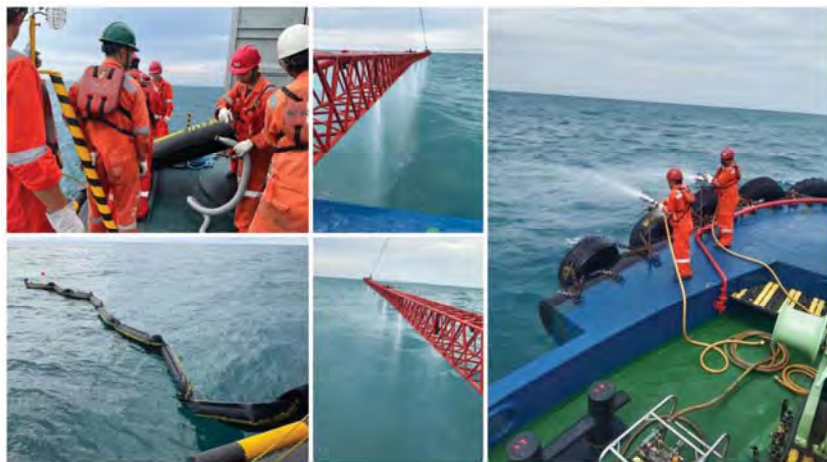
## FIRE AND OIL SPILL DRILLS REPORT

Ship's name: M.V. RS38  
Working Place: SPM terminal  
Scope of Work: Vigilance at SPM terminal instead of M.V. Uniwise Rayong

We trust that during above voyage, our tug boat left from the tug base and sailed to the SPM terminal in order for vigilance at SPM terminal instead of M.V. Uniwise Rayong. At this moment, RS38 tested oil spill response equipment also. Finally, our tug boat came back to the tug base. There was tug movement as report below:

May 29, 2024

09:00 – 10:00 Hrs: Heaving the anchor up for oil spill response exercises at the SPM terminal



All firefighting appliances, oil spill dispersant sprayer and booms were in good condition.  
This drill considered satisfactory to the master and our company.  
Certify the above mentions are corrected and true.

(Mr. Prachya Plainsirichai)

Marine Operation Division Manager

ภาคผนวก ข.23

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การตรวจสอบภาพพนักงาน ประจำปี พ.ศ.2566



ที่ HPC 433/2566

ศูนย์ส่งเสริมสุขภาพและอาชีวเวชศาสตร์

1 ธันวาคม 2566

เรียน ผู้จัดการฝ่ายทรัพยากรบุคคล

บริษัท สดาร์ บีโตร์เลียม รีไฟน์นิ่ง จำกัด (มหาชน)

หนังสือฉบับนี้จัดทำขึ้นเพื่อรับรองว่า บริษัท สดาร์ บีโตร์เลียม รีไฟน์นิ่ง จำกัด (มหาชน) ได้ทำการตรวจสอบสุขภาพพนักงานประจำปี 2566 ในวันที่ 24 สิงหาคม 2566 ถึง วันที่ 15 พฤศจิกายน 2566 ซึ่งมีรายชื่อพนักงานเข้ารับการตรวจสอบสุขภาพ จำนวน 327 คน กระทำการตรวจสอบสุขภาพโดยศูนย์ส่งเสริมสุขภาพและอาชีวเวชศาสตร์ โรงพยาบาลกรุงเทพระยอง ตามใบอนุญาตให้ดำเนินการสถานพยาบาลเลขที่ ค.10201002057 และใบอนุญาตให้ประกอบกิจการใบอนุญาตเลขที่ 10201002657 ดำเนินการ โดย บริษัท โรงพยาบาลกรุงเทพระยอง จำกัด ได้ทำการสรุปผลและรวบรวมผลการตรวจสอบสุขภาพประจำปีไว้เป็นที่เรียบร้อยแล้ว และขอรับรองผลการตรวจสอบสุขภาพว่าเป็นไปตามข้อกำหนดกฎกระทรวงในเรื่องมาตรฐานในการบริการ และการจัดการด้านความปลอดภัยอาชีวอนามัย และสิ่งแวดล้อม และมาตรฐานด้านวิชาการทุกประการ

จึงเรียนมาเพื่อทราบ และขอขอบคุณมา ณ โอกาสนี้

ขอแสดงความนับถือ



(นายแพทย์สิทธิ สอนันตะ)

แพทย์อาชีวเวชศาสตร์ โรงพยาบาลกรุงเทพระยอง

นส. ฐน

(คุณพัชรินทร์ อุดสาประคินธุ์)

ผู้ช่วยผู้จัดการฝ่าย PCG 3

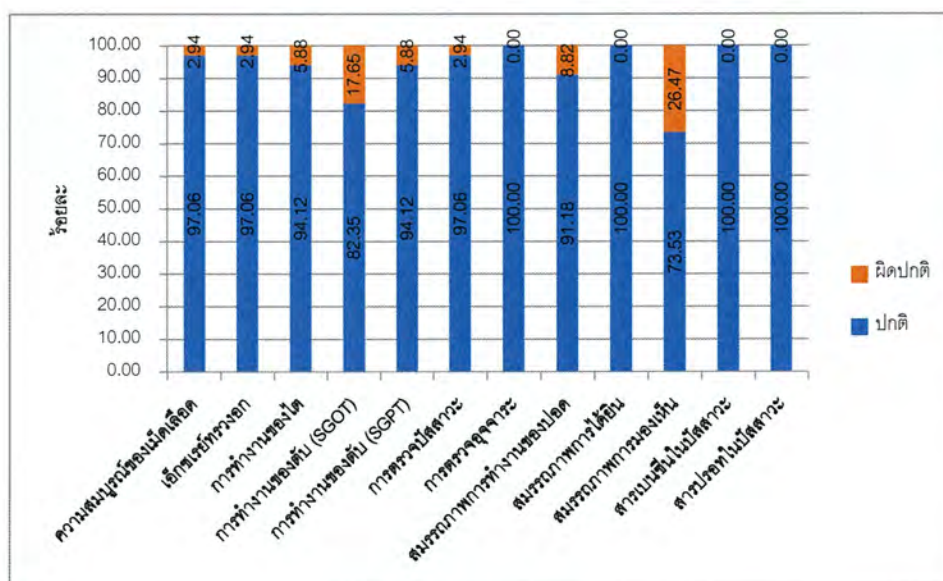
หากมีข้อสงสัยหรือต้องการรายละเอียดเพิ่มเติม

ศูนย์ส่งเสริมสุขภาพและอาชีวเวชศาสตร์ โทร. (038) 921999 ต่อ 1821

FAX : (038) 921999 ต่อ 1823

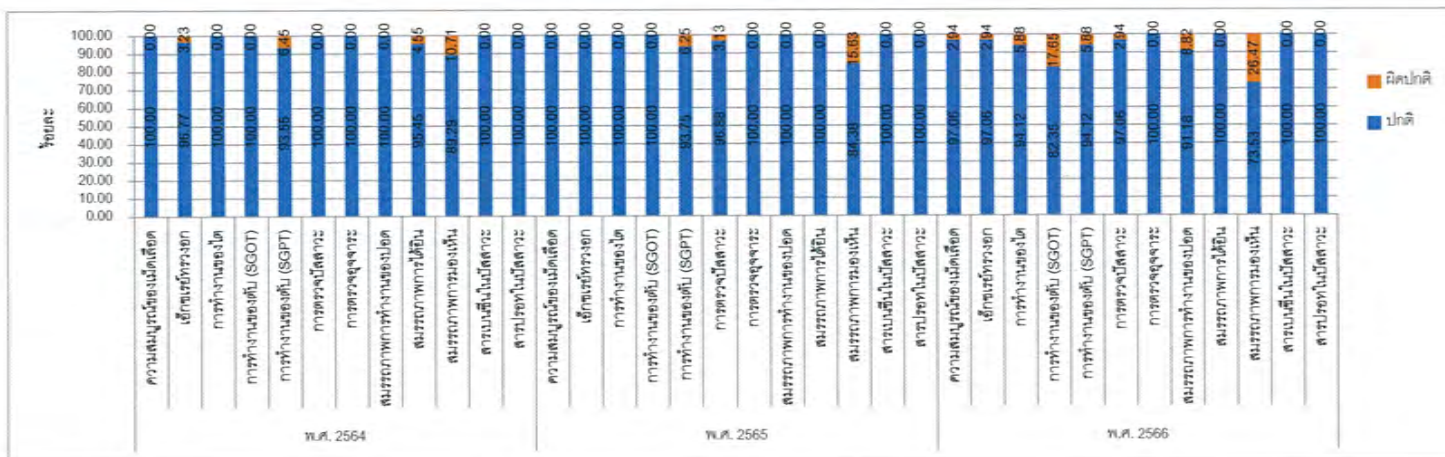
สถิติผลการตรวจสุขภาพพนักงาน ประจำปี พ.ศ. 2566  
โครงการทำเทียบเรือ บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน)  
โดยโรงพยาบาลกรุงเทพระยอง

รายการตรวจ	พ.ศ. 2566				
	ผู้เข้ารับ การตรวจ	ปกติ	ผิดปกติ	ปกติ	ผิดปกติ
	(คน)	(คน)	(คน)	(ร้อยละ)	(ร้อยละ)
ความสมบูรณ์ของเม็ดเลือด	34	33	1	97.06	2.94
เอ็กซเรย์ทรวงอก	34	33	1	97.06	2.94
การทำงานของไต	34	32	2	94.12	5.88
การทำงานของตับ (SGOT)	34	28	6	82.35	17.65
การทำงานของตับ (SGPT)	34	32	2	94.12	5.88
การตรวจปัสสาวะ	34	33	1	97.06	2.94
การตรวจอุจจาระ	28	28	0	100.00	0.00
สมรรถภาพการทำงานของปอด	34	31	3	91.18	8.82
สมรรถภาพการได้ยิน	34	34	0	100.00	0.00
สมรรถภาพการมองเห็น	34	25	9	73.53	26.47
สารเบนซีนในปัสสาวะ	34	34	0	100.00	0.00
สารปรอทในปัสสาวะ	34	34	0	100.00	0.00



**สถิติผลการตรวจสอบสภาพพนักงาน ระหว่างปี พ.ศ. 2564-2566**  
**โครงการทำเทียบเรือ บริษัท สตรา ปีโครเลียม รีไฟน์นิง จำกัด (มหาชน)**

รายการตรวจ	พ.ศ. 2564					พ.ศ. 2565					พ.ศ. 2566				
	ผู้เข้ารับ การตรวจ	ปกติ	ผิดปกติ	ปกติ	ผิดปกติ	ผู้เข้ารับ การตรวจ	ปกติ	ผิดปกติ	ปกติ	ผิดปกติ	ผู้เข้ารับ การตรวจ	ปกติ	ผิดปกติ	ปกติ	ผิดปกติ
	(คน)	(คน)	(คน)	(ร้อยละ)	(ร้อยละ)	(คน)	(คน)	(คน)	(ร้อยละ)	(ร้อยละ)	(คน)	(คน)	(คน)	(ร้อยละ)	(ร้อยละ)
ความสมบูรณ์ของเม็ดเลือด	31	31	0	100.00	0.00	32	32	0	100.00	0.00	34	33	1	97.06	2.94
เอ็กซเรย์ทรวงอก	31	30	1	96.77	3.23	32	32	0	100.00	0.00	34	33	1	97.06	2.94
การทำงานของไต	31	31	0	100.00	0.00	32	32	0	100.00	0.00	34	32	2	94.12	5.88
การทำงานของตับ (SGOT)	31	31	0	100.00	0.00	32	32	0	100.00	0.00	34	28	6	82.35	17.65
การทำงานของตับ (SGPT)	31	29	2	93.55	6.45	32	30	2	93.75	6.25	34	32	2	94.12	5.88
การตรวจบัสสาวะ	31	31	0	100.00	0.00	32	31	1	96.88	3.13	34	33	1	97.06	2.94
การตรวจอุจจาระ	20	20	0	100.00	0.00	24	24	0	100.00	0.00	28	28	0	100.00	0.00
สมรรถภาพการทำงานของปอด	28	28	0	100.00	0.00	32	32	0	100.00	0.00	34	31	3	91.18	8.82
สมรรถภาพการได้ยิน	22	21	1	95.45	4.55	31	31	0	100.00	0.00	34	34	0	100.00	0.00
สมรรถภาพการมองเห็น	28	25	3	89.29	10.71	32	27	5	84.38	15.63	34	25	9	73.53	26.47
สารเบนซีนในปัสสาวะ	28	28	0	100.00	0.00	31	31	0	100.00	0.00	34	34	0	100.00	0.00
สารปรอทในปัสสาวะ	28	28	0	100.00	0.00	31	31	0	100.00	0.00	34	34	0	100.00	0.00



## ภาคผนวก ข.24

### กิจกรรมส่งเสริมสุขภาพและความปลอดภัย



กิจกรรมส่งเสริมความปลอดภัย

มกราคม – มิถุนายน 2567



*"One family ...  
fueling the future  
of Thailand"*

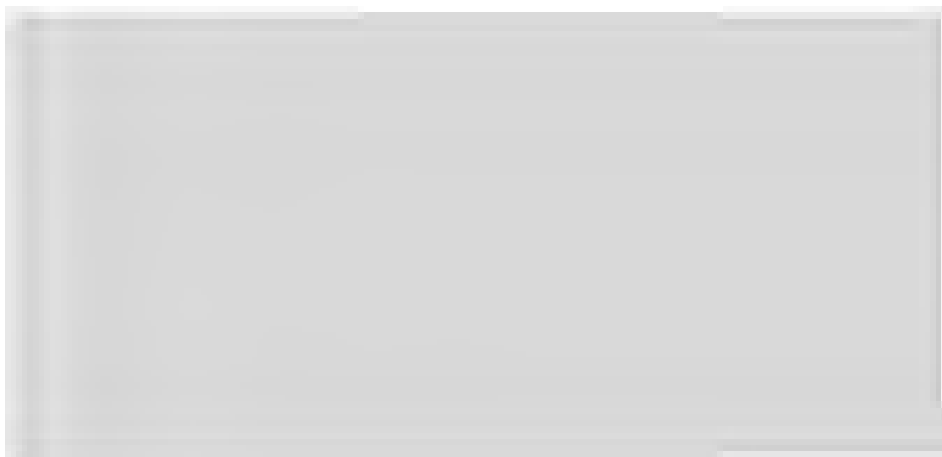
## กิจกรรมณรงค์ขับขีปลอดภัย Start Safe, Stay Safe

จัดกิจกรรมต้อนรับพนักงานและผู้รับเหมากลับมาทำงานหลังวันหยุดยาว  
เพื่อเน้นย้ำเรื่องการขับขีปลอดภัยก่อนเริ่มปฏิบัติงาน



## กิจกรรมณรงค์ขับขีปลอดภัย Care Life Drive Safe

จัดกิจกรรมให้พนักงานและผู้รับเหมาก่อนวันหยุดยาวช่วงสงกรานต์  
เพื่อเน้นย้ำเรื่องการขับขีปลอดภัย



## กิจกรรมทบทวนวัฒนธรรมความปลอดภัย

จัดกิจกรรมให้ผู้รับเหมาเพื่อทบทวนวัฒนธรรมความปลอดภัยและ  
แลกเปลี่ยนความรู้ด้านความปลอดภัย





## การตรวจวัดคุณภาพอาหารที่โรงอาหารเป็นประจำทุกเดือน



SPRC

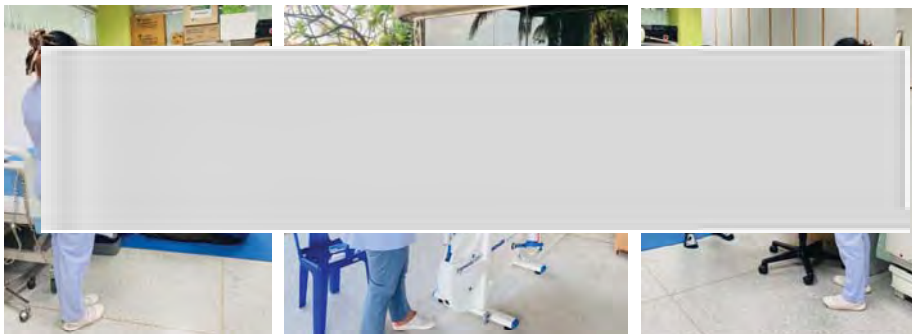
## การตรวจคุณภาพน้ำเป็นประจำเดือน



SPRC

## กิจกรรมส่งเสริมเรื่องสุขภาพ

ทำ Functional Capacity Evaluation เพื่อประเมินสุขภาพทีมดับเพลิง



SPRC

## กิจกรรมส่งเสริมเรื่องสุขภาพ

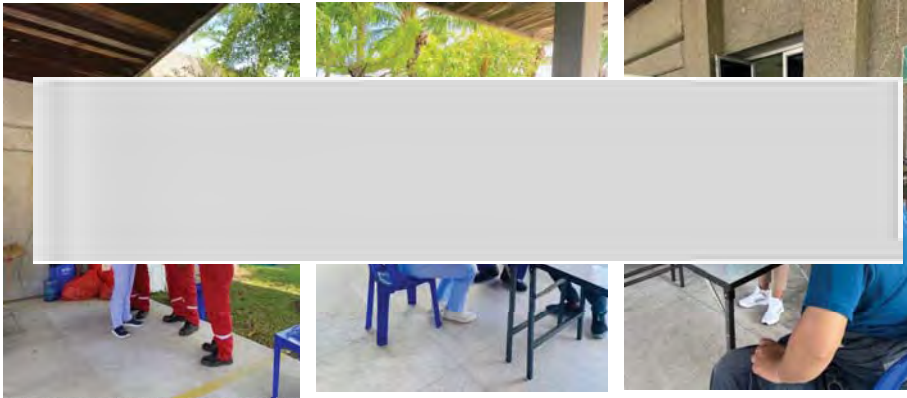
โครงการฉีดวัคซีนป้องกันไข้หวัดใหญ่ให้กับพนักงานและผู้รับเหมา



SPRC

## กิจกรรมส่งเสริมเรื่องสุขภาพ

ทำ Fit Test เพื่อประเมินความพร้อมสุขภาพที่การทำงานในกิจกรรมที่มีความเสี่ยงสูง  
เช่นการทำงานในที่อับอากาศ การทำงานที่สูง



## กิจกรรมส่งเสริมเรื่องสุขภาพ

โครงการ SPRC Get Fit Challenge 2024 เพื่อส่งเสริมให้พนักงานออกกำลังกายและรับประทานอาหารสุขภาพ



## กิจกรรมส่งเสริมเรื่องสุขภาพ

โครงการ SPRC Get Fit Challenge 2024 เพื่อส่งเสริมให้พนักงานออกกำลังกายและรับประทานอาหารสุขภาพ



## กิจกรรมส่งเสริมเรื่องสุขภาพ

โครงการกินถูกสัดส่วน 2:1:1 ลดพุง ลดโรค (Free Salad bar available at canteen) ฟรีสลัดและผลไม้เพื่อสุขภาพให้พนักงาน





## กิจกรรมส่งเสริมเรื่องสุขภาพ

จัดอบรม First Aid and CPR ให้กับพนักงานเพื่อทบทวนและฝึกการปฏิบัติช่วยเหลือชีวิต

**In-House Training: CPR & FIRST AID REFRESHER (DAY STAFF)**

OBJECTIVE: TO REFRESH AND ENHANCE AWARENESS ON PRINCIPLE AND PRACTICE OF CARDIOPULMONARY RESUSCITATION (CPR) AND FIRST AID FOR STAFF

NOTE: EXCLUDE SHIFT STAFF, ELECTRICAL TEAM, AND NEW STAFF FROM AUGUST 2023

VENUE: R-106 TRAINING ROOM  
INSTRUCTOR: KRU SUEA TEAM

Session	Date	Time
1	14 August 2024	08:00 - 11:30
2	14 August 2024	13:00 - 16:30
3	21 August 2024	08:00 - 11:30

Last Date of Registration: 31 July 2024  
Only 35 Seats/Session!

[Click Here](#)

#LearningSharingGrowingTogether

For more information  
7839 K Prapassorn B. (HR/23)  
7896 K Piyawan T. (HR/24)



## การตรวจวัดคุณภาพอากาศในสถานที่ทำงาน



## กิจกรรมรณรงค์ให้รายงานเหตุการณ์เฉียด (Near Miss)

SPRC ร่วมด้วยช่วยกันรายงาน  
เหตุการณ์เฉียด/เกือบเกิดอุบัติเหตุ (Near Miss)  
เพื่อป้องกันไม่ให้เกิดอุบัติเหตุเกิดขึ้น

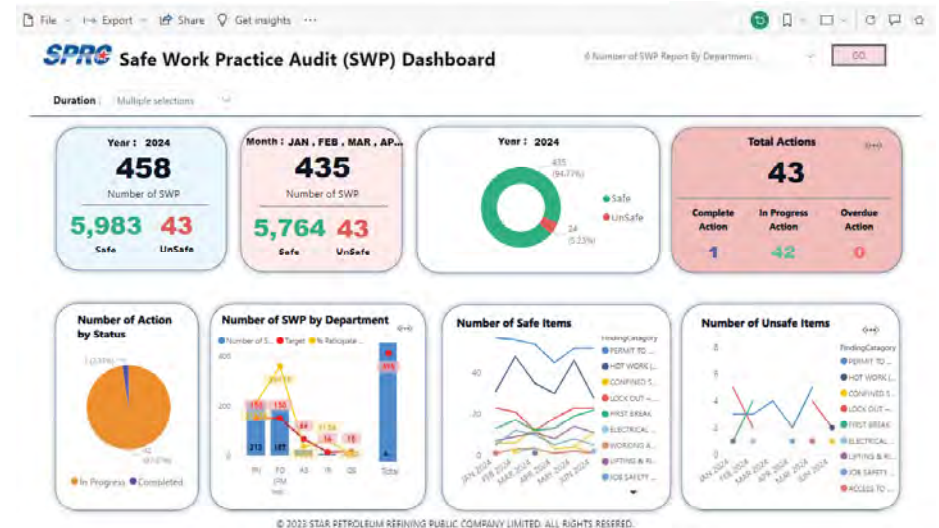
พบเห็น **Near Miss**  
ใช้รายงาน  
ง่าย ๆ แค่สแกน  
QR Code

รายงานไหนโดนใจ  
ลุ้นรับรางวัล ประจำเดือน

Let's report "Near Misses" to prevent "Incident."

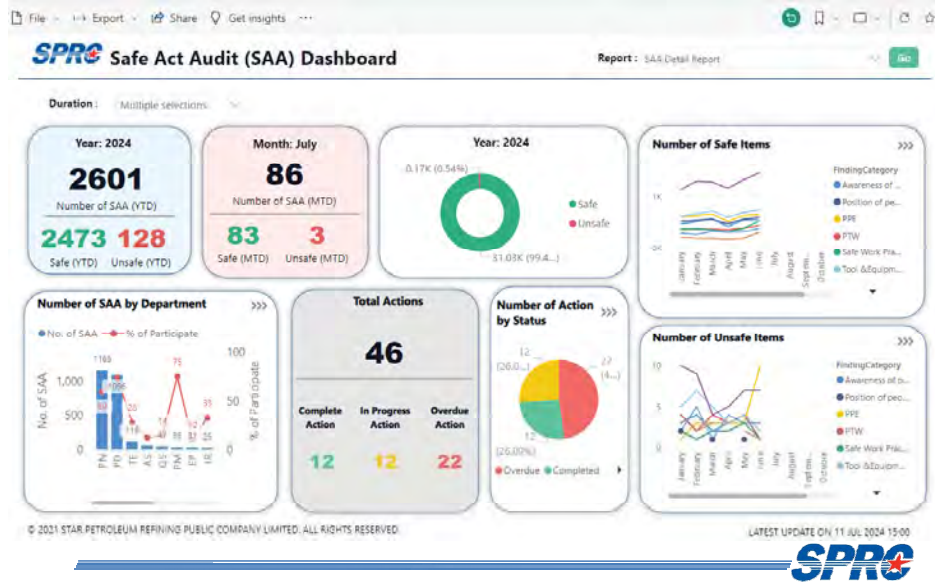


## การเดินตรวจความปลอดภัย (SWP Audit)

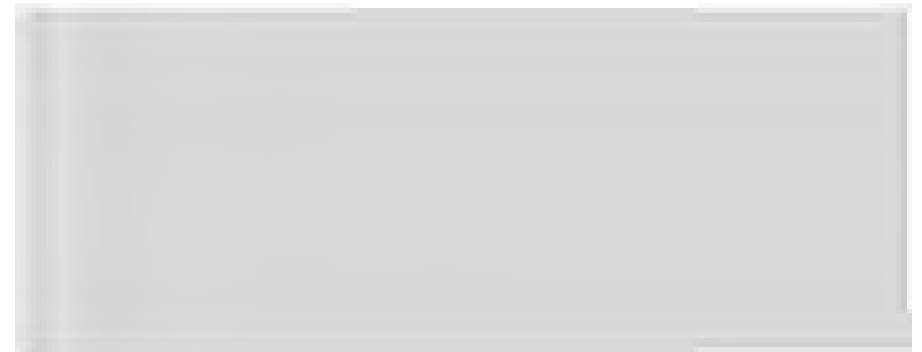




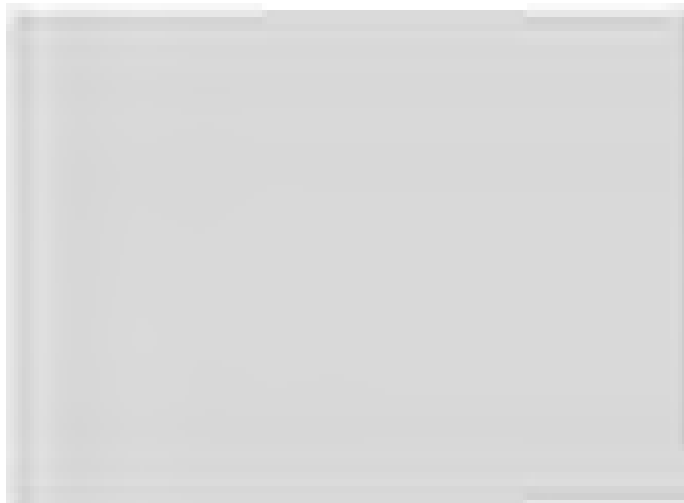
## การเดินตรวจความปลอดภัย (SWP Audit)



## การอบรมการควบคุมระบบใบอนุญาตการทำงานด้วยระบบอิเล็กทรอนิกส์ (e-PTW)



## กิจกรรม Tool Box Talk ประจำสัปดาห์



ภาคผนวก ข.25

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ขั้นตอนการปฏิบัติในการล้างท่อรับน้ำมันและ SPM  
ก่อนการซ่อมบำรุงระบบท่อ



**P-(R-MO-MR)-003**  
**Hose Flushing Procedure**  
**Using SPM Maintenance Boat**

Approved by: Suthep Grinchon  
VP- Movement and Dispatching

### Distribution List

Copy No.	Controller/Holder	Location
01	Quality Management (Q-QM-QU)	Intranet

## Amendment List

[illegible]



## Table of Contents

	Page
<b>1. INTRODUCTION</b> .....	<b>1</b>
1.1 Purpose.....	1
1.2 Notes, Cautions, and Warnings.....	1
<b>2. WATER FLUSHING PROCEDURE</b> .....	<b>2</b>
2.1 Preparation Prior to Tanker completing cargo discharge operations. ....	2
<b>3. FLUSHING PROCEDURE</b> .....	<b>3</b>
3.1 For flushing seawater with diving operations. ....	3
3.2 For flushing seawater without diving operations. ....	4



## 1. Introduction

### 1.1 Purpose

This procedure provides the necessary information to carry out a seawater flush of the surface and sub sea hose strings using SPM Maintenance boat pumps. Only seawater will remain in the hoses prior to disconnection for maintenance.

### 1.2 Notes, Cautions, and Warnings

This procedure uses the following symbols to draw the Operator's attention to the steps in the procedure that are particularly important or may lead to safety hazards if done incorrectly.



**NOTE:** General information useful to understand a particular step in the procedure.



**CAUTION:** A step that, if done incorrectly, could cause a safety hazard leading to personal injury, equipment or environmental damage, or a delay.



**WARNING:** A step that, if done incorrectly, could cause a serious safety hazard leading to death, serious personal injury, major equipment damage, fire or a large environmental release.

## 2. Seawater Flushing Procedure

To ensure there is no oil pollution or environmental impact when the hose string is disconnected for changing hoses and maintenance of hose ancillary equipment.

### 2.1 Preparation Prior to Tanker completing cargo discharge operations.



**CAUTION:** A step that, if done incorrectly, could cause a safety hazard leading to personal injury, equipment or environmental damage, or a delay.

#### 2.1.1 For flushing seawater with diving operations.

2.1.1.1 The SPM Maintenance Boat deck to be cleared of obstructions.

2.1.1.2 Prepare Permit to Work for Hoses flushing operation and diving operation.

2.1.1.3 Sufficient VHF handsets to be available for communications between SPM, Dive control and SPM Maintenance Boat

#### 2.1.2 For flushing seawater without diving operations.

2.1.2.1 SPM Maintenance Boat deck to be cleared of obstructions.

2.1.2.2 Prepare Permit to Work for Hoses flushing operation.

2.1.2.3 Sufficient VHF handsets to be available for communications between SPM and SPM Maintenance Boat

## 3. Flushing Procedure

On completion of Tanker discharging operations and tanker was un-berthing and clear from the SPM

### 3.1 For flushing seawater with diving operations.

3.1.1 The SPM Maintenance Boat anchor and moor to SPM. Deck port string and deck starboard string. End of starboard string on deck, set up for flushing flange.

3.1.2 During this time the shore tank which is to receive the oil from the flush should be measured so that an accurate estimate can be made on completion of the seawater used in the flush.

3.1.3 Divers to prepare for diving operations i.e. to close PLEM valves.

3.1.4 Close port string butterfly valve and open starboard string butterfly valve ( at the hose end on SPM Maintenance Boat )

3.1.5 Commence pumping Clean Seawater, from the SPM Maintenance Boat FIFI system down the Starboard hose string. SPM Maintenance Boat to pump at 10 bar (10.2 kg). Estimated quantity pumped = 700 m3. **During this time the diver is to open the Pigging valve No.6 and Crossover valve No.4 for 2 minutes and then close both valves.**

Diver to commence closing 24 inch PLEM valve No 7, prior to stopping pumping from SPM Maintenance Boat.



**CAUTION:** When commencing to close PLEM valve, while still pumping, ensure SPM pressure gauge reading does not increase above 10 bar (10.2 kg).

3.1.6 SPM Maintenance Boat to stop pumping to enable divers to fully close PLEM valve No 7.


3.1.7 Close Starboard string butterfly valve and Open Port string butterfly valve on deck of the SPM Maintenance Boat.

3.1.8 Repeat the procedure for flushing the Port hose string. Pigging line No.3 will be opened for 2 minutes and then closed. **(DO NOT open Cross over valve No.4)** Closing PLEM valve No. 2 on completion. Estimated quantity pumped = 700 m3

3.1.9 Divers to confirm that both PLEM valves are closed.



**WARNING:** Leaving a PLEM valve open could result in a release of oil when the PLEM hose connections are unbolted.

- 3.1.10 Divers to open 10 inch cross over valve No 4, between 24 inch branch lines.
- 3.1.11 Open both butterfly valves for port & starboard hose string (On the deck of SPM Maintenance Boat)
- 3.1.12 Using FiFi system on The SPM Maintenance Boat flush clean seawater down port string and back to the starboard string via PLEM 10" cross over and discharge to Iso tank on deck of SPM Maintenance Boat for checking whether have oil or not. In case no oil contents, Stop pumping.
- 3.1.13 Close both SPM moon pool 24" valves and both SPM deck 24" valves.
-  **NOTE:** The following additional flush may be done.
- 3.1.14 Open SPM deck 10" cross over valve. Close port & starboard 24" SPM deck valve.
- 3.1.15 Using FiFi system on SPM Maintenance Boat flush clean seawater down port string and back to Starboard string via deck 10" cross over and discharge to ISO tank.
- 3.1.16 Take sample of returning seawater at ISO tank to ensure there is no oil content.
- 3.1.17 Stop pumping. Reduce the SPM Maintenance Boat and SPM pressure to zero.
- 3.1.18 Close SPM deck 10" cross over.
- 3.1.19 The shore tank which has received the crude during the flushing, can now be measured and the quantity of the flush received into the tank calculated.

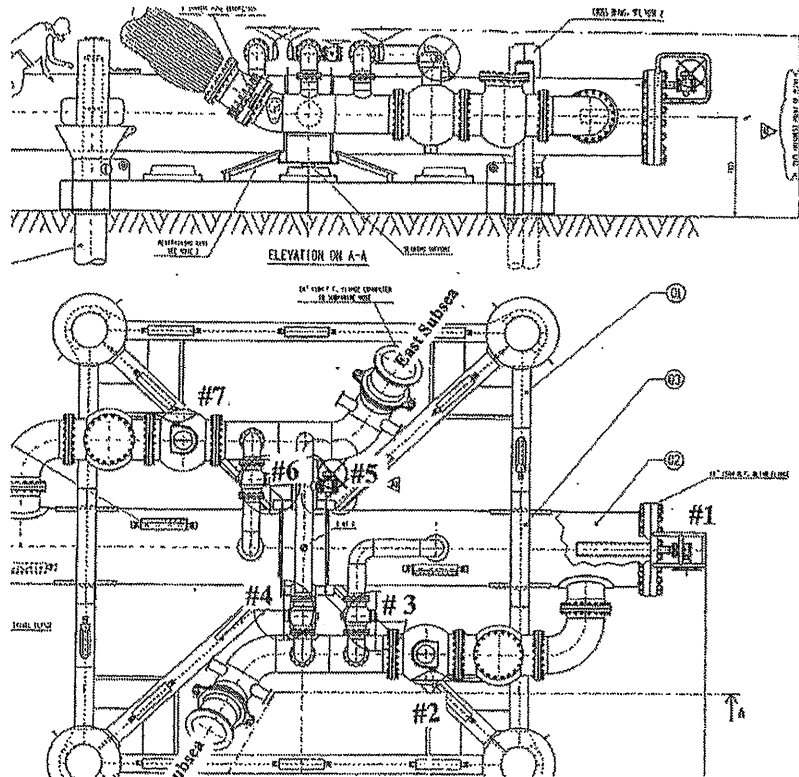
## 3.2 For flushing seawater without diving operations.

- 3.2.1 SPM Maintenance Boat anchor and moor to SPM. Deck port string and deck starboard string. End of port & starboard string on deck, set up for flushing flange.

- 3.2.2 The shore tank which is to receive the oil from the flush should be measured so that an accurate estimate can be made on completion of the seawater used in the flush.
- 3.2.3 Close port string butterfly valve and open starboard string butterfly valve ( at the hose end on SPM Maintenance Boat )
- 3.2.4 Commence pumping Clean Seawater, from the SPM Maintenance Boat FiFi system, down the Starboard hose string. SPM Maintenance Boat to pump at 10 bar. Estimated quantity pumped = 700 m3.
- 3.2.5 Take sample of the seawater on SPM ( for starboard string )to confirm that no oil contents before stop pumping. Stop pumping.
- 3.2.6 Close starboard string butterfly valve and open port string butterfly valve.
- 3.2.7 Pumping clean seawater from the SPM Maintenance Boat FiFi system down the port string. SPM Maintenance Boat to pump at 10 bar (10.2 kg). Estimate quantity pumped = 700 m3.
- 3.2.8 Take sample of the water on SPM ( for port string )to confirm that no oil contents before stop pumping. Stop pumping.

 **NOTE:** The following additional flush may be done.

- 3.2.9 Open SPM deck 10" crossover valve. Close port & starboard 24" SPM deck valve.
- 3.2.10 Using FiFi system on SPM Maintenance Boat flush clean seawater down port string and back to starboard string via deck 10" cross over and discharge to Iso tank.
- 3.2.11 Take sample of returning water at Iso tank to ensure there is no oil content.
- 3.2.12 Stop pumping. Reduce SPM Maintenance Boat & SPM pressure to zero.
- 3.2.13 Close SPM deck 10" cross over.
- 3.2.14 The shore tank which has received the crude during the flushing, can now be ullaged and the quantity of the flush received into the tank calculated.




ภาคผนวก ข.26

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การตรวจสอบอุปกรณ์การสูบน้ำมันก่อนเรือขนส่งน้ำมันเข้าเทียบท่า



Movement/Dispatches		
 <b>Plant 66 Pre Berth Checklist</b>		
Prepared by:	Sawai Paena	Number: HC-FO-PD-6022
Approved by:	Opas Waiyasatja	Revision: 4.1
Low	Medium	High

### Pre-Berth Checklist

Vessel Name	NL-23
Date	17-Jun-2024 @ 0900 hrs.
Berth	Nc 5

Who	Step	Action	Check
<b>Detailed Activities</b>			
OP	1.	<b>Verify</b> Fire and Foam pumps are available and ready for service. <ul style="list-style-type: none"> <li>66G701 Electrical Fire Pump</li> <li>66G702 Diesel Engine Fire Pump</li> <li>66G704 Foam Pump</li> <li>67G117 Jockey pump</li> </ul>	<input checked="" type="checkbox"/>
OP	2.	<b>Verify</b> Fire equipment's are available and ready for immediately use. <ul style="list-style-type: none"> <li>Fire monitors are correctly set up</li> <li>Dry powder cart 150 lb</li> <li>International shore fire connection (Bolt, nut, gasget and corrosive check)</li> </ul>	<input checked="" type="checkbox"/>
OP	3.	<b>Verify</b> safety equipments are available and ready for use. <ul style="list-style-type: none"> <li>SCBA</li> <li>Life buoy</li> <li>Fixed Gas detectors. (Product pier Sub. and LPG pier)</li> </ul>	<input checked="" type="checkbox"/>
OP	4.	<b>Verify</b> shore access gangway in stowed position and no damage.	<input checked="" type="checkbox"/>
OP	5.	<b>Verify</b> berth fenders no damage for safe mooring.	<input checked="" type="checkbox"/>
OP	6.	<b>Verify</b> Loading arm and hydraulic system are ready for use. <ul style="list-style-type: none"> <li>Hydraulic oil level/Pump/Pressure/Leak</li> <li>Perform the loading arm function test, check Couplers and O-ring. (For Import/Export shipment)</li> </ul>	<input checked="" type="checkbox"/>

Revision No.: 4.1

Date: 20 August 2018

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HC-FO-PD-6022

Page 1 of 2

**SPRC**

Plant 66 Pre Berth Checklist

Low

Who	Step	Action	Check
OP	7.	<b>Verify</b> loading arm is emptied before connection.	<input checked="" type="checkbox"/>
OP	8.	<b>Verify</b> all vent and drain valves in metering skid are closed.	<input checked="" type="checkbox"/>
OP	9.	<b>Verify</b> injector systems are correctly line up and ready for use. <ul style="list-style-type: none"> <li>Orange dye</li> <li>Green dye</li> <li>Lubricity</li> <li>Marker</li> </ul>	<input checked="" type="checkbox"/>
<b>NOTE</b> Ensure loading arm drain point and branch line which on service for LSWR/Crude high pour-point are properly flush/drain after discharge completed that to prevent line plug.			
LM	10.	<b>Verify</b> ship vetting status in the Coaster suitability list.	<input checked="" type="checkbox"/>
<b>CAUTION</b> <b>FOR: New Vessel or First shipment in SPRC Marine terminal</b>			
LM	11.	<b>Verify</b> all ship documents as required for new vessel are available. <ul style="list-style-type: none"> <li>Ship particular</li> <li>Approved of ship's tank table calibration for old ship</li> <li>Pre-approval of ship's tank calibration for new ship</li> <li>(หนังสือขอทำการสอบเทียบปริมาณความจุของถังเรือ)</li> <li>ใบรับแจ้งเป็นคู่ขนส่งน้ำมันเชื้อเพลิง ตามมาตรา 12 ทวิ</li> <li>ใบอนุญาตใช้เรือของกรมเจ้าท่า (ทะเบียนเรือ)</li> </ul>	<input checked="" type="checkbox"/>
<b>Check By:</b>			
<b>END OF TASK</b>			


Revision No.: 4.1

Date: 20 August 2018

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Movement/Dispatches		
 <b>Plant 66 Pre Berth Checklist</b>		
Prepared by:	Sawai Paena	Number: HC-FO-PD-6022
Approved by:	Opas Waiyasatja	Revision: 4.1
Low	Medium	High

### Pre-Berth Checklist

Vessel Name	P. Patara Thida
Date	10-06-24
Berth	2

Who	Step	Action	Check
<b>Detailed Activities</b>			
OP	1.	<b>Verify</b> Fire and Foam pumps are available and ready for service. <ul style="list-style-type: none"> <li>66G701 Electrical Fire Pump</li> <li>66G702 Diesel Engine Fire Pump</li> <li>66G704 Foam Pump</li> <li>67G117 Jockey pump</li> </ul>	<input checked="" type="checkbox"/>
OP	2.	<b>Verify</b> Fire equipment's are available and ready for immediately use. <ul style="list-style-type: none"> <li>Fire monitors are correctly set up</li> <li>Dry powder cart 150 lb</li> <li>International shore fire connection (Bolt, nut, gasget and corrosive check)</li> </ul>	<input checked="" type="checkbox"/>
OP	3.	<b>Verify</b> safety equipments are available and ready for use. <ul style="list-style-type: none"> <li>SCBA</li> <li>Life buoy</li> <li>Fixed Gas detectors. (Product pier Sub. and LPG pier)</li> </ul>	<input checked="" type="checkbox"/>
OP	4.	<b>Verify</b> shore access gangway in stowed position and no damage.	<input checked="" type="checkbox"/>
OP	5.	<b>Verify</b> berth fenders no damage for safe mooring.	<input checked="" type="checkbox"/>
OP	6.	<b>Verify</b> Loading arm and hydraulic system are ready for use. <ul style="list-style-type: none"> <li>Hydraulic oil level/Pump/Pressure/Leak</li> <li>Perform the loading arm function test, check Couplers and O-ring. (For Import/Export shipment)</li> </ul>	<input checked="" type="checkbox"/>



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HC-FO-PD-6022

Date: 20 August 2018

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SPRC		Plant 66 Pre Berth Checklist	Low
Who	Step	Action	Check
OP	7.	<b>Verify</b> loading arm is emptied before connection.	<input checked="" type="checkbox"/>
OP	8.	<b>Verify</b> all vent and drain valves in metering skid are closed.	<input checked="" type="checkbox"/>
OP	9.	<b>Verify</b> injector systems are correctly line up and ready for use. <ul style="list-style-type: none"> <li>Orange dye ✓</li> <li>Green dye ✓</li> <li>Lubricity</li> <li>Marker</li> </ul>	<input checked="" type="checkbox"/>
		<b>NOTE</b> Ensure loading arm drain point and branch line which on service for LSWR/Crude high pour-point are properly flush/drain after discharge completed that to prevent line plug.	
LM	10.	<b>Verify</b> ship vetting status in the Coaster suitability list.	<input checked="" type="checkbox"/>
		<b>CAUTION FOR: New Vessel or First shipment in SPRC Marine terminal</b>	
LM	11.	<b>Verify</b> all ship documents as required for new vessel are available. <ul style="list-style-type: none"> <li>Ship particular</li> <li>Approved of ship's tank table calibration for old ship</li> <li>Pre-approval of ship's tank calibration for new ship (หนังสือขอทำการสอบเทียบปริมาณความจุของถังเรือ)</li> <li>ใบรับแจ้งเป็นผู้ขนส่งน้ำมันเชื้อเพลิง ตามมาตรา 12 ทวิ</li> <li>ใบอนุญาตใช้เรือของกรมเจ้าท่า (ทะเบียนเรือ)</li> </ul>	<input checked="" type="checkbox"/>
<b>Check By:</b>			
<b>END OF TASK</b>			

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Date: 20 August 2018


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ภาคผนวก ข.27

คู่มือการขนถ่ายน้ำมันดิบ



Movement/Dispatches			
 <b>Plant 60 Crude Oil Import via SPM</b>			
Prepared by:	Sarayut Jantima	Number:	HC-WI-PD-5391
Approved by:	Nub Tunyasith	Revision:	5.1
Low		Medium	
		High	

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## Purpose

The purpose of this procedure is to be taken for safely crude unloading step and crude tank switching from SPM to SPRC.

## System Information

### Summary

This procedure is explain and instruction covers the operational steps for receiving crude oil import from SPM (Single Point Mooring) which can route to any of the 7 crude oil tanks of SPRC and also can route to PTTGC.

### Roles and Responsibility

Deviation from the procedure must be stopped and informed a line supervisor or line manager, concerned people for a solution prior to executing this procedure.

- DCS Operator**
  - Verify crude discharge plan
  - Compare the unloading outturn figure with ship and discharge plan
  - Prepare document for custom
  - Verify tank receiving volume hourly with DCS Marine
- Operator**
  - Verify cargo surveyor seal valves and tanks
  - Line up to nominated crude unloading tanks
  - Check leak during tank unloading
  - Prepare crude water drain off for no water present
  - Sample crude for lab analysis lab test report

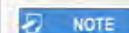
### Precautions



Crude oil contain the high H<sub>2</sub>S and Hg, inhalation may cause dizziness, headache and instantly fatal. PPE, organic respirator, mercury vapor cartridge and H<sub>2</sub>S monitor must require when working.



The last crude import tank shall leave crude import MOVs valve opened position to prevent crude import lines the thermal expansion.



Crude tank 60D103 - 60D107 allow to receive high pour point crude and demulsifier chemical injection.





Effective demulsifier chemical reaction with free water in crude requires temperature 38 - 40 degree C, then crude heat up shall operate crude oil and circulate via heater until get the temperature 38 - 40 degree C.



### Prerequisites

- Crude tank always de water every shift
- Create sample for LTR in the Star Lim system as method following;
  - ASTM D4007 - 81: Water & Sediment in Crude Oil by Centrifuge
  - ASTM D5002 - 13: Density at 15 degree C.

## Detailed Activities



Who	Step	Action		Check
1. Tank Preparation				
OP DCS	1.1	<b>Verify</b> the crude discharge plan for; <ul style="list-style-type: none"><li>◦ Crude tanker estimate time arrival (ETA)</li><li>◦ Nominated tank and lifting volume</li><li>◦ Crude type</li><li>◦ Cargo surveyor</li><li>◦ Tanker sample as per crude schedule requirement</li><li>◦ Special guide line for crude sample</li><li>◦ Special guide line for chemical injection</li></ul>		<input type="checkbox"/>
DCS	1.2	<b>Verify</b> reconstituted crude must be switched out to next nominated crude tank at least 24 Hrs.		<input type="checkbox"/>
<div> <b>WARNING</b></div> <p>Crude oil contain the high H<sub>2</sub>S and Hg, inhalation may cause dizziness, headache and instantly fatal. PPE, organic respirator, mercury vapor cartridge and H<sub>2</sub>S monitor must require when working.</p>				
OP	1.3	<b>Notify</b> helper operator to de water nominated crude tank until no water present.		<input type="checkbox"/>
DCS	1.4	<b>IF</b>	<b>THEN</b>	<input type="checkbox"/>
		Nominated crude tank can not completely de water before crude unloading 30 minutes.	<b>Notify</b> shift supervisor to consult with crude scheduler for LT approval, do not proceed to the next step until LT approved.	
 <b>NOTE</b>		Crude tank mixers must stop before tank open gauge at least 2 hrs.		
	1.5	<b>Notify to cargo surveyor witness for;</b>		
OP	1.5.1	<b>Verify</b> nominated crude tank no water represent.		<input type="checkbox"/>
OP	1.5.2	<b>Seal</b> all valves as nominated crude tank in discharge plan.		<input type="checkbox"/>
OP	1.5.3	<b>Collect</b> crude oil sampling.		<input type="checkbox"/>
END OF TASK				




Who	Step	Action	Check												
2. Sample analysis															
<div> <b>CAUTION</b></div> Crude oil contain the high H <sub>2</sub> S and Hg, inhalation may cause dizziness, headache and instantly fatal. PPE, organinc respirator, mercury vapor cartridge and H <sub>2</sub> S monitor must require when working.															
Crude tank require to sample for mass balance as sampling point level available.															
<table><tr><th>Sample point</th><th>Level (mm)</th><th>Amount (bottles)</th></tr><tr><td>Bottom</td><td>1,500 - 6,000</td><td>2</td></tr><tr><td>Middle</td><td>6,001 - 11,000</td><td>2</td></tr><tr><td>Top</td><td>Above 11,000</td><td>2</td></tr></table>				Sample point	Level (mm)	Amount (bottles)	Bottom	1,500 - 6,000	2	Middle	6,001 - 11,000	2	Top	Above 11,000	2
Sample point	Level (mm)	Amount (bottles)													
Bottom	1,500 - 6,000	2													
Middle	6,001 - 11,000	2													
Top	Above 11,000	2													
OP	2.1	Collect nominated crude tank sample to lab for analysis.	<input type="checkbox"/>												
<div> <b>CAUTION</b></div> Crude sample which contain H <sub>2</sub> S greater than 600 ppm shall not be admitted into the SPRC laboratory.															
SS	2.2	<table><tr><th>IF</th><th>THEN</th></tr><tr><td>Crude sample get H<sub>2</sub>S result greater than 600 ppm.</td><td>Consult with PD shift supervisor to delivery crude sample to Nalco laboratory.</td></tr></table>	IF	THEN	Crude sample get H <sub>2</sub> S result greater than 600 ppm.	Consult with PD shift supervisor to delivery crude sample to Nalco laboratory.	<input type="checkbox"/>								
IF	THEN														
Crude sample get H <sub>2</sub> S result greater than 600 ppm.	Consult with PD shift supervisor to delivery crude sample to Nalco laboratory.														
END OF TASK															



Who	Step	Action	Check																				
<b>3. Crude header preparation</b>																							
<b>3.1 SPRC/PTTGC line up</b>																							
<p>There is interlock defeat switch 01KSA013 to bypass the logic, normally it has to be in OFF position. The interlock defeat switch is only available for the site SPRC/PTTGC, which is currently holding the operation permission.</p> <table border="1"> <thead> <tr> <th colspan="4">NEW</th></tr> <tr> <th>open</th><th>MOV fault</th><th>Defeat switch (01KSA013)</th><th>keep close</th></tr> </thead> <tbody> <tr> <td>96HV001/002</td><td>96YA001/2 no</td><td>off</td><td>66HV001/002 96HV003/004</td></tr> <tr> <td>96HV003/004</td><td>96YA003/4 no</td><td>off</td><td>96HV001/002</td></tr> <tr> <td>66HV001/002</td><td>66YA001/2 no</td><td>off</td><td>96HV001/002</td></tr> </tbody> </table> <p>Incase 96HV001 and 96HV002 left open, the command to open 66HV001/66HV002 and 96HV003/96HV004 was not allowed.</p> <p>If 96YA001 and 96YA002 show faults, the interlock will keep the last action until 96YA001 and 96YA002 back to normal.</p> <p><b>Refer to HC-WI-TE-4525 Crude valve interlocking system</b></p>				NEW				open	MOV fault	Defeat switch (01KSA013)	keep close	96HV001/002	96YA001/2 no	off	66HV001/002 96HV003/004	96HV003/004	96YA003/4 no	off	96HV001/002	66HV001/002	66YA001/2 no	off	96HV001/002
NEW																							
open	MOV fault	Defeat switch (01KSA013)	keep close																				
96HV001/002	96YA001/2 no	off	66HV001/002 96HV003/004																				
96HV003/004	96YA003/4 no	off	96HV001/002																				
66HV001/002	66YA001/2 no	off	96HV001/002																				
DCS	3.1.1	<b>Verify</b> all valves in close position as following; <ul style="list-style-type: none"> <li>96HV003</li> <li>96HV004</li> <li>66HV001</li> <li>66HV002</li> </ul>	<input type="checkbox"/>																				
DCS	3.1.2	<b>Verify</b> DCS Marine open valves as following; <ul style="list-style-type: none"> <li>96HV001</li> <li>96HV002</li> </ul>	<input type="checkbox"/>																				


Who	Step	Action	Check
<b>3.2 PD tank farm line up</b>			
OP	3.2.1	<b>Verify</b> all valves in close position as following; <ul style="list-style-type: none"> <li>61BV003</li> <li>61BV004</li> </ul>	<input type="checkbox"/>
OP	3.2.2	<b>Verify</b> all valves in open position as following; <ul style="list-style-type: none"> <li>61BV002</li> <li>61HV060</li> </ul>	<input type="checkbox"/>
<b>END OF TASK</b>			

Who	Step	Action	Check
<b>4. Crude tank line up and switching</b>			
 <b>NOTE</b> Crude tank 60D103 - 60D107 allow to receive high pour point crude and demulsifier chemical injection.			
<b>4.1 60D101 Line Up</b>			
DCS	4.1.1	<b>Close</b> all valves as following; <ul style="list-style-type: none"> <li>60HV001</li> <li>60HV050</li> </ul>	<input type="checkbox"/>
DCS	4.1.2	<b>Print</b> Saab level 60D101 for open gauge	<input type="checkbox"/>
 <b>NOTE</b> Next crude unloading valve must open more than 80%, then close the last unloading valve, to prevent back pressure in crude unloading line.			
DCS	4.1.3	<b>Open</b> valve 60HV002 for crude unloading.	<input type="checkbox"/>
DCS	4.1.4	<b>Verify</b> all crude unloading valves in close position as following; <ul style="list-style-type: none"> <li>60HV004</li> <li>60HV017</li> <li>60HV019</li> <li>60HV033</li> <li>60HV035</li> <li>60HV880</li> </ul>	<input type="checkbox"/>


Who	Step	Action	Check
OP	4.1.5	<b>Verify</b> operator to place all valves in stop mode and seal valves by cargo surveyor as following; <ul style="list-style-type: none"> <li>60HV004</li> <li>60HV017</li> <li>60HV019</li> <li>60HV033</li> <li>60HV035</li> <li>60HV880</li> <li>60HV001</li> <li>60HV050</li> </ul>	<input type="checkbox"/>
<b>4.2 60D102 Line Up</b>			
DCS	4.2.1	<b>Close</b> all valves as following; <ul style="list-style-type: none"> <li>60HV003</li> <li>60HV053</li> </ul>	<input type="checkbox"/>
DCS	4.2.2	<b>Print</b> Saab level 60D102 for open gauge	<input type="checkbox"/>
 <b>NOTE</b> Next crude unloading valve must open more than 80%, then close the last unloading valve, to prevent back pressure in crude unloading line.			
DCS	4.2.3	<b>Open</b> valve 60HV004 for crude unloading	<input type="checkbox"/>
DCS	4.2.4	<b>Verify</b> all crude unloading valves in close position as following; <ul style="list-style-type: none"> <li>60HV002</li> <li>60HV017</li> <li>60HV019</li> <li>60HV033</li> <li>60HV035</li> <li>60HV880</li> </ul>	<input type="checkbox"/>
OP	4.2.5	<b>Verify</b> operator to place all valves in stop mode and seal valves by cargo surveyor as following; <ul style="list-style-type: none"> <li>60HV002</li> <li>60HV017</li> <li>60HV019</li> <li>60HV033</li> <li>60HV035</li> <li>60HV880</li> <li>60HV003</li> <li>60HV053</li> </ul>	<input type="checkbox"/>






Who	Step	Action	Check
<b>4.3 60D103 Line Up</b>			
DCS	4.3.1	<b>Close</b> all valves as following; <ul style="list-style-type: none"> <li>60HV016</li> <li>60HV020</li> <li>60HV058</li> </ul>	<input type="checkbox"/>
DCS	4.3.2	<b>Print</b> Saab level 60D103 for open gauge	<input type="checkbox"/>
 <b>NOTE</b> Next crude unloading valve must open more than 80%, then close the last unloading valve, to prevent back pressure in crude unloading line.			
DCS	4.3.3	<b>Open</b> valve 60HV017 for crude unloading	<input type="checkbox"/>
DCS	4.3.4	<b>Verify</b> all crude unloading valves in close position as following; <ul style="list-style-type: none"> <li>60HV002</li> <li>60HV004</li> <li>60HV019</li> <li>60HV033</li> <li>60HV035</li> <li>60HV880</li> </ul>	<input type="checkbox"/>
OP	4.3.5	<b>Verify</b> operator to place all valves in stop mode and seal valves by cargo surveyor as following; <ul style="list-style-type: none"> <li>60HV002</li> <li>60HV004</li> <li>60HV019</li> <li>60HV033</li> <li>60HV035</li> <li>60HV880</li> <li>60HV016</li> <li>60HV020</li> <li>60HV058</li> </ul>	<input type="checkbox"/>
<b>4.4 60D104 Line Up</b>			
DCS	4.4.1	<b>Close</b> all valves as following; <ul style="list-style-type: none"> <li>60HV018</li> <li>60HV021</li> <li>60HV061</li> </ul>	<input type="checkbox"/>
DCS	4.4.2	<b>Print</b> Saab level 60D104 for open gauge	<input type="checkbox"/>
 <b>NOTE</b> Next crude unloading valve must open more than 80%, then close the last unloading valve, to prevent back pressure in crude unloading line.			

Who	Step	Action	Check
DCS	4.4.3	<b>Open</b> valve 60HV019 for crude unloading	<input type="checkbox"/>
DCS	4.4.4	<b>Verify</b> all crude unloading valves in close position as following; <ul style="list-style-type: none"> <li>60HV002</li> <li>60HV004</li> <li>60HV017</li> <li>60HV033</li> <li>60HV035</li> <li>60HV880</li> </ul>	<input type="checkbox"/>
OP	4.4.5	<b>Verify</b> operator to place all valves in stop mode and seal valves by cargo surveyor as following; <ul style="list-style-type: none"> <li>60HV002</li> <li>60HV004</li> <li>60HV017</li> <li>60HV033</li> <li>60HV035</li> <li>60HV880</li> <li>60HV018</li> <li>60HV021</li> <li>60HV061</li> </ul>	<input type="checkbox"/>
<b>4.5 60D105 Line Up</b>			
DCS	4.5.1	<b>Close</b> all valves as following; <ul style="list-style-type: none"> <li>60HV036</li> <li>60HV032</li> <li>60HV066</li> </ul>	<input type="checkbox"/>
DCS	4.5.2	<b>Print</b> Saab level 60D105 for open gauge	<input type="checkbox"/>
 <b>NOTE</b> Next crude unloading valve must open more than 80%, then close the last unloading valve, to prevent back pressure in crude unloading line.			
DCS	4.5.3	<b>Open</b> valve 60HV033 for crude unloading	<input type="checkbox"/>
DCS	4.5.4	<b>Verify</b> all crude unloading valves in close position as following; <ul style="list-style-type: none"> <li>60HV002</li> <li>60HV004</li> <li>60HV017</li> <li>60HV019</li> <li>60HV035</li> <li>60HV880</li> </ul>	<input type="checkbox"/>




Who	Step	Action	Check
OP	4.5.5	<b>Verify</b> operator to place all valves in stop mode and seal valves by cargo surveyor as following; <ul style="list-style-type: none"> <li>60HV002</li> <li>60HV004</li> <li>60HV017</li> <li>60HV019</li> <li>60HV035</li> <li>60HV880</li> <li>60HV036</li> <li>60HV032</li> <li>60HV066</li> </ul>	<input type="checkbox"/>
<b>4.6 60D106 Line Up</b>			
DCS	4.6.1	<b>Close</b> all valves as following; <ul style="list-style-type: none"> <li>60HV034</li> <li>60HV037</li> <li>60HV068</li> </ul>	<input type="checkbox"/>
DCS	4.6.2	<b>Print</b> Saab level 60D106 for open gauge	<input type="checkbox"/>
 <b>NOTE</b> Next crude unloading valve must open more than 80%, then close the last unloading valve, to prevent back pressure in crude unloading line.			
DCS	4.6.3	<b>Open</b> valve 60HV035 for crude unloading	<input type="checkbox"/>
DCS	4.6.4	<b>Verify</b> all crude unloading valves in close position as following; <ul style="list-style-type: none"> <li>60HV002</li> <li>60HV004</li> <li>60HV017</li> <li>60HV019</li> <li>60HV033</li> <li>60HV880</li> </ul>	<input type="checkbox"/>
OP	4.6.5	<b>Verify</b> operator to place all valves in stop mode and seal valves by cargo surveyor as following; <ul style="list-style-type: none"> <li>60HV002</li> <li>60HV004</li> <li>60HV017</li> <li>60HV019</li> <li>60HV033</li> <li>60HV880</li> <li>60HV034</li> <li>60HV037</li> <li>60HV068</li> </ul>	<input type="checkbox"/>


Who	Step	Action	Check
<b>4.7 60D107 Line Up</b>			
DCS	4.7.1	<b>Close</b> all valves as following; <ul style="list-style-type: none"> <li>60HV860</li> <li>60HV881</li> <li>60HV883</li> </ul>	<input type="checkbox"/>
DCS	4.7.2	<b>Print</b> Saab level 60D107 for open gauge	<input type="checkbox"/>
 <b>NOTE</b> Next crude unloading valve must open more than 80%, then close the last unloading valve, to prevent back pressure in crude unloading line.			
DCS	4.7.3	<b>Open</b> valve 60HV880 for crude unloading	<input type="checkbox"/>
DCS	4.7.4	<b>Verify</b> all crude unloading valves in close position as following; <ul style="list-style-type: none"> <li>60HV002</li> <li>60HV004</li> <li>60HV017</li> <li>60HV019</li> <li>60HV033</li> <li>60HV035</li> </ul>	<input type="checkbox"/>
OP	4.7.5	<b>Verify</b> operator to place all valves in stop mode and seal valves by cargo surveyor as following; <ul style="list-style-type: none"> <li>60HV002</li> <li>60HV004</li> <li>60HV017</li> <li>60HV019</li> <li>60HV033</li> <li>60HV035</li> <li>60HV860</li> <li>60HV881</li> <li>60HV883</li> </ul>	<input type="checkbox"/>
<b>END OF TASK</b>			

Who	Step	Action	Check
<b>5. Receive SPM line flushing setting by program</b>			
 <b>NOTE</b> Crude oil line content from SPM to storage tank is 23,130 m <sup>3</sup> .			
 <b>NOTE</b> Require reduce flow rate 4,000m <sup>3</sup> /hr if remain left 5,000 m <sup>3</sup> by base on 96HV001, 96HV002 and 96HV003 closing time 420second (7 mins) then will be set to stand by and stop to minimize short/over within 1,000 BBL.			

Who	Step	Action	Check
<p>The SPM flush line step program that have alarm blink and buzzer then to action;</p> <p><b>NOTE</b></p> <ol style="list-style-type: none"> <li>1. Call SPM to stand by 30 mins and reduce rate to 4,000 m<sup>3</sup>/hr then If remain left 2,250 m<sup>3</sup></li> <li>2. Call SPM to stand by 15 mins If remain left 1,250 m<sup>3</sup></li> <li>3. Call SPM to stand by 5 mins If remain left 600 m<sup>3</sup></li> <li>4. Call SPM to stop discharge and close 96HV001, 96HV002, 96HV003 If remain left 200 m<sup>3</sup></li> </ol>			
DCS	5.1	Put the nominated crude tank number in "SPM FLUSH LINE " program step "1. Tank"	<input type="checkbox"/>
DCS	5.2	Select step "2. SPMFLUSH.SW" to "ON" mode.	<input type="checkbox"/>
DCS	5.3	Notify DCS Marine ready to SPM line flushing.	<input type="checkbox"/>
DCS	5.4	Go to step 9. Stop crude unloading setting by DCS.	<input type="checkbox"/>
END OF TASK			

Who	Step	Action	Check
6. Unloading activities			
DCS	6.1	Notify DCS Marine before crude discharge 1 hour	<input type="checkbox"/>
<div> <b>NOTE</b></div> <p>Some high pour point crude type get difficulty to separate free water from normal crude drain off, demulsifier chemical uses to improve crude de watering. Crude tank 60D103 - 60D107 allow to receive high pour point crude and demulsifier chemical injection.</p>			
DCS	6.2	<b>IF</b>	<input type="checkbox"/>
		<b>THEN</b>	
		The nominated tank receive that require to inject the Demulsifier as referred DOG1 and DOG 2,	Notify DCS Marine to prepare Demulsifier injection is ratio 10 ppm.
DCS	6.3	Compare the loading outturn figure hourly during discharge with ship and the crude tank receiving to DCS Marine.	<input type="checkbox"/>
DCS	6.4	<b>IF</b>	<input type="checkbox"/>
		<b>THEN</b>	
		Any significant of discrepancies loading outturn figure have to investigate,	Stop unloading and report to shift supervisor,



Who	Step	Action		Check
DCS	6.5	Notify DCS Marine and tank farm operator to commence discharge crude at initial flow rate 4,000 m <sup>3</sup> /hr for 30 minutes.		<input type="checkbox"/>
OP	6.6	Verify no leak and seeping from tank.		<input type="checkbox"/>
OP	6.7	Notify the conditions to DCS Tank Farm.		<input type="checkbox"/>
DCS	6.8	IF	THEN	<input type="checkbox"/>
		Demulsifier injecting,	Verify DCS Marine that Demulsifier injecting is ratio 10 ppm.	
DCS	6.9	Verify the crude correct in sequence order receiving tank.		<input type="checkbox"/>
DCS	6.10	Notify DCS Marine and tank farm operator to increase flow rate to 9,000 m <sup>3</sup> /hr		<input type="checkbox"/>
END OF TASK				


Who	Step	Action	Check
<b>7. Crude Oil filling/mixing</b>			
<p>The setting of auto stop mixer logic is designed to stop mixers when the level become low in the order to prevent build up of static electricity in tank.</p>			
<div> <b>NOTE</b></div> <p>The interlock inhibit operator to restart the crude mixers while condition is still lower than setting limit level is at 3,473 mm.</p> <p><b><u>Refer to HC-WI-TE-4560 Auto stop mixer logic</u></b></p>			
DCS	7.1	<b>IF</b>	<b>THEN</b>
		The crude tank unloading level reach to 3,473 mm,	<b>Start</b> crude tank mixers.
<div><input type="checkbox"/></div>			
<b>END OF TASK</b>			



Who	Step	Action		Check
8. SPRC crude tank switching				
DCS	8.1	IF	THEN	<input type="checkbox"/>
		Crude unloading is the end of step discharge plan.	Go to 9. Stop crude unloading setting by DCS	



Who	Step	Action		Check
DCS	8.2	IF	THEN	<input type="checkbox"/>
		Crude unloading plan switch to the next tank.	Go to the next step 8.3.	
DCS	8.3	Notify DCS Marine to stand by crude tank switching 30 minutes.		<input type="checkbox"/>
DCS	8.4	Notify DCS Marine to stand by 15 minutes and reduce flow rate to 4,000 m³/hr.		<input type="checkbox"/>
DCS	8.5	Verify ship reduce flow rate to 4,000 m³/hr by monitor flow 96FI001.		<input type="checkbox"/>
DCS	8.6	WHEN	THEN	<input type="checkbox"/>
		Flow 96FI001 reading below 4,000 m³/hr	Switch crude unloading to others tank can be go to the step 7.7.	
DCS	8.7	Switch and Line Up through; Step 4.1 60D101 Line Up, or Step 4.2 60D102 Line Up, or Step 4.3 60D103 Line Up, or Step 4.4 60D104 Line Up, or Step 4.5 60D105 Line Up, or Step 4.6 60D106 Line Up, or Step 4.7 60D107 Line Up		<input type="checkbox"/>
DCS	8.8	WHEN	THEN	<input type="checkbox"/>
		Crude tank switching tank complete.	Go to Step 6.6.	
END OF TASK				

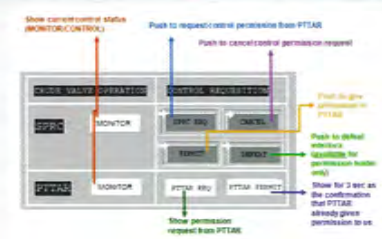
Who	Step	Action	Check
9. Stop crude unloading setting by DCS			
	NOTE	Crude oil line content from SPM to storage tank is 23,130 m <sup>3</sup> .	
	NOTE	DCS Tank Farm will notify to DCS Marine 30 minutes for decrease the crude unloading flow rate to minimum at 4,000 m <sup>3</sup> /hr before crude discharge completed.	
DCS	9.1	WHEN	THEN
		The crude remaining volume left to 2,250 m <sup>3</sup> .	<b>Notify</b> DCS Marine stand by 30 minutes and reduce flow rate to 4,000 m <sup>3</sup> /hr.
			<input type="checkbox"/>

Who	Step	Action		Check
DCS	9.2	IF	THEN	<input type="checkbox"/>
		Demulsifier injecting,	<b>Notify</b> DCS Marine to stop Demulsifier injection.	
DCS	9.3	WHEN	THEN	<input type="checkbox"/>
		The crude remaining volume left to 1,250 m <sup>3</sup> .	<b>Notify</b> DCS Marine stand by 15 minutes.	
DCS	9.4	WHEN	THEN	<input type="checkbox"/>
		The crude remaining volume left to 600 m <sup>3</sup> .	<b>Notify</b> DCS Marine stand by 5 minutes.	
DCS	9.5	WHEN	THEN	<input type="checkbox"/>
		The crude remaining volume left to 200 m <sup>3</sup> .	<b>Notify</b> DCS Marine stop crude unloading.	
DCS	9.6	<b>Verify</b> DCS Marine stop crude unloading and monitor; <ul style="list-style-type: none"><li>• 96FI001 crude unloading flow rate reading below 0 m<sup>3</sup>/hr or</li><li>• 96PI001 crude unloading pressure indicator reading below 0 kg/cm<sup>2</sup></li></ul>		<input type="checkbox"/>
 <b>CAUTION</b>		The last crude import tank shall leave crude import MOVs valve opened position to prevent crude import lines the thermal expansion.		
DCS	9.7	IF	THEN	<input type="checkbox"/>
		The crude unloading plan switch to PTTGC.	<b>Go to</b> 11.Crude switch SPRC to PTTGC	
END OF TASK				

Who	Step	Action		Check
10. Tank close gauge				
 NOTE		To support mass balance figure for whole tank temperature average then crude tank mixers shall continues mixing after crude tank finished unloading.		
OP DCS	10.1	Continue mixing at least 6 hrs after finished crude unloading.		<input type="checkbox"/>
DCS	10.2	WHEN	THEN	<input type="checkbox"/>
		Crude tank mixers mixing at least 6 hrs,	Print Saab level the nominated crude tank close gauging.	
 CAUTION		Crude oil contain the high H <sub>2</sub> S and Hg, inhalation may cause dizziness, headache and instantly fatal. PPE, organinc respirator, mercury vapor cartridge and H <sub>2</sub> S monitor must require when working.		

Who	Step	Action	Check
OP	10.3	<b>Notify</b> helper operator to de water nominated crude tank.	<input type="checkbox"/>
OP	10.4	<b>Verify</b> nominated crude tank no water represent.	<input type="checkbox"/>
OP	10.5	<b>Verify</b> no leak and seeping from tank.	<input type="checkbox"/>
OP	10.6	<b>Verify</b> condition to DCS Tank Farm.	<input type="checkbox"/>
<b>END OF TASK</b>			

Who	Step	Action	Check
<b>11. Crude switch SPRC to PTTGC</b>			
DCS	11.1	<b>Notify</b> PTTGC when SPRC crude discharge completed	<input type="checkbox"/>
DCS	11.2	<b>Verify</b> DCS Marine stop crude unloading to SPRC.	<input type="checkbox"/>
DCS	11.3	<b>Switch</b> crude unloading from SPRC to PTTGC.	<input type="checkbox"/>

Who	Step	Action	Check																																
 <p>There is interlock defeat switch 01KSA013 to bypass the logic, normally it has to be in OFF position. The interlock defeat switch is only available for the site SPRC/PTTGC, which is currently holding the operation permission.</p> <p><b>CAUTION</b></p> <table border="1"> <thead> <tr> <th colspan="4">NEW</th> </tr> <tr> <th>open</th> <th>MOV fault</th> <th>Defeat switch (01KSA013)</th> <th>keep close</th> </tr> </thead> <tbody> <tr> <td>96HV001/002</td> <td>96YA001/2</td> <td>off</td> <td>66HV001/002</td> </tr> <tr> <td></td> <td>no</td> <td></td> <td>96HV003/004</td> </tr> <tr> <td>96HV003/004</td> <td>96YA003/4</td> <td>off</td> <td>96HV001/002</td> </tr> <tr> <td></td> <td>no</td> <td></td> <td></td> </tr> <tr> <td>66HV001/002</td> <td>66YA001/2</td> <td>off</td> <td>96HV001/002</td> </tr> <tr> <td></td> <td>no</td> <td></td> <td></td> </tr> </tbody> </table> <p>Incase 96HV003 and 96HV004 left open, the command to open 96HV003/96HV004 was not allowed. If 96YA003 and 96YA004 show faults, the interlock will keep the last action until 96YA003 and 96YA004 back to normal.</p> <p><b>Refer to HC-WI-TE-4525 Crude valve interlocking system</b></p>				NEW				open	MOV fault	Defeat switch (01KSA013)	keep close	96HV001/002	96YA001/2	off	66HV001/002		no		96HV003/004	96HV003/004	96YA003/4	off	96HV001/002		no			66HV001/002	66YA001/2	off	96HV001/002		no		
NEW																																			
open	MOV fault	Defeat switch (01KSA013)	keep close																																
96HV001/002	96YA001/2	off	66HV001/002																																
	no		96HV003/004																																
96HV003/004	96YA003/4	off	96HV001/002																																
	no																																		
66HV001/002	66YA001/2	off	96HV001/002																																
	no																																		
DCS	11.3.1	<b>Verify</b> all valves in close position as following; <ul style="list-style-type: none"> <li>96HV001</li> <li>96HV002</li> </ul>	<input type="checkbox"/>																																
DCS	11.3.2	<b>Verify</b> DCS Marine open valve as following; <ul style="list-style-type: none"> <li>96HV003</li> <li>96HV004</li> </ul>	<input type="checkbox"/>																																
<b>END OF TASK</b>																																			

Who	Step	Action	Check
<b>12. Crude circulation heater</b>			
<div>NOTE</div> <p>Effective demulsifier chemical reaction with free water in crude requires temperature 38 - 40 degree C, then crude heat up shall operate crude oil and circulate via heater until get the temperature 38 - 40 degree C.</p>			
OP	12.1	Refer to procedure HC-WI-PD-5397 Crude Oil circulation via heater 60E101.	<input type="checkbox"/>
<b>END OF TASK</b>			

Senior Operator

Initial

Time

Date

Shift Supervisor

Initial

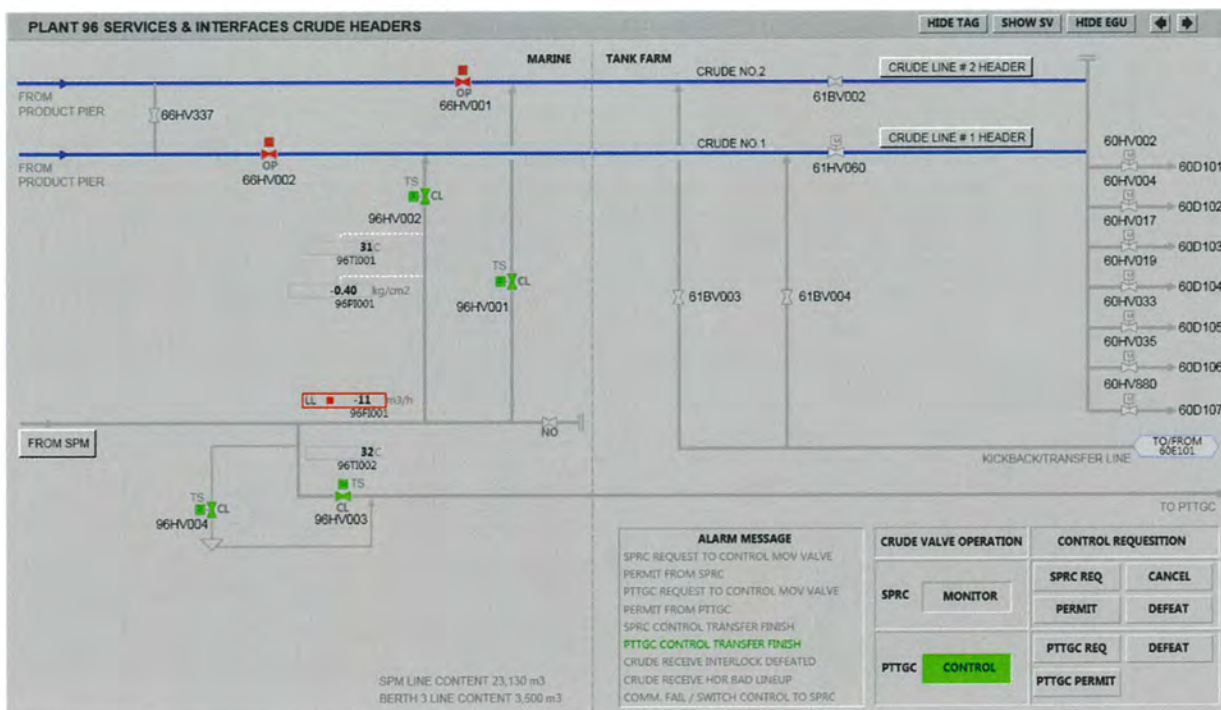
Time

Date

**Appendix**



# Appendix A : GR0781 Service and Interface Crude HDR



Revision No.: 5.1

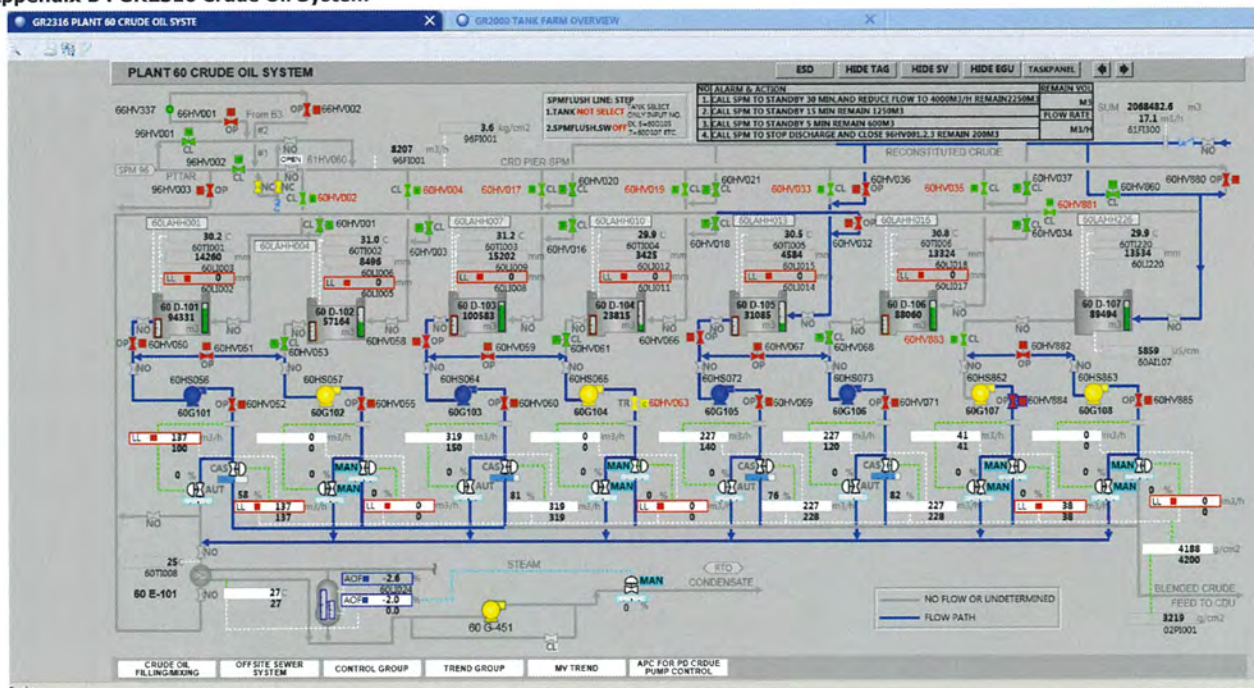
Date: 19 October 2021

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# Appendix B : GR2316 Crude Oil System



Revision No.: 5.1

Date: 19 October 2021

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## Appendix C : Loading outturn figure

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U							
Crude Ship Unloading Table																											
Ship name :		H/T xin yue yang														How to use: 1. Put data in Cell C13:C20, G13:G20, K13:K20, and O13:O20 for volume target by step. 2. Put Date start in A32 --> 01-Jan-06 01:45, A33 --> 01-Jan-06 02:00 and both level on that time 3.											
Quantity :		78,520 m <sup>3</sup>																									
Crude type :		Murban																									
Crude discharge step																											
	60D102			6.52			60D103			6.52			60D107			6.516			FALSE						FALSE		
Step	Volume	Level	Set Level	Step	Volume	Level	Set Level	Step	Volume	Level	Set Level	Step	Volume	Level	Set Level	Step	Volume	Level	Set Level	Step	Volume	Level	Set Level				
	m <sup>3</sup>	mm	mm		m <sup>3</sup>	mm	mm		m <sup>3</sup>	mm	mm		m <sup>3</sup>	mm	mm		m <sup>3</sup>	mm	mm		m <sup>3</sup>	mm	mm				
6	46940	1623	1623	10	23130	2118	2118	12	8630	8790	8790																
7	23130	7199	8822	11	55390	3548	5666			1324	10114					#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!		0	0	0				
		3548	12370	12	14500	8495	14161			0	0					#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!								
		0				2224	16385			0	0					#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!								
		0				0				0	0					#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!								
		0				0				0	0					#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!								
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		0				0				0	0					#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!								
Total	70070	12369.9			93020	16384.9			8630	10114.4						0	0	0	0		0	0	0				
Compare volume (Tank-Target)	131						-38						-2042						0						0		
Date : Time	Level	Level	Flow	Level	Level	Flow	Level	Level	Flow	Level	Level	Flow	Level	Level	Flow	Level	Level	Flow	Level	Level	Flow						
	mm	mm/hr	m <sup>3</sup> /hr	mm	mm/hr	m <sup>3</sup> /hr	mm	mm/hr	m <sup>3</sup> /hr	mm	mm/hr	m <sup>3</sup> /hr	mm	mm/hr	m <sup>3</sup> /hr	mm	mm/hr	m <sup>3</sup> /hr	mm	mm/hr	m <sup>3</sup> /hr						
24-Jul-16 01:00	1623			2118						8790						0			0								
24-Jul-16 02:00	1885	262	1708	2118	0	0				8790	0	0		0	0		0	0		0	0	0					
24-Jul-16 03:00	2969	1084	7068	2118	0	0				8790	0	0		0	0		0	0		0	0	0					
24-Jul-16 04:00	4107	1138	7420	2118	0	0				8790	0	0		0	0		0	0		0	0	0					
24-Jul-16 05:00	5162	1055	6879	2118	0	0				8790	0	0		0	0		0	0		0	0	0					
24-Jul-16 06:00	6295	1133	7387	2118	0	0				8790	0	0		0	0		0	0		0	0	0					
24-Jul-16 07:00	7343	1048	6833	2118	0	0				8790	0	0		0	0		0	0		0	0	0					
24-Jul-16 08:00	8361	1018	6637	2118	0	0				8790	0	0		0	0		0	0		0	0	0					
24-Jul-16 09:00	9451	1090	7107	2118	0	0				8790	0	0		0	0		0	0		0	0	0					
24-Jul-16 10:00	10551	1100	7172	2118	0	0				8790	0	0		0	0		0	0		0	0	0					
24-Jul-16 11:00	11661	1110	7237	2118	0	0				8790	0	0		0	0		0	0		0	0	0					
24-Jul-16 12:00	12390	729	4753	2118	0	0				8790	0	0		0	0		0	0		0	0	0					
24-Jul-16 13:00		0	0	2118	0	0				8790	0	0		0	0		0	0		0	0	0					

Revision No.: 5.1

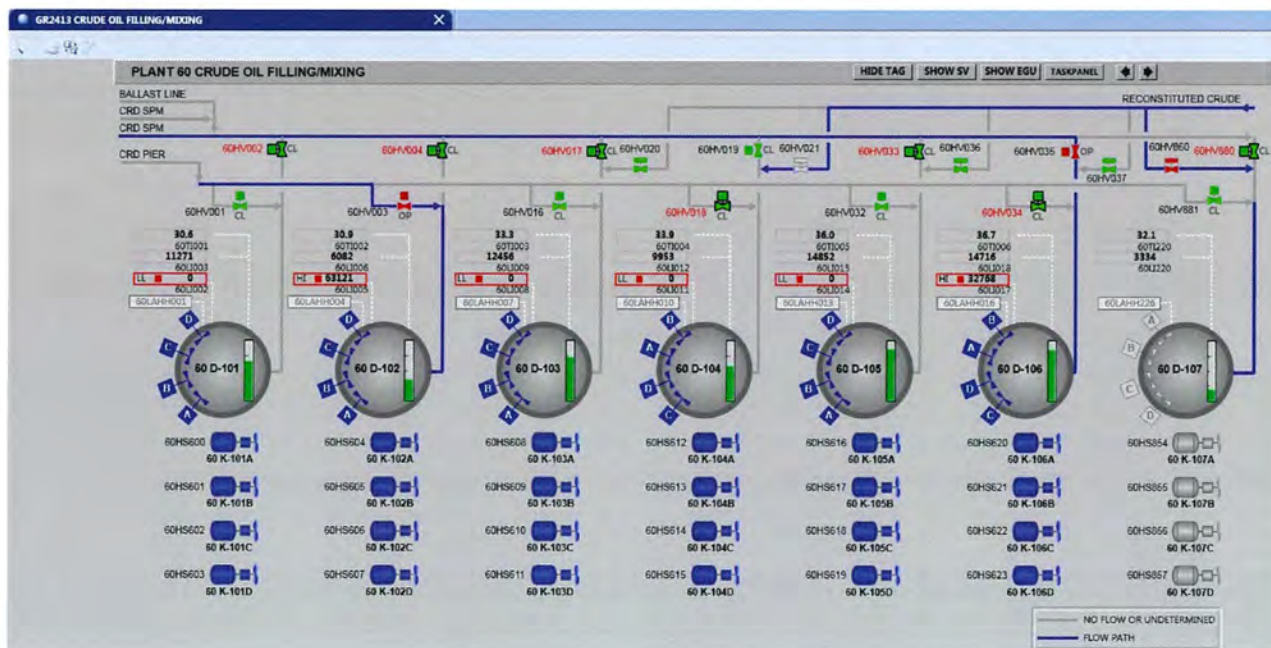
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Date: 19 October 2021

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## Appendix D : GR2413 Crude Oil filling/mixing



Revision No.: 5.1

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## Definitions

N/A

## References

- D-60-1225-101
- D-60-1225-102
- D-60-1225-103
- D-60-1225-104
- D-60-1225-105
- D-60-1225-106
- D-61-1225-106
- D-61-1225-107
- GR0781 Service and interfaces crude header
- GR2413 Crude oil filling and mixing
- GR2314 Crude oil system
- MOM "SPM Operating Workshop in November, 2018"
- HC-WI-TE-4525 Crude valve interlocking system
- HC-WI-PD-5397 Crude Oil circulation via heater 60E101



## Amendment List

Below is a list of changes between the previous and the current revision of this document.

### Step/Section

### Reason for Change

(Changed) - Converted to SmartProcedure, changed document number from HC-WI-PD-1400 to HC-WI-PD-5391, reviewed all contents

(Changed) - - Change flowrate of tank switch and topping off from 4,000 - 5,000 m<sup>3</sup>/hr to be 4,000 m<sup>3</sup>/hr. - Change the maximum flow rate from 8,500 - 8,800 m<sup>3</sup>/hr to be 9,000 m<sup>3</sup>/hr. - Change SPM operating from PTTGC to be SPRC. (Refer to SPM Operation Interface Workshop in November 2018)

Information

(Changed) - Major change to add section 5. SPM line flush and change data in section 10. Tank close gauge, (Note, 10.1)

Caution  
Step (Unnumbered) - 2.

(Added) - Minor change to chatge that add caution in section Precautions and section 9. Stop crude unloading setting by DCS

## Distribution List

Copy No.	Controller/Holder	Location
00	Electronic Controller	SmartProcedures

## ภาคผนวก ข.28

ขั้นตอนการทำงานเกี่ยวกับการรับจ่ายน้ำมันที่ท่ากลางทะเล

Movement/Dispatches			
<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="font-size: 24pt; font-weight: bold; margin-right: 10px;">SPRC</div> <div>Plant 65 SPM Terminal Operating Procedure</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div>Prepared by: Watthana Phaengsree</div> <div>Number: HC-WI-PD-6084</div> </div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div>Approved by: Suranun Silasuwanwit</div> <div>Revision: 3.3</div> </div> <div style="text-align: center; margin-top: 5px; font-size: 10pt;">This document must be printed and used "In Hand"</div>			
Low	Medium	High	

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## Purpose

This procedure provides the necessary information for the SPM maintenance boat/ Mooring boat/Standby Tug/ Agent's tug to carry out safely SPM tanker mooring / unmooring and hose handling operations.

## System Information

### Summary

Good communications must be maintained at all times for SPM Mooring / Unmooring / Hose Handling operation between the Tanker , Maintenance Boat , Pilot / Mooring Master, Standby Tug and Agent's Tug. The Communication links are following :

**Ship :** Tanker VHF radio channel 67

**Maintenance Boat :** Uniwise Rayong VHF radio channel 67, UHF radio Marine channel

**Pilot / Mooring Master :** VHF radio channel 67, UHF radio Marine channel, mobile phone 063-9067013

**Standby Tug :** VHF radio channel 67

**Agent's Tug :** VHF radio channel 67

### Roles and Responsibility

Deviation from the procedure must be stopped and informed a line supervisor or line manager, concerned people for a solution prior to executing this procedure.

#### Ship :

- The vessel must checks pre-arrival as follow ISGOTT.
- The vessel must provide an adequate lee for boarding.
- The vessel must provide a safe speed for boarding subject to weather and sea condition.
- A safe means of access shall be provided in accordance with the requirements of SOLAS.
- During night operations the access shall be adequately illuminated to allow the safe approach and boarding of the Mooring Master, Government Officials Agent and Surveyors.
- The vessel must record of inspection of pipeline, cargo pump stop and cargo pump relief tests to be inspected.
- Exchange crude volume(cubic meter) every hour with the Terminal after commence discharge.
- The vessel must discharge cargo as follow discharge plan.

#### Pilot :

- Checks pre-arrival as follow ISGOTT.
- Responsible for the berthing, un-berth
- Coordination of all operations are carried out in a safe complying with International, National, Industry and Company Standards.
- Close coordination with the vessel's Master, Crew and the Marine Control Building must be maintained at all times.
- Issuing Letters of Protest for any shipboard equipment deficiencies or operational deficiencies that might be found or serious safety violations that may occur.

- Contact or report to SPM Manager at any time he feels their assistance or advice is required.
- In case of all pollutions to be reported immediately to the Shift Supervisor.

### Mooring Master

- Safety checks on the vessel as follow ship shore safety checklist.
- The Mooring Master will advise the vessel's crews on all operations relative to mooring, connecting/disconnecting of hoses and un-mooring.
- Monitor all action which perform in working area to ensure is under safety performance.
- Keep monitoring cargo discharging as follow discharge plan.
- The Mooring Master should not hesitate to contact Pilot at any time he feels their assistance or advice is required.

### Work Boat Team :

- Pre-berth inspection and confirm to pilot.
- Care must be taken to ensure that both mooring messengers lines do not become entangled.
- Split the hawsers by pulling starboard mooring messenger round the SPM.
- Connect up the mooring messenger with ship's messenger line.
- Completed Mooring, pick up the port hose messenger from Maintenance boat.
- In case emergency, using transfer Rigger for close valve on SPM.

### Maintenance Boat Team :

- Ensure ISO-Danger buoy is in correct position and confirm to Pilot.
- Towing the floating cargo hose string during tanker approach.
- Bring the floating cargo hose string alongside at port side tanker manifold area.
- Support related SPM operation.
- Static tow.
- Oil spill response
- Maintenance and diver support.

### Standby Tug Team :

- Follow instruction from Pilot
- Assist berth when Pilot request.
- Oil spill response and patrol SPM area.
- SPM vigilance and reporting.
- Keep away to any boat and or vessel coming close to SPM , less than 1 nm radius.
- Monitor weather condition and squall during operation which be reported to Mooring Master.

### Agent's Tug Team :

- Personnel transfer to tanker & Personnel transfer between Maintenance boat.
- Assist tanker berth.

### Ship's Agent.

- Notified of berthing schedule to all party concern.
- Coordination with the Vessel, Pilot & Surveyor.
- Pass information from Terminal/Pilot/Vessel.

### Terminal (MCB)

- Confirmed ready to receive the vessel's cargo.
- Notice to the vessel when cargo nearly to target.
- Exchange crude volume(cubic meter) every hour with the vessel after commence discharge.
- Keep monitoring cargo discharging as follow discharge plan.
- Operator on duty should not hesitate to contact Mooring Master at any time he feels their assistance or advice is required.

#### Surveyor

- The surveyor must be sealed at cow line's master valve of all cargo discharging tank.
- To break seal of nominate COW tanks by the surveyor as per tanker officer's request.
- Take sample as follow discharge plan.
- Ullage & calculation figures when completed inform to pilot.
- Monitoring ship discharge rate and discharge pressure.
- Tank inspection when completed inform to pilot.

#### Diver

- As following diving services agreement.

#### Precautions



##### NOTE

General information useful to understand a particular step in the procedure.



##### CAUTION

A step that, if done incorrectly, could cause a safety hazard leading to personal injury, equipment or environmental damage, or a delay.



##### WARNING


A step that, if done incorrectly, could cause a serious safety hazard leading to death, serious personal injury, major equipment damage, fire or a large environmental release.

#### Prerequisites

N/A

### Detailed Activities

Who	Step	Action	Initial/Date/Time
<b>1. DESCRIPTION AND LOCATION OF TERMINAL</b>			
<b>1.1 Terminal Location</b>			
		<p>The MAP TA PHUT SPM TERMINAL consists of a single point mooring buoy located in position:</p> <ul style="list-style-type: none"> <li>• Latitude 12° 29.3' North</li> <li>• Longitude 101° 11.76' East</li> </ul> <p>in approximately 25 Meters of water (LLT).</p> <p>The Terminal is designed to handle vessels from 60,000 to 280,000 DWT with a maximum displacement of 350,000 tones and draft of 20.7 meters. Crude Oils for the Star Petroleum Refining Co., Ltd. are imported through the facility.</p> <p>A 48 inch diameter submarine pipeline, approximately 19 kilometers in length connects the SPM with the shore terminal. This pipeline terminates at the SPM PLEM to which the sub-sea hoses are connected.</p>	
<b>1.2 Principle Particulars</b>			
		<p>The buoy is a CALM type, secured by Six Anchors and Chains. The principle particulars of the buoy are :</p> <ul style="list-style-type: none"> <li>• Outer Shell Diameter 11.00 meters</li> <li>• Outer Skirt Diameter 15.17 meters</li> <li>• Height 4.80 meters</li> <li>• Draft 3.20 meters</li> <li>• Weight excl. susp. chains 210.0 ton</li> <li>• Weight inc. susp. chains 260.0 ton</li> </ul> <p><b>High Holding Power</b></p> <ul style="list-style-type: none"> <li>• Marine Drag Anchors 15.5 ton</li> <li>• Anchor Chain lengths 315 meter</li> <li>• Anchor Chain diameter 4-1/4 inches</li> <li>• Min Breaking Load 8721 k N</li> <li>• Anchor Leg Spacing 60°</li> </ul>	

Who	Step	Action	Initial/Date/Time																
1.3 Operating Conditions																			
The operational conditions up to which tankers can stay securely moored at the terminal correspond to a return period of 5 years as given below.																			
<table><tr><td>Description</td><td>Unit</td><td>Value</td></tr><tr><td>Significant Wave Height</td><td>m</td><td>3.3</td></tr><tr><td>Peak Wave Period</td><td>s</td><td>8</td></tr><tr><td>Wind Speed (1 minute mean)</td><td>Knot</td><td>35</td></tr><tr><td>Current Speed (Surface)</td><td>Knot</td><td>1.2</td></tr></table>				Description	Unit	Value	Significant Wave Height	m	3.3	Peak Wave Period	s	8	Wind Speed (1 minute mean)	Knot	35	Current Speed (Surface)	Knot	1.2	
Description	Unit	Value																	
Significant Wave Height	m	3.3																	
Peak Wave Period	s	8																	
Wind Speed (1 minute mean)	Knot	35																	
Current Speed (Surface)	Knot	1.2																	
It is assumed that wind, waves and current are collinear.																			
<div> <b>NOTE</b> In case of operating wind limit is persisting that Mooring Master has considered for risky consequence. Mooring Master will make decision and take necessary action for all safety respect to the operation.</div>																			
1.4 Survival Conditions																			
The survival conditions correspond to a period of 100 years and are given in the following table. There is no tanker moored during such conditions.																			
<table><tr><td>Description</td><td>unit</td><td>value</td></tr><tr><td>Significant Wave Height</td><td>m</td><td>3.4</td></tr><tr><td>Wave Period</td><td>s</td><td>8</td></tr><tr><td>Wind Speed (1 minute mean)</td><td>Knot</td><td>42</td></tr><tr><td>Current Speed (Surface)</td><td>Knot</td><td>1.4</td></tr></table>				Description	unit	value	Significant Wave Height	m	3.4	Wave Period	s	8	Wind Speed (1 minute mean)	Knot	42	Current Speed (Surface)	Knot	1.4	
Description	unit	value																	
Significant Wave Height	m	3.4																	
Wave Period	s	8																	
Wind Speed (1 minute mean)	Knot	42																	
Current Speed (Surface)	Knot	1.4																	
1.5 Mooring Hawsers																			
<table><tr><td>• Number of Hawsers</td><td>2</td></tr><tr><td>• Type</td><td>Single - leg</td></tr><tr><td>• Material</td><td>Nylon</td></tr><tr><td>• Circumference</td><td>16 inch</td></tr><tr><td>• Length</td><td>50 meters</td></tr><tr><td>• Breaking Load NBDS</td><td>395 Ton</td></tr><tr><td>• Maximum allowable mooring loads</td><td>220 Ton</td></tr><tr><td>• Chafe Chain</td><td>76 mm.</td></tr></table>				• Number of Hawsers	2	• Type	Single - leg	• Material	Nylon	• Circumference	16 inch	• Length	50 meters	• Breaking Load NBDS	395 Ton	• Maximum allowable mooring loads	220 Ton	• Chafe Chain	76 mm.
• Number of Hawsers	2																		
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• Breaking Load NBDS	395 Ton																		
• Maximum allowable mooring loads	220 Ton																		
• Chafe Chain	76 mm.																		
1.6 Sub-sea Hose Configuration																			
The Chinese Lantern sub-sea hose configuration consists of two hose strings, each of 3 hoses 24 inch in diameter.																			


Who	Step	Action	Initial/Date/Time
<b>1.7 Surface Hose Strings</b>			
The floating hose configuration consists of two hose strings. The main hoses being 24 inch and the tail hoses 16 inch diameter. The starboard string 955 feet and the port string 990 feet in length. The strings are marked by winker lights.  Double closure Gall Thomson breakaway couplings are fitted to both floating strings.			
<b>1.8 Navigation Aids</b>			
The SPM exhibits a white light flashing 6 times per 15 second Fl (6) 15 sec and visible at a range of 5 miles. In addition a fog horn will sound Morse Code "U" at 30 second intervals. White winker lights are also fitted to the floating hose strings.			
Buoy "A" Isolated Danger, Black with a broad red horizontal red band, top mark two black spheres one above the other, exhibiting a White light Fl (2) 12 sec 6M located in position:  <ul style="list-style-type: none"><li>Latitude 12° 29' 33.9" North</li><li>Longitude 101° 10' 18.4" East</li></ul> This buoy marks a rock pinnacle which is considered dangerous to navigation.			
Buoy "B" Special Mark, Yellow with single Yellow "X" top mark, exhibiting a Yellow light Fl (4) 20 sec 6M located in position:  <ul style="list-style-type: none"><li>Latitude 12° 29' 43.0" North</li><li>Longitude 101° 12' 24.7" East</li></ul> RACON transmitting Morse Code "B" (Bravo) is also fitted to this buoy.			
<b>END OF TASK</b>			


Senior Operator



Initial

Time

Date

Who	Step	Action	Initial/Date/Time
<b>2. BERTHING PROCEDURES</b>			
<b>2.1 Mooring and Assistant Mooring Masters</b>			
<div> <b>CAUTION</b> The Mooring Master (MM) will be responsible for the berthing, un-berthing and coordination of all operations undertaken by the vessel in the berth. He is to ensure all operations are carried out in a safe and seaman like manner, complying with International, National, Industry and Company Standards. Close coordination with the vessel's Master, Crew and the Marine Control Building must be maintained at all times.</div>			

Who	Step	Action	Initial/Date/Time
		<p>While onboard the import tanker, the MM is the Company Representative and in such a capacity is responsible for ensuring that SPRC's interests are protected. The MM is responsible for issuing Letters of Protest for any shipboard equipment deficiencies or operational deficiencies that might be found or serious safety violations that may occur while he is on the vessel.</p> <p>The MM should not hesitate to contact SPRC Management at any time he feels their assistance or advice is required.</p> <p>The Assistant Mooring Master (AMM) will work under the directions and leadership of the MM.</p>	
<b>2.2 Vessel acceptance</b>			
 <b>NOTE</b> Prior to berthing any vessel at the SPM Terminal the following checks must be made :			
	2.2.1	Vessel has been cleared by SPRC / PTTGC vetting system.	
	2.2.2	Appropriate Refinery (SPRC / PTTGC ) ready to receive the vessel's cargo	
	2.2.3	Vessels Agent notified of berthing schedule	
	2.2.4	Independent Cargo Inspection Company been advised of berthing schedule.	
	2.2.5	SPM Pre-berthing Inspection has been completed by the Rigger.	
	2.2.6	Load Monitor System has been set up.	
	2.2.7	Vessel acceptable on Displacement and Draft.	
	2.2.8	Cargo Tanks inerted as required by SOLAS	
	2.2.9	Vessel confirmed information on the Pre-berthing Check List.	
	2.2.10	Record of Inspection of Pipeline, Cargo Pump Stop and Cargo Pump Pressure relief tests to be inspected.	

Who	Step	Action	Initial/Date/Time
<b>2.3 Vessel Pre - Berthing Check List</b>			
		<ol style="list-style-type: none"> <li>1. Name of Vessel</li> <li>2. Name of Master</li> <li>3. Summer Dead weight</li> <li>4. Arrival Draft</li> <li>5. Net Registered Tonnage</li> <li>6. Last Port of Call</li> <li>7. Owner's name and Address</li> <li>8. Bill of Lading Figures</li> <li>9. Nationality of Officers and Crew</li> <li>10. Number and Size of Chain Stoppers for SPM Mooring</li> <li>11. Can Vessel maintain 30 percent of Summer DWT while in Berth</li> <li>12. IGS Operational and all cargo tanks conditions as required by SOLAS</li> <li>13. Adequate Stability at all stages of Cargo / Ballast operations.</li> <li>14. Number and size of Manifolds.</li> <li>15. S.W.L. of Derrick or Crane.</li> </ol> <p>This information may be obtained from the vessel's Master by VHF or E-Mail through his agent.</p> <p>The vessel must comply fully with all equipment and safety requirements and not exceed the displacement or draft limitations for the SPM. If the vessel exceeds the SPM designed criteria or is deficient in equipment or safety requirements the vessel will not be berthed.</p>	
<b>2.4 SPM Pre - Berthing Check List</b>			
 <b>NOTE</b> Prior to berthing a tanker, an inspection shall be made of the SPM and ancillary equipment by the rigger on supervision of SPM Maintenance Supervisor.			
 <b>CAUTION</b> In times of bad weather, consideration should be given as to whether conditions permit safe boarding of the buoy by personnel. While personal safety is paramount, the possibility of damage to the buoy by boats should be taken into consideration.			
		The final decision as to whether it is safe to board the buoy, is to be taken by the assigned Mooring Master in consultation with the Master of the Standby Vessel and SPM Maintenance Supervisor.	
<b>2.5 Drug and Alcohol Policy</b>			
	2.5.1	STRICTLY FORBIDDEN to consume either alcohol or illegal drugs and any person may be requested to do drug/alcohol test.	
	2.5.2	Any Mooring Master, Assistant Mooring Master and Contractors thought to be under the influence of either alcohol or illegal drugs during working hours shall be requested to report for testing.	


Who	Step	Action	Initial/Date/Time
	2.5.3	Refusal by a Mooring Master, Assistant Mooring Master and Contractors to submit to this drug/alcohol test shall result in them being requested to leave from operation.	
	2.5.4	Disciplinary action for refusing to submit to this drug/alcohol test shall be determined by management but may include:	
	2.5.5	Time off without pay for 1st occurrence.	
	2.5.6	Possible termination of employment for any additional occurrence.	
	2.5.7	If the Mooring Master and/or Contractor is tested and found to be under the influence of either alcohol or illegal drugs, they will be subjected to immediate disciplinary action which could include termination of their employment.	
	2.5.8	The use, possession, distribution or sale of either alcohol, illegal drugs and controlled substances by any person within SPRC premises or while engaged in performing services for SPRC is strictly and absolutely prohibited.	
END OF TASK			

Senior Operator

Initial



Time

Date

Who	Step	Action	Initial/Date/Time				
3. MOORING AND UNMOORING							
3.1 Mooring Master Boarding							
	3.1.1	<p>The Mooring Master his Assistant and SPM Maintenance Supervisor/ assigned rigger will board the vessel by boat.</p> <ul style="list-style-type: none"><li>• A safe means of access shall be provided in accordance with the requirements of SOLAS.</li><li>• The vessel must provide an adequate lee for boarding.</li><li>• During night operations the access shall be adequately illuminated to allow the safe approach and boarding of the Mooring Master, Government Officials Agent and Surveyors.</li><li>• The Conditions of Entry into and use of the Map Ta Phut SPM Terminal form and Pilotage Plan will be presented to the Master of the Tanker and shall be signed prior to the commencement of berthing operations.</li><li>• The Notice of Readiness will only be accepted / received provided the SPRC Mooring Master is satisfied that the vessel is in all respects ready to moor and discharge.</li></ul> <p>In no event shall the Notice of Readiness, whether previously accepted / received or not, be valid or binding on the Terminal unless the vessel, her tanks and equipment, are in fact, in every respect ready to discharge cargo.</p> <p>The Mooring Master and Assistant will advise the Master on all maneuvers and operations relative to berthing, connecting/disconnecting of hoses and un-berthing. They will also provide all communications between vessel and shore during transfer operations and be the SPRC Representative with respect to cargo operations, documentation, safety observations and other requirements.</p> <p>These Mooring Masters will remain on board the vessel while in the berth and suitable officer style accommodation is to be provided for them. Also accommodation to be provided for mooring crew(s)</p>					
	3.1.2	<p>Maximum Wind, Sea /Swell criteria for SPM mooring operation.</p> <table><tr><td>Significant Wave Height</td><td>2.0 - 2.5 m.</td></tr><tr><td>Wind Speed</td><td>20- 25 Knots.</td></tr></table> <p>Wind and wave are collinear.</p>	Significant Wave Height	2.0 - 2.5 m.	Wind Speed	20- 25 Knots.	
Significant Wave Height	2.0 - 2.5 m.						
Wind Speed	20- 25 Knots.						
<div> NOTE</div> <p>In case of operating wind limit is persisting that, Mooring Master has considered for risky consequence. Mooring Master will make decision and take necessary action all safety respect to the operation.</p>							



Who	Step	Action	Initial/Date/Time
	3.1.3	Maximum Wind, Sea /Swell criteria for SPM discharging operation.	
		Suspend Discharge	Significant Wave Height = 2.5 meters.
		Criteria	Stop cargo at : 30 Knots.
			Hose Disconnection at : 35 Knots.
			Un Berthed at : 35 Knots.
		Wind and wave are collinear.	
		<div><div></div><div><p>- In case of squall / heavy rain / thunder storm at SPM vicinity, the mooring and discharging operation will be suspended .</p><p>- In case of operating wind limit is persisting that, Mooring Master has considered for risky consequence. Mooring Master will make decision and take necessary action all safety respect to the operation.</p><p>- In case of severe weather which wave height exceed 4.1 meters and wind speed exceed 41 knots, the floating hoses and subsea hoses shall be uninstalled and perform on-shore testing by visual inspection and hydrotest to ensure that hoses are in good and reliable condition for service before re-install."</p></div></div>	
		<div><div></div><div><p><b>NOTE</b></p></div></div>	
	3.2	<b>Under Pilotage and at Berth</b>	
		<p>The Mooring Master and Assistant will carry portable intrinsically safe multi-channel radios by means of which all communications regarding approach, mooring and cargo transfer will be made. They will also carry battery chargers for these radios during the vessel's stay at the SPM Terminal.</p> <p>In addition, the vessel's VHF Radio should be available on the bridge and in the cargo control room for back up communications.</p>	
	3.3	<b>Preparation for Mooring</b>	
		<div><div></div><div><p><b>WARNING</b></p></div></div>	Verify all Deck valve on SPM has been opened.
		<div><div></div><div><p><b>WARNING</b></p></div></div>	During the approach, while mooring and secured in the SPM, the vessel's anchors <b>MUST</b> be secured by stoppers and secured to prevent accidental dropping with subsequent damage to the subsea pipeline and equipment.

Who	Step	Action	Initial/Date/Time
		<p>The port Crane should be rigged ready to lift the mooring box from the boat and for connecting the cargo hoses. Crane shall have a minimum 20 tons SWL. However, vessels should have the recommended SWL capacity for their size as recommended in the Oil Companies International Marine Forum (OCIMF) publication <b>"Recommendations for Oil Tanker Manifolds and Associated Equipment"</b></p> <p>The vessel will provide 2 x 16 inch 150 lbs ASA flange connections on selected cargo manifolds made ready for hose connections, drip trays, sawdust or sand and fire fighting equipment in position at the manifold area.</p> <p>The following vessel's equipment should be ready on the forecastle :</p> <ul style="list-style-type: none"><li>• Two empty spool drums to heave onboard mooring pick up ropes. This will necessitate the removal of the mooring wire or rope from the spool drums.</li><li>• Port messenger lines 80 millimeter diameter, 150 meters in length. Starboard messenger lines 80 millimeter diameter, 70 meters in length</li><li>• Two large crow bars.</li><li>• Sledge hammer</li><li>• Pail of grease</li><li>• Large flashlight for night berthing.</li></ul>	
<b>3.4 Mooring</b>			
 <b>CAUTION</b>		Line handling during mooring and unmooring is performed by the vessel's crew, with an experienced officer, under instruction of the Mooring Master and Assistant Mooring Master	
		<p>Vessels must be fitted as recommended in the OCIMF publication <b>"Standards for Equipment Employed in Mooring of Ship's at Single Point Moorings"</b>.</p> <p><b>ONLY VESSELS FITTED WITH APPROVED CHAIN STOPPERS AND 2 BOW FAIRLEADS WILL BE BERTHED AT THE SPM. THE USE OF SMIT BRACKETS OR ANY OTHER MEANS OF SECURING THE CHAFE CHAIN IS NOT PERMITTED.</b></p> <p>Prior to the final approach of the tanker upon instruction from the Mooring Master, the starboard mooring hawser will be towed to the port side of the buoy to keep it clear from the port hawser. One boat after instruction from the Mooring Master will then tow the floating hose string away from the tanker's direction of approach in the form of a bight to ensure that the hose strings are kept clear of the vessel's propeller during berthing. Extreme caution shall be exercised to ensure that no excessive strain is placed on the floating hose strings by the boat while towing or holding the hoses clear.</p> <p>When the vessel is within reasonable distance from the SPM, a ship's messenger line will be carried by the mooring launch and connected to the port mooring messenger on the mooring hawser. This mooring messenger will be used to heave the 76 millimeter chafe chain on board.</p>	
 <b>WARNING</b>		Care must be taken during this operation to ensure that no excessive weight comes on the mooring messenger.	

Who	Step	Action	Initial/Date/Time
		<p>Whenever possible, self spooling drums should be used to heave the messenger rope onboard.</p> <p>The chafe chain will then be secured in the chain stopper in such a manner that the supporting buoy and nylon hawser remains outside and clear of the ship's fairlead. Allowing the chain to absorb any chafing in the mooring system.</p> <p>Mooring Master will arrange with Ship's officer to pay out the mooring messengers from each spool drums, remove shackles connecting ship-shore messengers then each messenger will be rolled back to the spool drum neatly.</p> <p>The operation will then be repeated to secure the starboard mooring hawser.</p> <p>Once the vessel is securely moored, a tug will bring (one-by-one) hose string end to make connection at the port manifold and then be secured on a towline astern.</p>	
<b>3.5 Moored to Berth</b>			
		<p>A Mooring Hawser Load Monitoring Device is fitted to the SPM. It provides each hawser and the total load on the mooring system at the present time and displays on the display monitor carried to set up on each tanker. There are also visual and audible signal on the buoy to indicate to the Mooring Master that high mooring stresses are being experienced while the tanker is at the SPM.</p> <p>At 155 tonnes strain, which is 70% of the preset threshold value of 220 tonnes, a x warning light flashes on the buoy. When this occurs the Mooring Master is to be informed by the Forecastle Watchman. The Mooring Master will request the tanker's engines be placed on Standby, cargo operations will be suspended and preparations made ready in case it is necessary to disconnect the hoses.</p> <p>If the warning light goes out and stays out, it will be the Mooring Master decision whether to resume cargo operations.</p> <p>In the event the red light remains flashing, indicating continuous load in excess of 155 tonnes the hoses are to be disconnected immediately and preparation made to leave the berth.</p> <p>If the red flashing light remains on and the audible alarm sounds, indication that the threshold limit of 220 tonnes has been reached, the hose should be disconnected and the tanker un-berthed and taken to anchor.</p> <p>However, if at any time, in the Mooring Master's judgment, weather conditions are such that he feels it is unsafe to continue cargo operations or remain at the SPM, such as when wind/swell conditions have reached the operating parameters of the SPM and the Load Monitoring Alarms have not yet activated, then his decision shall over ride all other factors.</p> <p>When weather conditions improve the tanker can be re-berthed.</p>	

Who	Step	Action	Initial/Date/Time
<b>3.6 Unmooring</b>			
		<p>When the hoses have been disconnected and lowered to the water, the unmooring operation will commence which ship engine could be tested and the tug astern will be released either subsequently or after tanker unmoor and safely clear from SPM, as per Mooring Master decision.</p> <p>The weight will then be allowed to come off the mooring hawsers, it may be necessary to use the ship's engines for this purpose. When the weight is off, the both mooring hawser will be released and lowered to the water.</p> <p>At once both of the hawser messengers are cleared from the ship heaving drum, the vessel moved astern clear of the berth.</p>	
		<b>WARNING</b> After operation completed riggers will close and secured both SPM deck valves if the wather permit.	
		<b>NOTE</b> Care must be taken to ensure that the hawsers do not become entangled in each other or are dropped onto, or across the hose strings.	
		<b>CAUTION</b> ANCHORS SHALL REMAIN SECURED UNTIL THE VESSEL IS WELL CLEAR FROM SPM AND SUBSEA PIPELINE.	
	3.6.1	<p><b>Role of Mooring Master (1) – Pilotage</b></p> <p>The Mooring Master should advise the Master on manoeuvres to unmoor from the SPM, and should instruct the support vessels to tow the hose string clear and clear the hawser pick-up rope when released, Unmoor should be started only once the tanker's engines, the forecastle party and the support vessels are ready. The tanker's main engines should be tested only when a Mooring Master is ready on the forecastle. The tanker should be backed away slowly from the SPM, stemming the wind or current, before setting the appropriate course clear of the SPM to sea. <b>The initial backing-away from the SPM should generally be made at less than 0.25 kts,</b> allowing time for the pick-up rope to be winched out and released in a controlled manner and without tension.</p>	

Who	Step	Action	Initial/Date/Time
	3.6.2	<b>Role of Mooring Master (2) - Unmooring on forecastle</b> The Mooring Master and responsible deck officer should be on the forecastle to instruct the tanker's crew. <ol style="list-style-type: none"> <li>The mooring team should participate in a toolbox meeting to discuss all procedural and safety aspects of the task.</li> <li>Before unmooring the tanker, the Mooring Master should ensure that there is no load on the mooring hawser. If necessary, the Mooring Master should request a brief engine ahead movement.</li> <li>The hawser pick-up rope should be heaved taut until the weight is off the stopper tongue. The chain stopper securing pin should be removed and the stopper opened and secured in the open position.</li> <li>The hawser pick-up rope should be paid out slowly, ensuring that the chain clears the stopper and bow fairlead, until finally the chafe chain and support buoy are in the water.</li> <li>The hawser pick-up rope should then be paid out in a controlled manner, at the speed of the winch, and finally let go. The tanker's sternway should not exceed the winch speed.</li> </ol> <p>Where two hawsers are used, they may be disconnected simultaneously. However, the mooring hawser should not be crossed when lowered into the water. It may also be necessary to release and lower the hawser pick-up ropes one at a time, allowing the support vessel to tow each one clear in turn.</p>	
<b>3.7 SPM Equipment Defect List Report</b>			
		During the tanker berthing discharging and un berthing , SPM Equipment Defect List Report shall be recorded to the following items . <ol style="list-style-type: none"> <li>SPM Navigation light, fog horn , Winker light .</li> <li>Port and Starboard Mooring Hawser and messenger line .</li> <li>Port &amp; Starboard Hose strings .</li> <li>Port &amp; Starboard Tanker rail hose , accessories , and messenger.</li> </ol>	
<b>END OF TASK</b>			

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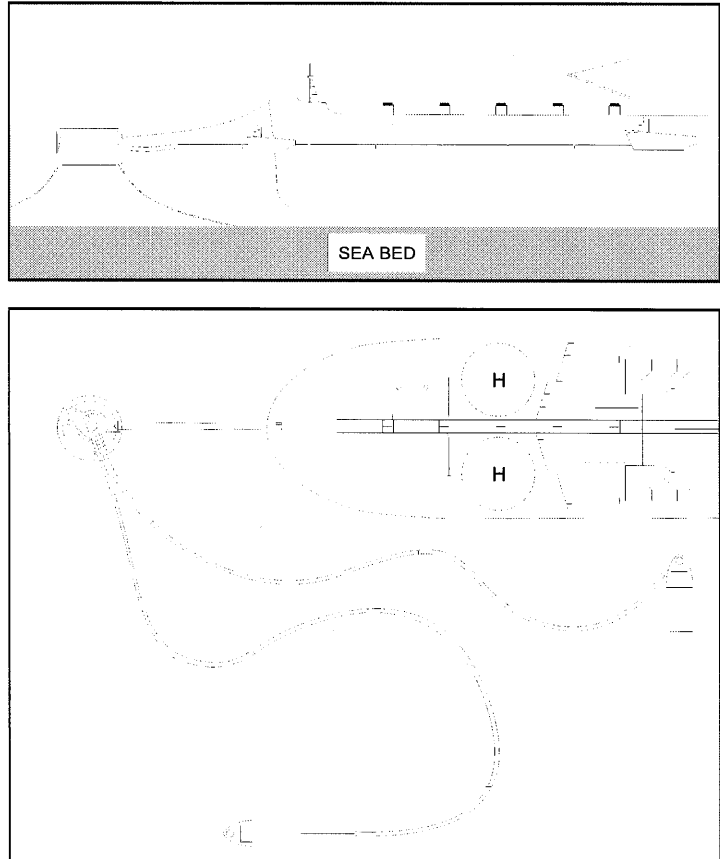
Time

Date

Who	Step	Action	Initial/Date/Time
<b>4. HOSE CONNECTING PROCEDURES</b>			
<b>4.1 Connecting Procedure</b>			
		Tanker manifold arrangements must comply with the latest OCIMF publication "Recommendations for Oil Tanker Manifolds and Associated Equipment"	

Who	Step	Action	Initial/Date/Time
		A minimum manpower for hose connection at least 4 persons and 1 crane driver. <b>NOTE</b> Only person in charge of hose connection working at manifold area. Only Mooring Master will give the crane signal to the ship's crane driver.	
		<b>NOTE</b> The SWLs prescribed for the lifting equipment of crane on tankers which summer deadweight at 120,001-160,000 tons (Suez Max) and over 160,000 tons (VLCC and above) is 20 tons SWL.	
		<b>No way Tanker rail hose will be sit on Ship's tanker rail for avoid hose deformed.</b> <b>WARNING</b> Before Hose connection operation commence , Mooring Master to ensure that no any part or equipment of tanker will harmful and might lead to damage to the hoses either on tanker manifold area or tanker 's side area / rail / tanker rail . Mooring Master will perform the operation only on safely condition .	
		<b>CAUTION</b> Care should be taken during the hose handling operation to avoid serious damage to the hoses and associated equipment.	
		<b>CAUTION</b> Be aware of hand injury and do not put hand and/or finger in between hose flange and manifold flange.	
		<b>CAUTION</b> Using ladder for access to manifold working platform.	
		<b>CAUTION</b> Mooring Master shall monitor on maintenance boat during towing floating hose string to tankers' side due to hoses may be damaged or fail when subjected to high axial load ,if dragged over the ground or if subjected to other mishandling such as being towed at high speed and etc. If any axial load accident/incident occur, the operation will be immediately aborted then initial visual inspect hoses. If a floating hose has permanent damage, hose shall be recovering it as quickly as possible to avoid accidentally sinking.	
MTB	4.1.1	<b>WHEN</b> The vessel has been securely moored	<b>THEN</b> <b>Move</b> the SPM starboard floating cargo hose string alongside at port side tanker manifold area.
SHP MM	4.1.2	<b>Lower</b> crane hook to the maintenance boat.	
MTB	4.1.3	<b>Connect</b> tanker crane hook to the SPM starboard hose's lifting wire.	

Who	Step	Action		Initial/Date/Time
SHP MM RIG	4.1.4	<b>Heave up</b> the hose until the connection of lower part of snubbing chain is level with the hose rail 's fairlead.		   
RIG	4.1.5	<b>Secure</b> the snubbing wire/chain with a supporting chain on Tanker's deck.		   
SHP MM	4.1.6	<b>Lower</b> the hose until the snubbing chain/wire connection are level at tanker rail 's fair lead .		   
RIG	4.1.7	<b>Remove</b> hose snubbing chain/wire connection on topper part.		   
RIG	4.1.8	<b>Secure</b> snubbing wire with rope messenger.		   
SHP MM RIG	4.1.9	<b>Heaving up</b> the hose until the suitable height .		   
RIG	4.1.10	<b>Pull</b> in all length of snubbing wire / chain until slack tight.		   
RIG	4.1.11	<b>Secure</b> snubbing wire by turning to a bollard.		   
RIG	4.1.12	<b>Secure</b> the snubbing wire end using a Tirfor.		   
SHP MM RIG	4.1.13	<b>Lower</b> the hose to the safe access manifold area that for safely opening the blind flange.		   
<b>⚠ WARNING      Aware of oil spillage when open the blind flange .</b>				
MM RIG	4.1.14	<b>WHEN</b>	<b>THEN</b>	   
		Verify for safely opening the blind flange.	<b>Open</b> the blind flange.	
SHP MM RIG	4.1.15	<b>Adjust</b> the hose until alignment with tanker manifold.		   
RIG	4.1.16	<b>Connect</b> hose to the manifold.		   
MM RIG	4.1.17	<b>WHEN</b>	<b>THEN</b>	   
		Insert new gasket completed.	<b>Tighten</b> bolt the flange.	
MM RIG	4.1.18	<b>WHEN</b>	<b>THEN</b>	   
		<b>Open</b> the hose end butterfly valve.	<b>Secure</b> the hose end butterfly valve.	

Who	Step	Action	Initial/Date/Time
SHP MM RIG MTB	4.1.19	<b>Repeat</b> step 4.1.1 to 4.1.15 for connected port hose.	_____
<b>4.2 Figure 2</b>			
<p><b>Hose connection</b></p> <p style="text-align: center;"><u>HOSE CONNECTION</u></p> 			



Who	Step	Action	Initial/Date/Time
4.3	Figure 3		
<p><b>Hose connecting sequence</b></p> <p>HOSE CONNECTING SEQUENCE</p> <p><b>END OF TASK</b></p>			



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Who	Step	Action	Initial/Date/Time				
5. HOSE DISCONNECTING PROCEDURE							
5.1 Disconnecting Procedure							
<div>Before Hose disconnection operation commence , Mooring Master to ensure that no any part or equipment of tanker will harmful and might lead to damage to the hoses either on tanker manifold area or tanker 's side area / rail / tanker rail . Mooring Master will perform the operation only on safely condition .</div>							
<div><div> CAUTION</div><div>SPM maintenance, particularly in bad weather, is extremely difficult and involves possible danger to personnel. For this reason, vessels are requested to give as much assistance as possible by taking seaman like care of the mooring and hose equipment and returning it to the water ready for the next tanker and in such a condition as they would like to find it.</div></div>							
<div><div> NOTE</div><div>The SWLs prescribed for the lifting equipment of crane on tankers which summer deadweight at 120,001-160,000 tons (Suez Max) and over 160,000 tons (VLCC and above) is 20 tons SWL.</div></div>							
RIG	5.1.1	Close Tanker manifold valve.	_____				
RIG	5.1.2	<table><tr><th>WHEN</th><th>THEN</th></tr><tr><td>Close hose end butterfly valve on completion of discharging.</td><td>Secure hose end butterfly valve.</td></tr></table>	WHEN	THEN	Close hose end butterfly valve on completion of discharging.	Secure hose end butterfly valve.	_____
WHEN	THEN						
Close hose end butterfly valve on completion of discharging.	Secure hose end butterfly valve.						
SHP	5.1.3	Drain manifolds to Tanker storage tank.	_____				
SHP RIG	5.1.4	Remove nylon bands.	_____				
SHP MM RIG	5.1.5	Station crane hook waiting for disconnect the hose.	_____				
SHP MM RIG	5.1.6	<table><tr><th>WHEN</th><th>THEN</th></tr><tr><td>Attach lifting wire to the quick release hook completed.</td><td>Connected with crane hook.</td></tr></table>	WHEN	THEN	Attach lifting wire to the quick release hook completed.	Connected with crane hook.	_____
WHEN	THEN						
Attach lifting wire to the quick release hook completed.	Connected with crane hook.						
SHP MM RIG	5.1.7	<table><tr><th>WHEN</th><th>THEN</th></tr><tr><td>Heave up lifting wire until take a weight.</td><td>Disconnect the aft hose.</td></tr></table>	WHEN	THEN	Heave up lifting wire until take a weight.	Disconnect the aft hose.	_____
WHEN	THEN						
Heave up lifting wire until take a weight.	Disconnect the aft hose.						

Who	Step	Action		Initial/Date/Time
MM RIG	5.1.8	WHEN	THEN	
		<b>Replace</b> the blind flange gasket with using a new gasket.	<b>Tighten</b> bolt the flange.	_____
SHP MM	5.1.9	<b>Heave up</b> the hose until the weight is off the snubbing chain/wire.		_____
RIG	5.1.10	<b>Release</b> the snubbing chain/wire.		_____
SHP MM	5.1.11	<b>Lower</b> the hose until the flange is level with the tanker rail.		_____
RIG	5.1.12	IF	THEN	
		<b>Connect</b> shackle snubbing chain/wire.	<b>Secure</b> shackle with the safety pin.	_____
 <b>CAUTION</b> Lower hose to the water as directed by the Mooring Master.				
SHP MM RIG	5.1.13	<b>Lower</b> hose to the water.		_____
SHP MM RIG	5.1.14	Repeat step 5.1.1 to 5.1.14 for the forward hose.		_____
<p>Care must be taken when lowering the forward hose to prevent hose damaged due to scratch / sharp edge /entanglement of the hoses .</p>  <b>NOTE</b> Hose/hawser maintenance is expensive and if SPRC judges that the vessel has misused any hose or hawser, the vessel will be liable for the expenditure incurred in making repairs.				
<b>END OF TASK</b>				

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Who	Step	Action	Initial/Date/Time
<b>6. DISCHARGE PROCEDURES</b>			
<b>6.1 Cargo Discharge</b>			
<b>WARNING</b> "Mooring Master must inform ship's officer to activate cargo emergency stop when any emergency situation occur and action as follow to be taken, <ul style="list-style-type: none"> <li>• Activate cargo pumps emergency stop.</li> <li>• Shut ship's manifold valves.</li> <li>• Shut hose-end butterfly valves.</li> <li>• Shut SPM deck valves.</li> <li>• Inform Marine Control Building for emergency stop with verbal signal "STOP x3"</li> <li>• Shut crude line valve at shore.</li> <li>• Follow guidelines in procedure [HC-WI-PD-6094]</li> <li>• Plant 65 SPM Emergency Contingency Plan."</li> </ul>			
	6.1.1	On completion of all Government formalities, gauging, sampling, safety checks and documentation, discharge of cargo can commence.	
	6.1.2	The discharge operation will be controlled by VHF/UHF radio by the Mooring Master/Assistant between the vessel and the SPRC Marine Control Building (MCB). This does not absolve the vessel from communicating directly with the MCB if the Mooring Master/Assistant do not respond to radio calls or in an Emergency Situation.	
	6.1.3	During the discharge operation and while at the berth, the vessel must maintain a minimum of 30% of the Summer deadweight at all times. The SPM supplies crude oil to two refineries. Therefore, it may be necessary at the commencement of the discharge to displace the oil already contained in the SPM system and submarine pipeline to the appropriate refinery, before bulk discharge can commence.	
	6.1.4	In line samplers may be fitted at certain times to the vessel manifold to monitor cargo quality during the discharge. These samplers will be operated by the Independent Surveyor appointed to the vessel. However, the Mooring Master should ensure that the samplers are started at the commencement of the line flush and/or bulk discharge and that they are operational throughout the discharge operation.	
	6.1.5	In the event that a line displacement is necessary, SPRC will require the vessel to pump approximately 23,130 m3 of crude into the system and then suspend cargo operations while changes are made to the line up of the crude receiving systems ashore. (Quantity will be dependent on which refinery is to receive the line displacement). During this operation the Mooring Master will coordinate directly with the Marine Control Building, who in turn will coordinate with the respective tank farm where the line displacement is being received.	



Who	Step	Action	Initial/Date/Time
	6.1.6	During the line displacement, SPRC will require the vessel to carefully monitor the quantity being discharged.	
	6.1.7	Once the line displacement is completed and the quantity discharged agreed, the bulk discharge of cargo can commence.	
	6.1.8	Throughout the discharge, a responsible deck officer must be in charge of operations, either on deck, or in the cargo control room and in continuous contact with the Mooring Master/Assistant via portable radio.  An efficient deck watch must be maintained with continuous observation of the manifold area and the mooring hawsers. Ship mooring crew to keep a continuous forecastle watch and be in radio contact with Mooring Master at all times.	
<b>CAUTION</b> Maximum discharge pressure at ship's manifold 10.5 kg/cm <sup>2</sup> or flow rate at shore not more than : SPRC tanks 9,000 m <sup>3</sup> / hr , PTGC tanks 8,500 m <sup>3</sup> / hr which will control whichever come first.			
	6.1.9	Incorrect operation of pump and valve may produce pressure surges in pipeline system. These surges may damage pipeline and hoses.  Information should be exchanged, and written agreement reached between tankers and Mooring Master concerning. <ul style="list-style-type: none"> <li>The control of flow rates.</li> <li>Valve closure.</li> <li>Pump speed.</li> <li>The minimum number of tanks to be open for loading at one time.</li> </ul> Mooring Master and tanker should ensure that the valves to an empty tank are fully open before closing any other valves with effective communication before and during every tank change to prevent surge pressures	
<b>WARNING</b> In case of overpressure situation, Mooring Master must inform ship's officer to activate cargo emergency stop and action as follow to be taken, <ul style="list-style-type: none"> <li>Activate cargo pumps emergency stop.</li> <li>Shut ship's manifold valves.</li> <li>Shut hose-end butterfly valves.</li> <li>Shut SPM deck valves.</li> <li>Inform Marine Control Building for emergency stop with verbal signal "STOP x3"</li> <li>Shut crude line valve at shore.</li> <li>Follow guidelines in procedure [HC-WI-PD-6094]</li> <li>Plant 65 SPM Emergency Contingency Plan."</li> </ul>			

Who	Step	Action	Initial/Date/Time
	6.1.10	On commence discharging operation , once confirmation are ready for receive from terminal and ship's are ready to discharge . Ship will discharge with initial pressure 3.0 kg/cm <sup>2</sup> then to confirm for shore received cargo and every aspect are in good order . To increase discharge rate as per terminal instruction .	
	6.1.11	At any time during discharge operations the terminal may request a reduction in rates, switch cargo grade / refinery, suspend discharge, etc. The Terminal will be give 30 ,15 ,5 minutes notice . At last 5 minutes, the discharge pressure will be a minimum. Whenever reach the target the terminal will instruct to suspend discharge then the tanker officer to stop discharge immediately and report time for suspend discharge to the Terminal.  During suspend discharging, both hose butterfly valve and Ship manifold valve will be shut and secured.	
<b>NOTE</b> Stop discharge for Switch refinery/Terminal inform 30 mins notice / the vessel will start reducing flow rate to 4,000 m <sup>3</sup> per hour and maintain this flow rate until the Terminal inform to stop discharge.			
	6.1.12	To resume the discharging operation, the terminal will give 15 mins or as agree notice to SPM tanker. Whenever ready for received cargo , Terminal will instruct to SPM tanker for resume discharging.  ( Suspend as discharge plan long period will be give 2 hrs , 1 hr ,30 ,15,5 minutes notice.  Tanker manifold will be fully opened . Discharging operation be resumed with initial pressure 3.0 k/cm <sup>2</sup> and report discharging time to the terminal.  To increase discharge rate as per terminal instruction.	
	6.1.13	At any time during discharge operations the terminal may request to reduction in rates for switch shore tank . The Terminal will be give 30 ,15 , 5 minutes notice . Approximately 5 minutes, the discharging flow rate will be 4,000 m. <sup>3</sup> / hr . Whenever the shore tank have been switched to the other tank ,as per discharging plan . Terminal will instruct to SPM tanker for switch shore tank time and requested increase discharge rate as per terminal instruction.	
	6.1.14	As an anti-pollution measure, the volume of oil discharged in m. <sup>3</sup> by the vessel must be relayed to the terminal on an hourly basis to allow for the comparison of figures (discharged against received). This is particularly important at night when it is difficult to detect oil pollution.	

Who	Step	Action	Initial/Date/Time
	6.1.15	During the hours of darkness, it is required that all available approved floodlights are used to illuminate the vessel and surrounding waters to facilitate the detection of oil and generally assist in the transfer operation. Vessels are advised that failure to supply sufficient lighting could result in the transfer operation being suspended during the hours of darkness. Such delays would be for the vessel's account.	
	6.1.16	It is strictly against the law to pollute the waters of Thailand and the Master and Owners, may be subject to prosecution by the Thai Authorities.	
	6.1.17	Maximum trim at all stages are 5.5 meters.	
	6.1.18	Discharge operation will be suspended when significant wave height are more than 2.5 meters .	
		<b>CAUTION</b> The maximum discharge pressure allowed at the Ship's Manifolds is 10.5 kg/cm2 or 10.3 bar ( 150 psi )	
	6.1.19	On completion of discharge operation the rail tail hoses and ship's manifolds will be drained to prevent spillage of oil when disconnecting hoses.	
<b>6.2 Crude Oil Washing</b>			
		<b>NOTE</b> Mooring Master will provide instruction for terminal Crude Oil Washing (COW) requirement which be required or not required up to each crude specification. However, <b>MINIMUM COW OPERATIONS , AS REQUIRED BY MARPOL REGULATION 1973 – 1978</b> permission will only be granted provided all safety and operational requirements recommended in the <b>"International Safety Guide for Oil Tankers and Terminals" (ISGOTT)</b> have been met in full.	
		The surveyor will be sealed at COW line 's master valve of all cargo discharging tank . To break seal of nominate COW tanks by the surveyor as per tanker officer 's request .	
<b>6.3 Ballasting Operations</b>			
		<b>WARNING</b> Extreme caution must be taken when ballasting operations are undertaken, to ensure no oil escapes through the vessel's sea valves.	

Who	Step	Action	Initial/Date/Time
<b>6.4 Cargo Outturn</b>			
		On the completion of the cargo discharge and prior to the tank inspection, all cargo valves, with the exception of the manifold valves should be opened to ensure all cargo lines and pumps have been properly drained during the discharge.	
		A comparison of Bill of Lading and Total Cargo Ship Discharge figures must be undertaken. If the quantity Ship Discharge is found to be 0.5% or more below the Bill of Lading figure / and or the Observed Quantity received ashore compare with Observed Quantity which Ship Discharge found the different is 0.5% or more, the vessel's tanks must be checked again in conjunction with the Independent Surveyor for any quantity remaining.	
		If the discrepancy still exists after the check, a Letter of Protest for the Shortage in Cargo Out Turn must be issued to the vessel's Master for his signature.	
<b>END OF TASK</b>			

Senior Operator

Initial

Time

Date

Who	Step	Action	Initial/Date/Time
<b>7. Operations of tanker in berth</b>			
	7.1	<b>Responsibilities</b> The tanker's Master and the Mooring Master share joint responsibility and accountability for the safe conduct of operations while the tanker is at the SPM. Before cargo operation begin, the Master (or the Master's representative) and the Mooring Master should agree in writing the: <ul style="list-style-type: none"> <li>• Cargo transfer procedures, including the maximum loading or unloading rates.</li> <li>• Action to be taken in the event of emergency.</li> <li>• Complete and sign the ship/shore safety checklist.</li> </ul> Master will sign in Safety Requirement Letter (Appendix2: Star Petroleum Refining Public Company Limited Map Ta Phut SPM Terminal Thailand Mooring Master Check Lists and documentation)	




Who	Step	Action	Initial/Date/Time
	7.2	<p><b>Management of moorings and cargo hoses</b></p> <p>One Mooring Master will remain on watch at all times to monitor the position of the tanker with respect to the SPM, the mooring loads and weather conditions.</p> <ul style="list-style-type: none"> <li>The condition and security of the chain stopper, chafe chain and hawser should be checked.</li> <li>The integrity of the cargo hose connections should be checked and the snubbing chains should remain tight, with on abrasion or undue movement.</li> </ul> <p>Two Mooring Masters should be on duty during periods of heavy workload, such as during mooring, hose handling, pre-cargo discharge, critical stages of the cargo transfer, emergencies, periods of high winds or heavy seas and whenever the tanker's position relative to the SPM is causing concern or cannot be maintained.</p> <p>A suitably qualified and experienced watchkeeping officer should be on duty at all times.</p> <p>When the tanker is moored at the SPM, the tanker should provide two deck watchkeepers, one on the forecastle and one at the manifold, at all times.</p> <p>The watchkeeping officer should brief both deck watchkeepers on their duties and responsibilities. Mooring Master provides guideline 'How to Report' for the forecastle watch.</p> <p>A suitable static tow is provided to assist with berthing and after berthing with static tow to keep the Vessel a safe distance from the SPM, to control fish tailing motion and maintain safe alignment. The Mooring Master will advise the Master where, when and how the Towing. Vessel shall be made fast, prior to the Vessel's final approach to the Terminal. The static tow tug will provide the towing assembly.</p>	
	7.3	<p><b>Operational communications</b></p> <p>The Primary communication with terminal use VHF radio Channel 67 and the secondary communication use portable UHF radio Channel marine. Mooring Master provide portable radio to watchkeeping officer.</p> <p>The watchkeeping officer should carry a terminal supplied portable radio at all times to communicate with the Mooring Master. Deck and forecastle watchkeepers should be provided with portable radios communicate with the watchkeeping officer.</p>	
END OF TASK			

Senior Operator

Initial

Time

Date

Who	Step	Action	Initial/Date/Time
<b>8. TERMINAL SERVICES CONTRACT</b>			
<b>8.1 Contractor</b>			
		<p>Uniwise Towage Limited is the Contractor responsible for providing marine support craft and manpower for the SPM Maintenance and day to day Operations, 24 hours a day, 365 days of the year.</p> <p>The Contractor will work under the directions of and report to the SPRC SPM Superintendent.</p>	
<b>8.2 Contractor Vessel</b>			
		<p><b>The SPM maintenance boat is the Multi-purpose Maintenance Vessel .</b></p> <p>The SPM maintenance boat is used primarily for mooring, hose handling, maintenance and diver support but is capable of performing all SPM support duties.</p>	
<div>  <b>CAUTION</b> </div> <p>The SPM maintenance boat will remain on station at the SPM location for security purposes. This is to prevent pilferage from the SPM or associated equipment and to ensure vessels navigating in the area give the SPM a wide berth.</p>			
		<p>Support tug boat equipped with Oil Spill Response Equipment and team to standby during SPM discharging Operation and if need at SPM area . The list of Oil Spill Equipment as follow :</p> <ul style="list-style-type: none"> <li>Ro-Boom 2 sets</li> <li>Power Pack 1 set.</li> <li>Dispersant Sprayer 1 set .</li> <li>Oil Dispersant 8 drums.</li> </ul>	
<b>8.3 Maintenance Support Personnel</b>			
		<p>Maintenance support personnel for SPM and associated equipment. Minimum of three dedicated personnel, consist of 1 Diving Supervisor (AODC Certified) and 2 Maintenance and Emergency divers (fluent in English and have previous experience of SPM maintenance). In addition crew from the SPM maintenance boat to be available to assist in maintenance operations as and when required.</p>	

Who	Step	Action	Initial/Date/Time
<b>8.4 Supervision</b>			
		<p>The role of the Mooring Master during maintenance periods, is to oversee the work performed by the Contractors personnel. He is responsible for seeing that the work undertaken is done safely, following the procedures laid down in the following</p> <ul style="list-style-type: none"> <li>• <u>HC-WI-PD-4003 SPM Terminal Operating Procedure</u>,</li> <li>• <u>HC-WI-PD-4006 SPM Inspection and Maintenance</u>,</li> <li>• The SBM "Calm Buoy Operating and Maintenance Manual"</li> <li>• The OCIMF publication "Single Point Mooring Maintenance and Operations Guide".</li> </ul> <p>If at any time the Mooring Master is not satisfied with the way the maintenance is being carried out, either through unsafe working practices or incorrect procedures, he is to suspend the operation immediately. The Contractor's supervisor at the location is to be notified and remedial action taken.</p> <p>If the situation cannot be resolved on site, the Mooring Master is to notify the SPM Superintendent immediately.</p>	
<div>NOTE</div> <p><b>THERE CAN BE NO COMPROMISE ON SAFETY OR INCORRECT MAINTENANCE PROCEDURES.</b></p>			
<b>END OF TASK</b>			

Senior Operator

Initial

Time

Date

Who	Step	Action	Initial/Date/Time
<b>9. DIVING SERVICES AGREEMENT</b>			
<b>9.1 Contractor</b>			
		<p>Diving Contractor shall provide all personnel, material, supervision and expertise to undertake the following services as directed by SPRC. Diving Contractor shall provide the following requirement for any SPM / SPM related 's diving job scope :</p> <ul style="list-style-type: none"> <li>• One (1) Supervisor hold the formal International Marine Contractor Association (IMCA) training certificate.</li> <li>• Diving Operation Team shall hold minimum requirement of diving certificate and to be conducted training by full IMCA member.</li> </ul> <p>Inspection of the SPM subsea installation.</p> <p>Diver assistance with surface hose change out.</p> <p>Removal of marine growth on SPM, hoses and PLEM by high pressure water jet.</p> <p>Cathodic protection readings of SPM and PLEM as directed by SPRC.</p> <p>Subsea hose change as directed by SPRC.</p> <p>Emergency call out, diver to be on site within 3 hours</p>	
<b>END OF TASK</b>			

Senior Operator

Initial

Time

Date

Who	Step	Action	Initial/Date/Time
<b>10. POLLUTION</b>			
<b>10.1 Prevention</b>			
<div>WARNING</div> <p>All International, National and Company rules, regulations and guidelines covering oil pollution must be strictly complied with at all times.</p> <p>The discharge of oil to the sea is strictly forbidden.</p>			
<b>10.2 Reporting</b>			
		<p>All pollutions observed offshore originating from the SPM, pipeline, hoses, vessel or from any other source are to be reported immediately to the Shift Supervisor, via the Marine Control Building Marine Coordinator. Action should be taken to reduce or stop the pollution if it safe to do so without endangering human life.</p>	

Who	Step	Action	Initial/Date/Time
<b>10.3 Response</b>			
		On receiving a pollution report, SPRC Management will investigate, and if necessary, activate the SPRC "Oil Spill Response Contingency Plan".	
		The plan outlines the required procedures to be followed in the event of a Marine Pollution. All personnel involved in the SPM operations must familiarize themselves with the contents of this document.	
		The relevant sections covering the SPM area will be attached as an Appendix to this document.	
<b>END OF TASK</b>			

Senior Operator

Initial

Time

Date

Shift Supervisor

Initial

Time

Date

## Appendix

## 1. Mooring Master Check List

Refer to Mooring Master Checklist updated

## 2. Discharging Information

SPRC Star Petroleum Refining Public Company Limited		Discharging Information Map Ta Phut SPM	
Tanker Name: _____		Date: _____	
1. Crude to be discharged			
First grade	TOV (M <sup>3</sup> )		
Second grade	TOV (M <sup>3</sup> )		
Third grade	TOV (M <sup>3</sup> )		
Fourth grade	TOV (M <sup>3</sup> )		
2. Mooring Master (MM)/Shore Foreman staying onboard			
Capt. (Pilot)	Cabin	Tel.	Watch Time
Capt. (MM)	Cabin	Tel.	Watch Time
Capt. (MM)	Cabin	Tel.	Watch Time
Shore Foreman	Cabin	Tel.	
3. Surveyor / Agent Checker staying onboard			
Surveyor (No.1)	Cabin	Tel.	
Surveyor (No.2)	Cabin	Tel.	
Agent Checker	Cabin	Tel.	
4. Communication:			
4.1 With Shore Control Station			
- Shore CALL SIGN "MCB" and Ship CALL SIGN "SPM"			
- Means VHF CH.67 (Primary) VHF CH. Marine (Back up)			
4.2 With Mooring Master			
- Pilot Mooring Master will keep watching during discharging			
- Means VHF CH.67, CALL SIGN "Mooring Master"			



**Definitions****SHP : Ship (Tanker)****PILT : Pilot****MM : Mooring Master****WB : Work Boat****MTB : Maintenance Boat****STBT : Standby Tug****AGTT : Agent's Tug****References****N/A**

**Amendment List**

No changes specified in the current Revision of this Procedure.

Convert to SMART procedure.

Revision	Date	Page/ Section	Reason	By
3	10 Apr 23	All	Converted to Smart procedure	Suranun S. (PM)
3.1	Jul 23	Step 4.1	add "NOTE"	Suranun S. (PM)
3.1	Jul 23	Step 4.1	add "CAUTION"	Suranun S. (PM)
3.2	28 Aug 23	Page 14	Change crane minimum SWL to be <b>20 tons SWL.</b>	Suranun S. (PM)
3.2	28 Aug 23	Section 3.6	Add Information 3.6.1, 3.6.2	Suranun S. (PM)
3.2	28 Aug 23	Page 17	Add "CAUTION"	Suranun S. (PM)
3.2	28 Aug 23	Section 4.1.1	Add "CAUTION"	Suranun S. (PM)
3.2	28 Aug 23	Section 5.1.1	Add "CAUTION"	Suranun S. (PM)
3.2	28 Aug 23	Section 6.1.1	Add "WARNING"	Suranun S. (PM)
3.2	28 Aug 23	Section 6.1.9	Insert new section 6.1.9	Suranun S. (PM)
3.2	28 Aug 23	Section 6.1.10	Add "WARNING"	Suranun S. (PM)
3.2	28 Aug 23	Section 7	Insert new section 7	Suranun S. (PM)
3.2	28 Aug 23	Appendix 2	Insert new item 5.3, 5.6	Suranun S. (PM)
3.3	01 Dec 23	Section 3.1.3	Add "CAUTION"	Suranun S. (PM)

**Distribution List**

Copy No.	Controller/Holder	Location
00	Electronic Controller	SmartProcedures

## ภาคผนวก ข.29

บันทึกการตรวจสอบอัตราการส่งน้ำมันดิบ และระดับน้ำมันในถังเก็บ



## Movement/Dispatches



## Plant 66 Ship and Shore Hourly Cargo Figures

Prepared by: Sawai Paena

Number: HC-FO-PD-6024

Approved by: Opas Waiyasatja

Revision: .1

Low

Medium

High

$$(6.516) \text{ D107} = 8388 - 16165 = 50675 \text{ m}^3$$

## Terminal Unloading Record

Vessel: MT. KERALA

Berth: 3.

Cargo: Condensate

B/L QTY: 50,600 m<sup>3</sup>

Receiving tank ullage available; Tank: M3, Tank: M3

Date Time	Ship ROB (M3)	Ship Disch rate (m3/hr)	Ship total disch (M3)	Shore received (M3)	Ship/ Shore Diff. (M3)	Manifold Press. (kg/cm2)		Remark Level
						L/A	Ship	
0001			3999	3857	142			8980
0100	42653	4256	8255	8060	195			9625
0200	38654	3999	12254	12002	252			10230
0300	34643	4011	16265	16003	262			10844
0400	30748	3895	20110	20017	93			11460
0500	27123	3669	23779	23731	48			12030
0600	23362	3761	27540	27445	95			12600
0700	20088	3274	30814	30729	85		3284	13104
0800	16369	3719	34533	34378	155		3648	13664
0900	12779	3590	38123	37943	180		3564	14211
1000	9311	3468	41591	41370	220		3427	14737
1100	5946	3365	44956	44693	263		3323	15247
1200	2936	3010	47966	47756	210		3062	15717
1300	1035	1901	49867	49678	189		1922	16012
1400	727	308	50175	50010	165		333	16063
	1412 -	1624 hr.	internal	stripping				16165
1700	-	-	50908	50675				16165
			ETC =	1600				

Revision No.: .1

Commence = 2242

HC-FO-PD-6024

Date: 22 August 2018

Page 1 of 2

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