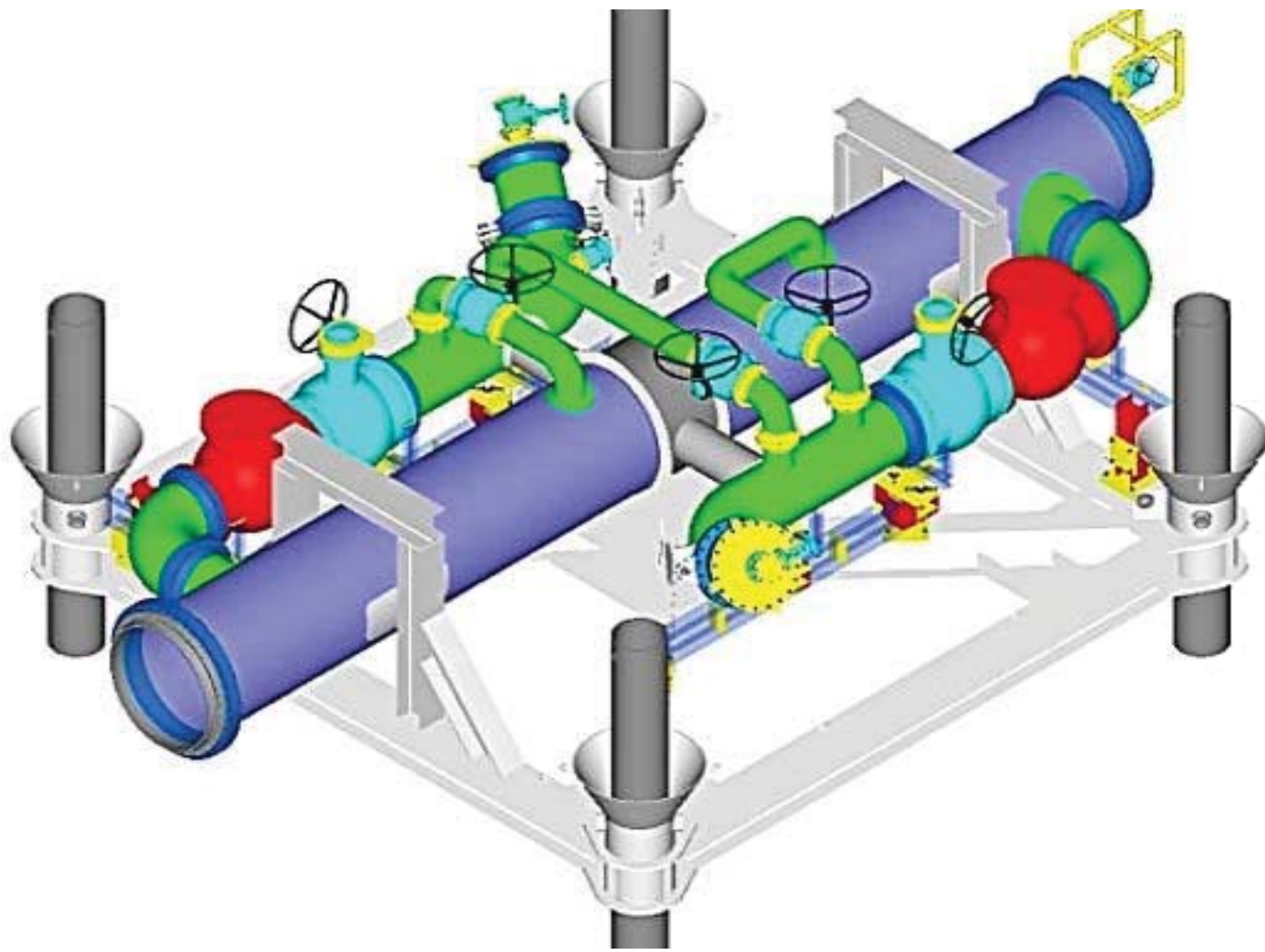
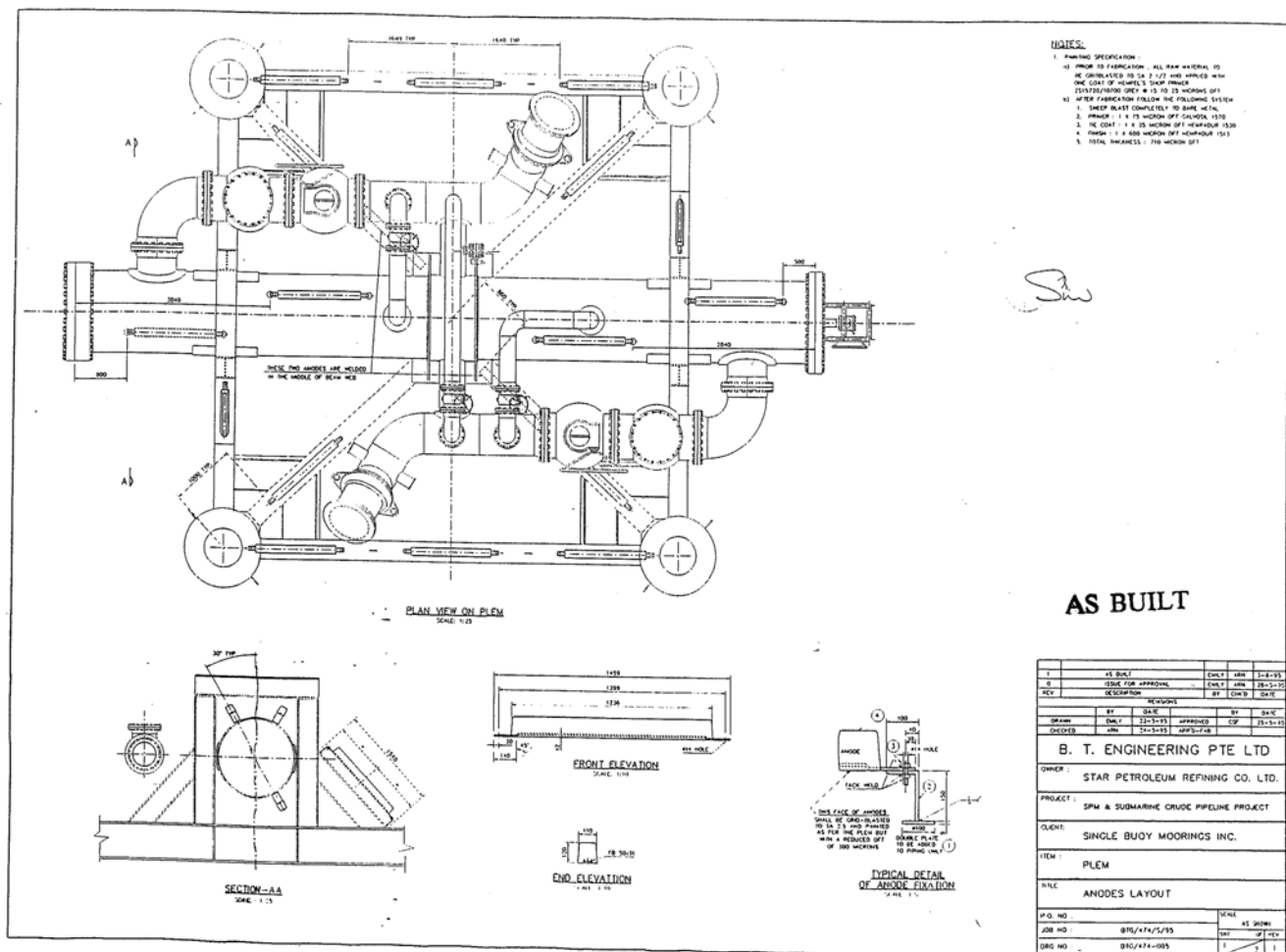


ภาคผนวก ข.20

---

## การติดตั้ง Check Valve ที่ปลายท่อขนถ่าย



## ภาคผนวก ข.21

การแต่งตั้งคณะกรรมการความปลอดภัย อาชีวอนามัย  
และสภาพแวดล้อมในการทำงาน และบันทึกการประชุม



STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED

บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน)

เลขทะเบียนนิติบุคคล 0107555000155

## ประกาศ

วันที่ 9 ธันวาคม 2567

จาก : ประธานเจ้าหน้าที่บริหาร

ถึง : พนักงานทุกท่าน

เรื่อง : การแต่งตั้งคณะกรรมการความปลอดภัย อาชีวอนามัยและสภาพแวดล้อมในการทำงาน

ตามที่บริษัท ฯ ได้กำหนดให้มีการคัดเลือกคณะกรรมการความปลอดภัย อาชีวอนามัยและสภาพแวดล้อมในการทำงานชุดใหม่เพื่อทำหน้าที่แทนคณะกรรมการชุดเก่าที่หมดวาระลงดังประกาศให้พนักงานทราบแล้วนั้น บัดนี้การคัดเลือกคณะกรรมการชุดใหม่ได้ดำเนินการเสร็จสิ้นแล้ว บริษัท ฯ จึงใคร่ขอประกาศรายชื่อผู้ได้รับการคัดเลือกทั้งในส่วนที่มาจากการแต่งตั้ง และในส่วนที่มาจากการเลือกตั้ง ซึ่งประกอบด้วยกรรมการที่มาจากการแต่งตั้ง (ผู้แทนนายจ้าง) และกรรมการที่มาจากการเลือกตั้ง (ผู้แทนลูกจ้าง) จำนวนทั้งสิ้น 13 คน ดังมีรายชื่อต่อไปนี้

### กรรมการผู้แทนนายจ้าง

1. นายณรงค์	ไตรโยธี	GR	ประธานกรรมการ
2. นายพงษ์ภรณ์	ช่อสูงศักดิ์	GE	
3. นายพล	แอนดรูว์ รัชเวิร์ธ	PN	
4. นายเอกสิทธิ์	รัชมกภาพรณ์	AS	
5. นายวิสิษฐ์	สุขประเสริฐ	PD	
6. นายภูวดล	ชลกล้า	AS/6	

### กรรมการผู้แทนลูกจ้าง

1. นาย ชัชวาล	จารสีเพ็ง	PN/43	
2. นาย อิศรา	ศรีไทย	PN/33	
3. นาย ชินวัฒน์	รัตนกร	PD/32	
4. นาย ธนิต	ไพลสกุล	AS/122	
5. นาง อัยลิศา	อัสตโกมล	CF/34	
6. นางสาววิษราภรณ์	วัชรานุรักษ์	TE/12	

### กรรมการและเลขานุการ

1. นายวรายุทธ	พรหมโณ	QS/41	
---------------	--------	-------	--

(เจ้าหน้าที่ความปลอดภัยในการทำงานระดับวิชาชีพ)





STAR PETROLEUM REFINING PUBLIC COMPANY LIMITED

บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน)

เลขทะเบียนนิติบุคคล 0107555000155

โดยให้คณะกรรมการความปลอดภัย อาชีวอนามัยและสภาพแวดล้อมในการทำงานมีหน้าที่ดังต่อไปนี้

1. จัดทำนโยบายด้านความปลอดภัย อาชีวอนามัย และสภาพแวดล้อมในการทำงาน ของสถานประกอบกิจการ เสนอต่อนายจ้าง
2. จัดทำแนวทางการป้องกันและลดการเกิดอุบัติเหตุ การประสบอันตราย การเจ็บป่วยหรือการเกิดเหตุเดือดร้อนรำคาญอันเนื่องมาจากการทำงานของลูกจ้างหรือความปลอดภัยในการทำงานเสนอต่อนายจ้าง
3. รายงานและเสนอแนะมาตรการหรือแนวทางปรับปรุงแก้ไขสภาพการทำงานและสภาพแวดล้อมในการทำงานให้เป็นไปตามกฎหมายเกี่ยวกับความปลอดภัยในการทำงานต่อนายจ้างเพื่อความปลอดภัยในการทำงานของลูกจ้าง ผู้รับเหมาและบุคคลภายนอกที่เข้ามาปฏิบัติงานหรือเข้ามาใช้บริการในสถานประกอบกิจการ
4. ส่งเสริมและสนับสนุนกิจกรรมด้านความปลอดภัยในการทำงานของสถานประกอบกิจการ
5. พิจารณาคู่มือว่าด้วยความปลอดภัยอาชีวอนามัยและสภาพแวดล้อมในการทำงานของสถานประกอบกิจการ เพื่อเสนอความเห็นต่อนายจ้าง
6. สำรวจการปฏิบัติการด้านความปลอดภัยในการทำงานและรายงานผลการสำรวจดังกล่าว รวมทั้งสถิติการประสบอันตรายที่เกิดขึ้นในสถานประกอบกิจการนั้น ในการประชุมคณะกรรมการความปลอดภัยทุกครั้ง
7. พิจารณาโครงการหรือแผนการฝึกอบรมเกี่ยวกับความปลอดภัยในการทำงาน รวมถึงโครงการหรือแผนการอบรมเกี่ยวกับบทบาทหน้าที่ความรับผิดชอบในด้านความปลอดภัยของลูกจ้าง หัวหน้างาน ผู้บริหาร นายจ้างและบุคลากรทุกระดับเพื่อเสนอความเห็นต่อนายจ้าง
8. จัดวางระบบให้ลูกจ้างทุกคนทุกระดับมีหน้าที่ต้องรายงานสภาพการทำงานที่ไม่ปลอดภัยต่อนายจ้าง
9. ติดตามผลความคืบหน้าเรื่องที่เสนอต่อนายจ้าง
10. รายงานผลการปฏิบัติงานประจำปี รวมทั้งระบุปัญหา อุปสรรคและข้อเสนอแนะในการปฏิบัติหน้าที่ของคณะกรรมการความปลอดภัยเมื่อปฏิบัติหน้าที่ครบหนึ่งปีเสนอต่อนายจ้าง
11. ประเมินผลการดำเนินงานด้านความปลอดภัยในการทำงานของสถานประกอบกิจการ
12. ปฏิบัติงานด้านความปลอดภัยในการทำงานอื่นตามที่นายจ้างมอบหมาย

คณะกรรมการดังกล่าว มีวาระการทำงานตั้งแต่วันที่ 1 มกราคม พ.ศ.2568 ถึง วันที่ 31 ธันวาคม 2569

จึงประกาศมาเพื่อทราบโดยทั่วกัน

นาย โวรวิท โจเซฟ โดบริค

ประธานเจ้าหน้าที่บริหาร



## Minutes of SPRC EHS Main Committee Meeting

**Meeting No. :** EHSM2025-07 **Place :** M-226 meeting room

**Date :** 24 Jul 2025 **Time :** 13:30-14:30 hrs.

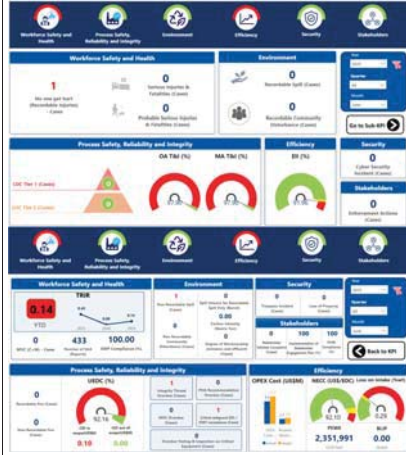
**Attendees:**

K. Narong T. (GR)	- Chairman
K. Pongkorn C. (GE)	- Employer representative
K. Sudtida R. (PN)	- Employer representative
K. Akasit R.(AS)	- Employer representative
K. Wisit S. (PD)	- Employer representative
K. Phoowadon C. (AS/6)	- Employer representative
K. Chatchawan J. (PN/43)	- Employee representative
K. Chinnawat R. (PD/32)	- Employee representative
K. Thanit L. (AS/122)	- Employee representative
K. Watcharaporn W. (TE/26)	- Employee representative
K. Alisa A. (CF/34)	- Employee representative
K. Paitoon M. (QS/4)	- Lead Health & Safety
K. Chudapa P. (QS/42)	- Health and Safety Specialist
K. Warayut (QS/41)	- Secretary
K. Teerawat C (TE/81)	- Laboratory Supervisor

**Apologize:**

K. Itsara S. (PN/33) - Employee representative

Agenda	Details	Action by	Status/ Due date
1	<b>IIF Moment/SAA Highlight</b> <p>K. Pongkorn and K. Paitoon shared an update about a slip, trip and fall incident which happened with an office staff at the lobby, admin building last month and has been reclassified from non-work related to be work-related injury with DAFW category. This case is counted as SPRC statistic but did not count in Chevron report as OEDRS guideline.</p> <p>K. Warayut shared the latest recordable injury, a water hose hitting a lower lip of a contractor who was supporting the cleaning activity at cleaning bay area on 8 Jul.</p> <p>So far this year, there have been 3 recordable cases in total: 2 MTC and 1 DAFW.</p> <p>Additionally, K. Wisit gave an update on the border conflict situation and its impact on nearby local people communities safety in Si Sa Ket Province.</p>		

2	EHS Performance (Cont.)	Action by	Status/ Due date
	<p><b>2.1 EHS Performance</b></p> <p>K.Warayut reported EHS performance of Jun 2025 are as follows; <u>OE Statistic</u></p>  <p><u>Off the Job Injury</u></p> <ul style="list-style-type: none"><li>There were 9 first aid cases of off the job injury occurring in May, YTD First aid case = 32 cases</li><li>There were 2 recordable cases, YTD = 9 cases</li><li>TRIR off the job injury for May =0.52, YTD 0.49</li></ul> <p><b>2.2 SAA &amp; SWP Summary report Q2-2025</b></p> <p>K. Chudapa presented the SAA summary report for Q2, 2025 to the committee as highlight below.</p> <ul style="list-style-type: none"><li>Total number of SAA for Q2 were 1,440 reports with 13,871 safe items and 113 unsafe items.</li><li>Total number of SAA for 2025 were 2,825 reports with 28,293 safe items and 204 unsafe items.</li><li>Top 3 unsafe items to focus for 2025 as below<ul style="list-style-type: none"><li>Working condition</li><li>Tool &amp; Equipment</li><li>PPE</li></ul></li></ul>	-	Infor.

2	EHS Performance (Cont.)	Action by	Status/ Due date
	<p>K. Narong and K. Pongkorn suggested reinforcing contractor management to strictly follow and enforce PPE compliance standards through CHESM system or related.</p> <p>K. Warayut presented the SWP summary report for Q2, 2025 to the committee as highlight below.</p> <ul style="list-style-type: none"><li>Total number of SWP for Q2 were 232 reports with 3,108 safe items and 3 unsafe items.</li><li>Total number of SWP for 2025 were 506 reports with 6,452 safe items and 18 unsafe items.</li><li>Top unsafe items to focus for 2025 as below<ul style="list-style-type: none"><li>Permit to Work</li><li>Confined space</li></ul></li></ul> <p><b>2.3 Highlight Activity from Supporting Committee</b></p> <p>K.Wisit reported to the committee about the key highlight issues of PD EHS committee as detailed below;</p> <ul style="list-style-type: none"><li>Shared an update on PD KPIs, showing a positive month with no environmental cases, safety incidents, or loss of containment. The key focus remains on tank maintenance, hose management activities for 18 tanks throughout the year.</li><li>In the update discussion, best practices were exchanged and discussion between TTLT and the Refinery, including a case of vessel loading at the marine terminal where a used gasket was identified. A meeting with Fleet Vessel management is being arranged to align expectations and prevent similar incidents in the future.</li></ul> <p>K.Suttida reported to the committee about the key highlight issues of Maintenance &amp; Contractor EHS committee as detailed below;</p> <p>Provided an update on PN's EHS performance, reporting no LOC incidents. Update discussions focused on falling and dropped objects, particularly scaffolding tools stored on platforms, also hose management practices in the process area.</p> <p>K.Thanit reported to the committee about the key highlight issues of Maintenance &amp; Contractor EHS committee as detailed below;</p> <ul style="list-style-type: none"><li>Shared an update on temporary storage of scaffold materials and tools on ground-level grated platforms, controlled by monthly checklists and information tags identifying the person responsible to ensure proper compliance. It's plan to have discussion with the contractor committee team to alignment and reinforce requirements for this storage practice.</li></ul>	-	Infor.

	<p>K. Teerawat reported to the committee about the key highlight issues of Lab Safety committee as detailed below;</p> <ul style="list-style-type: none"><li>Provided an update on the odor issue in the bottle-washing room of the lab, after verification, it has noticeably improved.</li><li>Updated issue of rust particles in the water supply, which is currently being resolved and monitoring through monthly flushing.</li></ul>	-	Infor.
3	Review of Action Item from Last Meeting	Action by	Status/ Due date
	<p><b>3.1 Review of Action Item from last meeting</b></p> <p>The action items in progress include:</p> <p>K.Warayut provided update, the majority of actions are currently in-progress following:</p> <ul style="list-style-type: none"><li>Review and create updating SWP audit checklist to addresses the risks of the activities and aligns with the requirements of the updated e-PTW system.</li><li>Propose EHS Main Committee Outside Visit during 1H-2025</li></ul> <p><b>3.2 Review key take away from IRPC outside visit</b></p> <ol style="list-style-type: none"><li><b>SHE &amp; Turnaround Practices:</b> Shared IRPC's programs like GHG reduction, buffer zones, enclosed flares, safety walks, contractor recognition, and strong contractor control during turnarounds.</li><li><b>Safety Management Technology:</b> Looked into IRPC's use of e-Permit-to-Work and emergency response systems to boost safety and readiness.</li></ol> <p>K. Pongkorn suggested considering the possibility of adopting the HPI parameters for SPRC, how they could be applied to current practices.</p> <p>K. Akasit recommended clearly communicating management expectations—not just focusing on action completion or SAA compliance, but demonstrating true leadership.</p> <p>K.Chatchawan suggestion to continue the annual initiative of bringing team members to broaden their perspectives and exposure.</p>	Warayut Warayut	In-progress Done



## Minutes of SPRC EHS Main Committee Meeting

**Meeting No. :** EHSM2025-08 **Place :** M-226 meeting room

**Date :** 26 Aug 2025 **Time :** 08:30-09:30 hrs.

**Attendees:**



K. Narong T. (GR)	- Chairman
K. Sudtida R. (PN)	- Employer representative
K. Akasit R.(AS)	- Employer representative
K. Wisit S. (PD)	- Employer representative
K. Phoowadon C (AS/6)	- Employer representative
K. Chatchawan J (PN/43)	- Employee representative
K. Chinnawat R. (PD/32)	- Employee representative
K. Thanit L. (AS/122)	- Employee representative
K. Watcharaporn W. (TE/26)	- Employee representative
K. Alisa A. (CF/34)	- Employee representative
K. Itsara S. (PN/33)	- Employee representative
K. Teerawat C (TE/81)	- Laboratory Supervisor
K. Paitoon M. (QS/4)	- Lead Health & Safety
K. Chudapa P. (QS/42)	- Health and Safety Specailist
K. Nillawan P. (QS/43)	- Health and Safety Specailist
K. Warayut (QS/41)	- Secretary

**Apologize:**

K. Pongkorn C (GE) - Employer representative

Agenda	Details	Action by	Status/ Due date
1	IIF Moment/SAA Highlight		
	K. Warayut shared an external incident from news about a grinder disc explosion caused by using the wrong disc for the material which resulted in severe injuries. This shows the importance of choosing the correct, certified disc, checking tools before use and wearing full PPE.		

Close meeting on 16:00 hrs.

2	EHS Performance (Cont.)	Action by	Status/ Due date
	<p><b>2.1 EHS Performance</b></p> <p>K.Warayut reported EHS performance of Jul 2025 are as followings;</p> <p><u>OE Statistic</u></p>   <p><u>Off the Job Injury</u></p> <ul style="list-style-type: none"><li>There were 6 first aid cases of off the job injury occurring in Jun, YTD First aid case = 38 cases</li><li>There were 1 recordable case, YTD = 10 cases</li><li>TRIR off the job injury for Jun =0.27, YTD 0.45</li></ul>	-	Infor.

2	EHS Performance (Cont.)	Action by	Status/ Due date
	<p><b>2.2 Highlight Activity from Supporting Committee</b></p> <p>K.Suttdida reported to the committee about the key highlight issues of Maintenance &amp; Contractor EHS committee as detailed below;</p> <ul style="list-style-type: none"><li>Provided an update on PN EHS performance and discussed electrical competency training for teams involve with electricity work.</li><li>Shared updates on prevention and corrective actions from the Furnace Blogging case, where an alarm occurred but workers were incorrect response. Coordination was made with REB and QS3 to implement an emergency announcement practice, ensuring people in the area are informed and can respond appropriately.</li></ul> <p>K.Wisit reported to the committee about the key highlight issues of PD EHS committee as detailed below;</p> <ul style="list-style-type: none"><li>Provided an update on PD KPIs, showing a positive month with no environmental cases or safety incidents. SAA/SWP engagements was achieved as planned.</li><li>The main focus remains on RSI, particularly at commercial locations to reaching over 95%.</li><li>Shared updates on discussions about enhancing BEC to provide broader coverage in line with verified terminal site conditions.</li><li>Highlighted the upcoming terminal audit scheduled for next month.</li></ul> <p>K.Thanit reported to the committee about the key highlight issues of Maintenance &amp; Contractor EHS committee as detailed below;</p> <ul style="list-style-type: none"><li>Shared discussion safe hose use in cleaning bays and found previous corrective actions ineffective, especially direct connections to fire hydrants.</li><li>Raised concerns about the process and time required for work approval, especially when information needs to be modified without affecting the approval signatures.</li><li>Raised concern about insufficient parking space due to the increasing number of EP team contractors coming on site.</li></ul>	-	Infor.



	<p>K. Wisit requested the QS team to advise on practices or standards for direct connections to fire hydrants, not only to the cleaning bay but also covering all related activities, especially tank maintenance and the upcoming T&amp;I. Health &amp; Safety Team will coordinate with the QS3 team to present the standard practice next meeting.</p> <p>For the parking issue, QS Team will coordinate with the EP team to consider moving all EP contractor to park vehicle at EP parking area.</p> <p>K. Teerawat reported to the committee about the key highlight issues of Lab Safety Committee as detailed below;</p> <ul style="list-style-type: none"> <li>• Provided a Care &amp; Share session to review past incidents with Lab team members, covering all shifts.</li> <li>• Shared highlighted the aging condition of walls and promoted housekeeping awareness among the team which were coordinated to fix with PG team.</li> </ul>	<p>K. Warayut</p> <p>K. Paitoon</p> <p>-</p>	<p>30 Sep</p> <p>30 Sep</p> <p>Infor.</p>
3	<b>Review of Action Item from Last Meeting</b>	<b>Action by</b>	<b>Status/ Due date</b>
	<p><b>3.1 Review of Action Item from last meeting</b></p> <p>The action items in progress include:</p> <p>K. Warayut provided update, the majority of actions are currently in-progress following:</p> <ul style="list-style-type: none"> <li>• Review and create updating SWP audit checklist to addresses the risks of the activities and aligns with the requirements of the updated e-PTW system.</li> </ul>	Warayut	In-progress
4	<b>Consideration</b>	<b>Action by</b>	<b>Status/ Due date</b>
	<p><b>4.1 Individual safety performance</b></p> <p>K. Chudapa presented the individual safety performance scorecard for contractor safety personnel with reference to the Safety Expectation Alignment Workshop, the performance scorecard was developed into actionable covering 11 key contributions including:</p> <ul style="list-style-type: none"> <li>• Participation in SAA/SWP reporting</li> <li>• Leading toolbox talks</li> <li>• EHS training</li> <li>• Monitoring e-PTW status</li> <li>• Incident reporting</li> <li>• Escorting injured personnel</li> <li>• Coordinating return-to-work assessment programs</li> </ul>		

	<p><b>Way Forward:</b></p> <ul style="list-style-type: none"> <li>• Conduct monthly meetings focused on medium- and high-risk contractor groups.</li> <li>• Re-communicate the Contractor Health, Environment and Safety Management (CHESM) system to contract owners and contractor managements.</li> <li>• Conduct an annual audit on EHS system review with medium and high risk contractors.</li> </ul> <p>K. Akasit suggested to explore strategies to strengthen for contractor safety management and enhance overall safety performance. QS Team will work out and come up with the proposal to present in next meeting.</p> <p>Employee representative members support and shared their expectation for contractor safety personnel to be more engaged, attentive and confident in giving feedback on safety matters not only within their own teams but also across other teams in order to strengthen overall safety performance.</p>	-	Infor.
		Paitoon	TBC
5	<b>Round table</b>	<b>Action by</b>	<b>Status/ Due date</b>
	<p>K. Chinnawat asked about weed control methods for the PD area. K. Paitoon confirmed approved herbicides are able to used with chemical approval and advised coordinating with the Teerapanmai team.</p> <p>K. Itsara raised question to support how ERT members with prescription glasses can wear full safety gear. K. Nillawan advise to PN and PD Department will allocate budget custom clip-on lenses for full-face masks through an ophthalmology clinic.</p> <p>K. Wisit requested advice on the requirement for coveralls with fire-retardant specifications for truck drivers at TTLT. K. Paitoon will work out directly with the PD team on this matter.</p> <p>K. Narong summarized the key actions on contractor safety strategy, approval of chemical weed management and provision of clip-on lenses for full-face masks. Appreciation was expressed to everyone for their proactive contributions and constructive discussion.</p> <p>Slide pack: EHS main committee\2025\Meeting Presentation 26Aug 2025.pptx</p>		

Close meeting on 09:30 hrs.



#### Minutes of SPRC EHS Main Committee Meeting

**Meeting No. :** EHSM2025-09

**Place :** M-226 meeting room

**Date :** 02 Oct 2025

**Time :** 13:00-14:00 hrs.

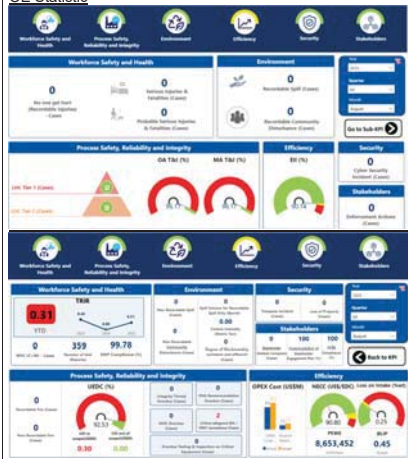
**Attendees:**

K. Akasit R(AS)	- Acting Chairman
K. Pongkorn C (GE)	- Employer representative
K. Sudtida R. (PN)	- Employer representative
K. Wisit S. (PD)	- Employer representative
K. Phooowadon C (AS/6)	- Employer representative
K. Chatchawan J (PN/43)	- Employee representative
K. Chinnawat R. (PD/32)	- Employee representative
K. Watcharaporn W. (TE/26)	- Employee representative
K. Alisa A. (CF/34)	- Employee representative
K. Itsara S. (PN/33)	- Employee representative
K. Teerawat C (TE/81)	- Laboratory Supervisor
K. Paitoon M. (QS/4)	- Lead Health & Safety
K. Chudapa P. (QS/42)	- Health and Safety Specialist
K. Nantawut P.(PD/1C)	- Operations Coordinator
K. Bundit V.(QS/3)	- Lead Emergency Management
K. Siripong B. (QS/32)	- Emergency Management Specialist
K. Warayut (QS/41)	- Secretary

**Apologize:**

K. Narong T. (GR)	- Chairman
K. Thanit L. (AS/122)	- Employee representative

Agenda	Details	Action by	Status/ Due date
1	<b>IIF Moment/SAA Highlight</b>		
	<p>K. Pongkorn shared off-the-job injury cases from playing badminton and futsal, highlighting the need for everyone to stay cautious, especially with sports that involve sudden movements, quick direction changes or physical contact, which can easily lead to sprains, falls or other injuries. Please warm up properly, use the right protective gear and listen to your body to prevent avoidable accidents.</p>	-	Infor.

2	<b>EHS Performance (Cont.)</b>	<b>Action by</b>	<b>Status/ Due date</b>
	<p><b>2.1 EHS Performance</b></p> <p>K. Warayut reported EHS performance of Aug 2025 are as follows;</p> <p><b>OE Statistic</b></p>  <p><b>Off the Job Injury</b></p> <ul style="list-style-type: none"> <li>• There were 9 first aid cases of off the job injury occurring in Jul, YTD First aid case =47cases</li> <li>• There was 1 recordable case, YTD = 11 cases</li> <li>• TRIR off the job injury for Jul = 0.27, YTD 0.42</li> </ul>	-	Infor.

2	EHS Performance (Cont.)	Action by	Status/ Due date
	<p><b>2.2 Highlight Activity from Supporting Committee</b></p> <p>K.Sutdida reported to the committee about the key highlight issues of PN EHS committee as detailed below;</p> <ul style="list-style-type: none"> <li>Provided update PN's overall KPI is good, except for equipment reliability issues.</li> <li>Update refractory falling and drop case during catalyst loading which was outside the survey. SME was consulted and operators have monitored during plant patrols.</li> </ul> <p>K.Wisit reported to the committee about the key highlight issues of PD EHS committee as detailed below;</p> <ul style="list-style-type: none"> <li>Provided update PD's KPI achieved in all four focus areas.</li> <li>Additionally update a non-recordable spill at marine terminal, mostly caused by loosely fitted flanges and reuse of gaskets. A discussion was held with the ship owner. The initial cause review, piping needs modification to match each port configuration. there was no formal work procedure and it depended on individual competency, a control method has now been set to properly manage pipe spools for each ship owner.</li> </ul> <p>K.Teerawat reported to the committee about the key highlight issues of Lab Safety Committee as detailed below;</p> <ul style="list-style-type: none"> <li>Updated a small fire occurred during a sample boiling point test, which triggered the CO2 suppression system in the test cabinet.</li> </ul>	-	Infor.
3	Review of Action Item from Last Meeting	Action by	Status/ Due date
	<p><b>3.1 Review of Action Item from last meeting</b></p> <p>The action items in progress include:</p> <p>K.Warayut provided update, the majority of actions are currently in-progress following:</p> <ul style="list-style-type: none"> <li>Request to coordinate with EP team to consider arrange vehicle parking at EP parking area</li> <li>Review and share requirement for coveralls with fire retardant specification for truck drivers at TTLT</li> </ul>	<p>Paitoon</p> <p>Chudapa</p>	<p>Done</p> <p>In-progress</p>

	<ul style="list-style-type: none"> <li>Explore Strategy for contractor safety management to enhance overall safety performance</li> <li>Request to review and guidelines for non-emergency fire water use during maintenance activities particular on tank shutdown maintenance activity.</li> </ul> <p><b>3.2 Safety practices to use fire water line for maintenance</b></p> <p>K.Siripong presented the update of safety practice to use fire water line for maintenance purpose:</p> <ul style="list-style-type: none"> <li>Based on safe work practice, fire water from the fire pump must not be permanently connected.</li> <li>For maintenance activities with limited fire water availability, the following controls apply:</li> <li>Only authorized and trained personnel are allowed to perform the work. <ul style="list-style-type: none"> <li>Operations and Fire Station must be informed before use.</li> <li>Do not connect directly to the fire hydrant; use a manifold connection instead.</li> </ul> </li> </ul> <p>K. Akasit suggested to work with the PU, AS and EP teams for developing the proposal of safety practices to use fire water line for maintenance work by showing the cost in every options and bring to present in next meeting for endorsement.</p>	<p>Paitoon</p> <p>Warayut/ QS/3</p> <p>Siripong, Warayut</p>	<p>In-progress</p> <p>In-progress</p>
4	Consideration	Action by	Status/ Due date
	<p><b>4.1 FRC for TTLT truck driver</b></p> <p>K. Chudapa presented the proposal of Flame Resistant Clothing (FRC) Requirement for Truck Drivers at TTLT to the committee for consideration.</p> <p>Three options were proposed:</p> <ol style="list-style-type: none"> <li>(1) customers provide their own FRC at no cost to SPRC,</li> <li>(2) SPRC provides FRC to all drivers with cost</li> <li>(3) waiver of the FRC requirement for truck drivers at TTLT with no cost.</li> </ol> <p>The EHS Main Committee supported Option 3, waiving the FRC requirement for truck drivers at TTLT, based on an acceptable risk assessment indicating very low risk of flash fire at the terminal.</p> <p><b>4.2 Contractor Safety Management Strategy Proposal</b></p> <p>Due to the meeting time is overed, the committee agreed to postpone this agenda to the next month meeting.</p>	<p>Chudapa, Nantawat</p>	

5	Round table	Action by	Status/ Due date
	<p>K. Akasit thanked all members and emphasized that as part of the EHS Main Committee, everyone plays an important role in ensuring safety. Reminded that every activity involves some level of risk and it is responsibility to manage those risks appropriately within an acceptable level so that all work can be done safely.</p> <p>Slide pack: EHS main committee\2025\Meeting Presentation 02Oct 2025.pptx</p>	-	Infor.

Close meeting on 14:00 hrs.



#### Minutes of SPRC EHS Main Committee Meeting

**Meeting No.** : EHSM2025-10 **Place** : M-226 meeting room

**Date** : 03 Nov 2025 **Time** : 13:00-14:00 hrs.

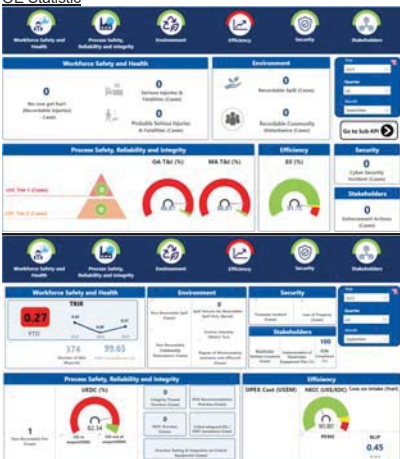
**Attendees:**

K. Narong T. (GR)	- Chairman
K. Pongkorn C (GE)	- Employer representative
K. Akasit R(AS)	- Employer representative
K. Sutdida R. (PN)	- Employer representative
K. Wisit S. (PD)	- Employer representative
K. Phoowadon C (AS/6)	- Employer representative
K. Chatchawan J (PN/43)	- Employee representative
K. Chinnawat R. (PD/32)	- Employee representative
K. Watcharaporn W. (TE/26)	- Employee representative
K. Alisa A. (CF/34)	- Employee representative
K. Thanit L. (AS/122)	- Employee representative
K. Teerawat C (TE/81)	- Laboratory Supervisor
K. Nantawat P.(PD/1C)	- Operations Coordinator
K. Warayut (QS/41)	- Secretary

**Apologize:**

K. Itsara S. (PN/33)	- Employee representative
----------------------	---------------------------

Agenda	Details	Action by	Status/ Due date
1	<b>IIF Moment/SAA Highlight</b>		
	<p>K. Warayut P. shared recent incident where a scaffold pipe fell from the 3rd level to the ground at the CCR Platformer unit.</p> <p>Following this, K. Wisit and K. Akasit recalled a similar case during the 2019 T&amp;I period involving dropped objects. They emphasized that such incidents can reoccur if not addressed properly and highlighted the importance of stronger site engagement from management, especially with new contractors during the pre–turnaround phase.</p>	-	Infor.

2	EHS Performance (Cont.)	Action by	Status/ Due date
	<p><b>2.1 EHS Performance</b></p> <p>K.Warayut reported EHS performance of Sep 2025 are as follows; OE Statistic</p>  <p><b>Off the Job Injury</b></p> <ul style="list-style-type: none"> <li>There were 8 first aid cases of off the job injury occurring in Aug, YTD First aid case =55cases</li> <li>There was 1 recordable case, YTD = 12 cases</li> <li>TRIR off the job injury for Aug = 0.27, YTD 0.40</li> </ul> <p><b>2.2 SAA &amp; SWP Summary report Q2-2025</b></p> <p>K.Warayut presented the SAA summary report for Q3, 2025 to the committee as highlight below.</p> <ul style="list-style-type: none"> <li>Total number of SAA for Q3 were 1,284 reports with 15,287 safe items and 185 unsafe items.</li> <li>Total number of SAA for 2025 were 4,109 reports with 43,580 safe items and 389 unsafe items.</li> <li>Top 3 unsafe items to focus for 2025 as below <ul style="list-style-type: none"> <li>Working condition</li> <li>PPE</li> <li>Tool &amp; Equipment</li> </ul> </li> </ul>	-	Infor.

2	EHS Performance (Cont.)	Action by	Status/ Due date
	<p><b>2.2 SAA &amp; SWP Summary report Q2-2025 (Con.)</b></p> <p>K. Warayut presented the SWP summary report for Q3, 2025 to the committee as highlight below.</p> <ul style="list-style-type: none"> <li>Total number of SWP for Q3 were 280 reports with 3,620 safe items and 11 unsafe items.</li> <li>Total number of SWP for 2025 were 785 reports with 10,000 safe items and 27 unsafe items.</li> <li>Top unsafe items to focus for 2025 as below <ul style="list-style-type: none"> <li>Permit to Work</li> <li>Access to restricted area</li> <li>First break</li> </ul> </li> </ul> <p><b>2.3 Highlight Activity from Supporting Committee</b></p> <p>K.Suttida reported to the committee about the key highlight issues of PN EHS committee as detailed below;</p> <ul style="list-style-type: none"> <li>Provided an update that PN's overall KPI performance is positive, except for equipment reliability, which was impacted due to a shutdown. The key area of focus moving forward is improving human performance, particularly enhancing boardman operational skills and experience.</li> </ul> <p>K.Wisit reported to the committee about the key highlight issues of PD EHS committee as detailed below;</p> <ul style="list-style-type: none"> <li>Provided an update that PD achieved its KPIs across all four focus areas. Operations continued with no supply interruptions and no injury incidents. However, feedback was raised regarding the food composte at about smell at MCB building which is currently being improved.</li> <li>Updated recognition session from tank maintenance cost optimization last month. Also updated on the pipe leakage caused by corrosion under insulation, which is currently under repair and expected to be completed by mid-November.</li> </ul> <p>K.Thanit reported to the committee about the key highlight issues of Maintenance &amp; Contractor EHS Committee as detailed below;</p> <ul style="list-style-type: none"> <li>Provided an update on the use of tool lanyards discussion following the recent falling and dropped object incident. The discussion also covered additional prevention measures such as installing safety nets. Feedback from the teams will continue to be collected and further updates will be provided</li> </ul>	-	Infor.

	<ul style="list-style-type: none"> <li>Shared an unsafe condition during scaffolding erection where inadequate lighting combined with ongoing pipe laydown activities created a potential hazard around the scaffold area.</li> <li>Additionally, raised a safety concern regarding the new contractor whose work practices differ from SPRC's standards. It was highlighted that everyone may need to closely monitor and support them to ensure safe operations.</li> </ul> <p>K.Teerawat reported to the committee about the key highlight issues of Lab Safety Committee as detailed below;</p> <ul style="list-style-type: none"> <li>Updated Lab EHS performance and safety concerns regarding the turbidity of the water supply connected to the eyewash station. The water appears quite cloudy, which may affect safety and usability. To address this, the PG team will organize a meeting next week to discuss possible solutions and next steps.</li> <li>Additionally, a damaged waste bin was observed in the area and the issue has already been reported to the responsible party for prompt repair and replacement.</li> </ul>	-	Infor.
3	<p><b>Review of Action Item from Last Meeting</b></p> <p><b>3.1 Review of Action Item from last meeting</b></p> <p>The action items in progress include:</p> <p>K.Warayut provided update, the majority of actions are currently in-progress following:</p> <ul style="list-style-type: none"> <li>Review and share requirement for coveralls with fire retardant specification for truck drivers at TTLT.</li> <li>Explore Strategy for contractor safety management to enhance overall safety performance</li> <li>Request to review and guidelines for non-emergency fire water use during maintenance activities particular on tank shutdown maintenance activity.</li> </ul>	Chudapa Paitoon Warayut	Done In-progress In-progress
4	<p><b>Consideration</b></p> <p><b>4.1 Fit test frequency change proposal</b></p> <p>K. Nillawan presented a proposal to revise the fit-test frequency for EHS Main Committee consideration, aiming to optimize resource utilization, reduce operating costs, and ensure workers remain fit for duty when performing confined space entry, work at height and respirator-used.</p>	Nillawan	

4	Consideration	Action by	Status/ Due date
	<p><i>Three options were proposed:</i></p> <ol style="list-style-type: none"> <li>(1) Maintain current practice</li> <li>(2) Change fit test frequency from every 4 months to 6 months for confined space and work at height.</li> <li>(3) Cancel fit test validation</li> </ol> <p>After reviewing benchmarking data from peer petrochemical and refinery industries, as well as SPRC's historical performance records, the EHS Main Committee supported Option 2, agreeing to extend the fit-test interval from 4 months to 6 months for confined space and work-at-height activities to implemented Jan 2026</p> <p>Additionally, the committee also recommended collecting comparative data in future cycles to further evaluate the effectiveness and safety performance of the revised frequency continuously.</p>	-	Infor.
5	<p><b>Round table</b></p> <p>K. Akasit shared suggestions ahead of the discussion on contractor safety management strategy, highlighting the need to review SPRC ratio of safety worker to total manpower. The recommendation benchmarking against peer industry standards to ensure SPRC's ratio is aligned with comparable companies.</p> <p>K.Narong expressed appreciation to everyone for their contribution to maintaining a safe working environment and encouraged continued vigilance during site visits and engagements. Emphasized the importance of closely monitoring and supporting new contractors who have recently joined for the upcoming T&amp;I activities.</p> <p>Slide pack: EHS main committee\2025\Meeting Presentation 03Nov 2025.pptx</p>		

Close meeting on 14:00 hrs.





## Minutes of SPRC EHS Main Committee Meeting

**Meeting No. :** EHS2025-1

**Place :** M-226 meeting room

**Date :** 08 Dec 2025

**Time :** 15:00-16:00 hrs.


**Attendees:**

K. Narong T. (GR)	- Chairman
K. Somchai N. (AS/2)	- Employer representative(Acting)
K. Sudtida R. (PN)	- Employer representative
K. Wisit S. (PD)	- Employer representative
K. Phoowadon C. (AS/6)	- Employer representative
K. Chatchawan J. (PN/43)	- Employee representative
K. Chinnawat R. (PD/32)	- Employee representative
K. Alisa A. (CF/34)	- Employee representative
K. Itsara S. (PN/33)	- Employee representative
K. Warayut (QS/41)	- Secretary
K.Chudapa P. (QS/42)	- Health & Safety Specialist
K.Nillawan P. (QS/43)	- Health & Safety Specialist
K.Paitoon M. (QS/4)	- Lead Health & Safety

**Apologize:**

K. Pongkorn C. (GE)	- Employer representative
K. Watcharaporn W. (TE/26)	- Employee representative
K. Thanit L. (AS/122)	- Employee representative

Agenda	Details	Action by	Status/ Due date
1	<b>IIF Moment/SAA Highlight</b>  K. Wisit shared recent fatality cases from a nearby Refinery & Petro chemical plant involving confined space work. Emphasized the importance of checking workers' fit for duty including medical certificates, especially regarding any pre-existing conditions. Also recommended raising this topic in discussions with contractor management through K. Steve for further discussion with contractor management.	-	Infor.

2	EHS Performance (Cont.)	Action by	Status/ Due date
	<p><b>2.1 EHS Performance</b></p> <p>K.Warayut reported EHS performance of Oct 2025 are as follows;</p> <p><b>OE Statistic</b></p>  <p><b>Off the Job Injury</b></p> <ul style="list-style-type: none"><li>There were 4 first aid cases of off the job injury occurring in Sep, YTD First aid case =59cases</li><li>There was 1 recordable case, YTD = 14 cases</li><li>TRIR off the job injury for Sep = 0.27, YTD 0.42</li></ul> <p><b>2.2 Highlight Activity from Supporting Committee</b></p> <p>K.Suttida reported to the committee about the key highlight issues of PN EHS committee as detailed below;</p> <ul style="list-style-type: none"><li>Provided update PN's EHS performance and safety focus are scaffolding that may obstruct access routes in relation to safety-in-design and emergency response planning. We must ensure there are no obstructions to entry or exit that clear exit pathways are maintained and that adequate lighting is provided.</li></ul>	-	Infor.

2	EHS Performance (Cont.)	Action by	Status/ Due date
	<p>K.Wisit reported to the committee about the key highlight issues of PD EHS committee as detailed below;</p> <ul style="list-style-type: none"><li>Provided an update PD's KPI that achieved performance last month and shared a key takeaway from the recent fire incident involving the cat-draw line at the FCC unit.</li><li>An update was provided on the overgrown grass issue in the tank farm area, focusing on vegetation under the pipe rack and larger plants that may grow between tanks.</li><li>Provided update that RSI compliance has now been extended to the South Terminal with significant improvements, and SWP engagement continues to perform above target.</li></ul>		Infor.
3	<b>Review of Action Item from Last Meeting</b>  <b>3.1 Review of Action Item from last meeting</b> The action items in progress include:  K.Warayut provided update, the majority of actions are currently in-progress following: <ul style="list-style-type: none"><li>Explore Strategy for contractor safety management to enhance overall safety performance</li><li>Request to review and guidelines for non-emergency fire water use during maintenance activities particular on tank shutdown maintenance activity.</li></ul>	Paitoon Warayut/ Narongrat	In-progress In-progress
4	<b>Consideration</b>	<b>Action by</b>	<b>Status/ Due date</b>

	<p><b>4.1 Non-emergency fire water use during maintenance activities</b></p> <p>K. Narongrat presented a proposal regarding the non-emergency use of fire water during maintenance activities. Five options were presented for comparison:</p> <ol style="list-style-type: none"><li>Allow to using portable water, equipment for tank shutdown</li><li>Allow using with connected with manifold or Wyn gate</li><li>Allow using with manifold and pressure regulator</li><li>Allow use with controls</li><li>Use of a manifold with a pressure regulator for tank shutdown activities and T&amp;I</li></ol> <ul style="list-style-type: none"><li>Authorization and training requirements</li><li>Use of a temporary tank with equipment at the cleaning bay</li></ul> <p>After reviewing, the committee supported Option 4 with implementation planned to start in January 2026, following communication and revision of the related procedures.</p>	Narongrat	
	<p><b>4.2 Proposal of hepatitis B screening and monitoring for SPRC staff</b></p> <p>K. Nillawan presented a proposal for hepatitis B screening and monitoring for SPRC staff, the addition of a hepatitis B marker to the 2026 health check-up program and rechecking immunity every five years.</p> <p>Three options were presented for comparison:</p> <ol style="list-style-type: none"><li>Maintain the current practice, which requires hepatitis B screening only during pre-employment check-ups</li><li>Add a hepatitis B marker to the 2026 annual health check-up as a one-time measure</li><li>Add a hepatitis B marker to the 2026 annual health check-up and recheck immunity every five years</li></ol> <p>After reviewing benchmarking data from peer petrochemical and refinery companies, the EHS Main Committee supported Option 3, with implementation planned to begin in Q3 2026</p>		

5	Round table	Action by	Status/ Due date
	<p>K. Narong thanked all members and expressed his hope that the team will meet its targets, particularly in terms of individual health performance. Also thanked everyone for sharing strong and effective programs and encouraged the team to stay strong and continue the great work.</p> <p>K. Chudapa shared an invitation for everyone to celebrate the 2 MM work without recordable cases with the EHS Main Committee and to extend the celebration across all areas on 16 Dec 2025. The mini celebration will start 07.30 at toolbox talk are with all routine contractors, following by small group celebration during morning break at designate areas in companywide with staff. The lunchtime activities will be organized at EP canteen for Event contractors.</p> <p>Slide pack: EHS main committee\2025\Meeting Presentation 08 Dec 2025.pptx</p>	<p>Info.</p> <p>Info.</p>	

Close meeting on 16:00 hrs.



## Minutes of SPRC EHS Main Committee Meeting

**Meeting No. :** EHSM2025-12

**Place :** M-226 meeting room

**Date :** 23 Dec 2025

**Time :** 11:30-13:00 hrs.

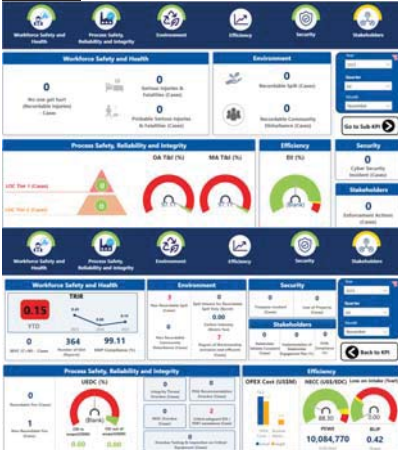
**Attendees:**

K. Narong T. (GR)	- Chairman
K. Pongkorn C. (GE)	- Employer representative
K. Akasit R. (AS)	- Employer representative
K. Sudtida R. (PN)	- Employer representative
K. Wisit S. (PD)	- Employer representative
K. Phoowadon C. (AS/6)	- Employer representative
K. Chatchawan J. (PN/43)	- Employee representative
K. Chinnawat R. (PD/32)	- Employee representative
K. Alisa A. (CF/34)	- Employee representative
K. Itsara S. (PN/33)	- Employee representative
K. Watcharaporn W. (TE/26)	- Employee representative
K. Thanit L. (AS/122)	- Employee representative
K. Warayut (QS/41)	- Secretary
K. Chudapa P. (QS/42)	- Health & Safety Specialist
K. Nillawan P. (QS/43)	- Health & Safety Specialist
K. Paitoon M. (QS/4)	- Lead Health & Safety

**Apologies:**

None

Agenda	Details	Action by	Status/ Due date
1	<b>IIF Moment/SAA Highlight</b>		
	<p>K. Itsara shared a road traffic accident case where the vehicle in front braked suddenly and the car behind was unable to stop in time. As a result, the driver swerved to the right, which led to a collision. This serves as an important reminder to always drive carefully, maintain a safe following distance, and stay alert—especially during long holiday periods when traffic volume is higher and the risk of accidents increases.</p>	-	Infor.

2	EHS Performance (Cont.)	Action by	Status/ Due date
	<p><b>2.1 EHS Performance</b></p> <p>K.Warayut reported EHS performance of Nov 2025 are as followings;</p> <p>OE Statistic</p>  <p><b>Off the Job Injury</b></p> <ul style="list-style-type: none"> <li>There were 3 first aid cases of off the job injury occurring in Oct, YTD First aid case =62cases</li> <li>There was 1 recordable case, YTD = 15 cases</li> <li>TRIR off the job injury for Oct = 0.27, YTD 0.40</li> </ul> <p><b>2.2 Highlight Activity from Supporting Committee</b></p> <p>K.Suttida reported to the committee about the key highlight issues of PN EHS committee as detailed below;</p> <ul style="list-style-type: none"> <li>Updated PN EHS performance, including a recent leak incident and an emission case related to N<sub>2</sub> purging during reactor maintenance.</li> <li>Emphasized pre-turnaround readiness, focusing on operational verification and control of preparation works for T&amp;I, particularly ensuring scaffolding does not block emergency equipment or access</li> </ul>	-	Infor.

2	EHS Performance (Cont.)	Action by	Status/ Due date
	<p>K.Wisit reported to the committee about the key highlight issues of PD EHS committee as detailed below;</p> <ul style="list-style-type: none"> <li>Provided an update on PD's KPI, safe and reliable performance was maintained and targets were achieved last month. Also shared an update incident on the SPM buoy collision with a cargo vessel which was investigated.</li> </ul> <p>K. Akasit reported to the committee about the key highlight issues of Maintenance and contractor EHS committee as detailed below;</p> <ul style="list-style-type: none"> <li>Focus on safe work practices for scaffolding contractors.</li> </ul> <p>K.Teerwat reported to the committee about the key highlight issues of PD EHS committee as detailed below;</p> <ul style="list-style-type: none"> <li>Provided an update on noise-related issues, including the review of octane laboratory testing. As a result, testing schedules were adjusted to avoid time periods that may be affected by noise interference.</li> </ul>		Infor.
3	<b>Review of Action Item from Last Meeting</b>	Action by	Status/ Due date
	<p><b>3.1 Review of Action Item from last meeting</b></p> <p>The action items in progress include:</p> <p>K.Warayut provided update, the majority of actions are currently in-progress following:</p> <ul style="list-style-type: none"> <li>Organize recognition for EHS Main committee member</li> </ul>	Warayut	In-progress
4	<b>Consideration</b>	Action by	Status/ Due date

	<b>4.1 Revise criteria for wellnomics user license proposal</b> K. Nillawan presented a proposal regarding the revise wellnomics user license to optimize license utilization cost efficiency. Three options were presented for comparison 1. Do nothing (maintain current practice) 2. Revise license criteria (consider by position) 3. Stop using wellnomics software  Option 2 was recommended to remove licenses for non-office-based staff and contractors in order to optimize license usage and administrative workload. This approach would reduce the total number of licenses by 38%, resulting in cost savings.  After reviewing, the committee recommended to track and add data about the RSI risk from individual computer use as one of the criteria. Then send the e-mail to department VP for consideration to remove the wellnomics software license for their team .	Nillawan	
5	Round table	Action by	Status/ Due date
	K. Narong thanked all members for their valuable contributions and continuous support throughout the year. Expressed his sincere appreciation to the committee and invited everyone to join the lunch together, thanking everyone once again.  Slide pack: EHS main committee\2025\Meeting Presentation 12 Dec 2025.pptx	Info.	

Close meeting on 13:00 hrs.

ภาคผนวก ข.22

แผนการจัดอบรมด้านอาชีวอนามัยและความปลอดภัย

ประจำปี พ.ศ. 2568

EHS Training Schedule 2025								
Course Name	Target Group	Shift/Day	Duration	Type	Date	Est. Participant	Venue	Custodian/Instructor
Adv. Fire Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift A	1 day	Theory & Practice	6-Mar-2025	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	24-Apr-2025	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	4-Mar-2025	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	11-Mar-2025	40	NPC S&E	QS/3 Team
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	22-Apr-2025	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	22-May-2025	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	29-Apr-2025	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	8-Apr-2025	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	9-Sep-2025	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	2-Sep-2025	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	30-Sep-2025	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	4-Sep-2025	12	Fire Station	QS/3 Team
HAZMAT Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift A	0.5 day (PM)	Theory & Practice	19-May-2025	40	R-106 & Field	QS/3 Team
HAZMAT Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift B	0.5 day (PM)	Theory & Practice	18-Jun-2025	40	R-106 & Field	QS/3 Team
HAZMAT Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift C	0.5 day (PM)	Theory & Practice	19-Jun-2025	40	R-106 & Field	QS/3 Team
HAZMAT Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift D	0.5 day (PM)	Theory & Practice	3-Apr-2025	40	R-106 & Field	QS/3 Team
Rescue Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift A	0.5 day (AM)	Theory & Practice	19-May-2025	40	R-106 & Field	QS/3 Team
Rescue Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift B	0.5 day (AM)	Theory & Practice	18-Jun-2025	40	R-106 & Field	QS/3 Team
Rescue Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift C	0.5 day (AM)	Theory & Practice	19-Jun-2025	40	R-106 & Field	QS/3 Team
Rescue Training Refresher (Normex suit and PPE)	ERT, EST, OSC, OSC-NON	Shift D	0.5 day (AM)	Theory & Practice	3-Apr-2025	40	R-106 & Field	QS/3 Team
Fire Training Refresher for Lab	Lab Staff	Day, Shift A/D	0.5 day	Practice	20-Feb-2025	15	NPC S&E	QS/3 Team
Fire Training Refresher for Lab	Lab Staff	Day, Shift B/C	0.5 day	Practice	13-Mar-2025	15	NPC S&E	QS/3 Team
Basic Fire Fighting for New Staff	New Staff (Inc. Operator)	Day	1 day	Theory & Practice	7-May-2025	-	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	30-Apr-2025	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	18-Mar-2025	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	10-Apr-2025	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	20-Mar-2025	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	2-Oct-2025	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	11-Sep-2025	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 C	1 day	Classroom/Exercise	24-Sep-2025	40	R-106 / Fire Station	QS/3 Team

EHS Training Schedule 2025								
Course Name	Target Group	Shift/Day	Duration	Type	Date	Est. Participant	Venue	Custodian/Instructor
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	21-Oct-2025	40	R-106 / Fire Station	QS/3 Team
Safety Working with Hazardous Substance Handling	Lab & Warehouse	Day, Shift B/C	0.5 day (PM)	Classroom	5-Jun-2025	20	R-105	QS/43
Safety Working with Hazardous Substance Handling	Lab & Warehouse	Day, Shift A/D	0.5 day (PM)	Classroom	29-May-2025	20	R-106	QS/43
CPR & First Aid Training Refresher for Shift Staff	PN, PD, Lab Shift Staff	Shift A	0.5 day (A.M.)	Theory & Practice	28-May-2025	50	R-106	QS/43
CPR & First Aid Training Refresher for Shift Staff	PN, PD, Lab Shift Staff	Shift B	0.5 day (A.M.)	Theory & Practice	10-Jun-2025	50	REB	QS/43
CPR & First Aid Training Refresher for Shift Staff	PN, PD, Lab Shift Staff	Shift C	0.5 day (A.M.)	Theory & Practice	5-Jun-2025	50	R-106	QS/43
CPR & First Aid Training Refresher for Shift Staff	PN, PD, Lab Shift Staff	Shift D	0.5 day (A.M.)	Theory & Practice	12-Jun-2025	50	R-106	QS/43
CPR & First Aid Training Refresher for Electrical Team	Electrical Team	Day	0.5 day	Theory & Practice	23-Jul-2025	40	R-106	QS/43
CPR & First Aid Training for New Staff	New Staff	Day	1 day	Theory & Practice	TBC	-	R-106	QS/43
Defensive Driving	Newcomer who drives SPRC pool car, LT's driver, Duty personnel	Day/Shift	1 Day	Theory & Practice	May, Oct	20	REB	QS/42, outsource
Boiler Operator Refresher	PN & PD Shift Staff who working with boiler		1 Day	Classroom	TBC	-	REB	KMUTNB
Boiler Operator Refresher	PN & PD Shift Staff who working with boiler		1 Day	Classroom	TBC	-	REB	KMUTNB
Permit To Work	New Operators/Day Staff	Day	1 day	Classroom	TBC	-		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
Technical Fire Fighting for New Operation staff (PN & PD)	New Staff (Operator)	Day	1 day	Theory & Practice	TBC	-	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	-	Fire Station	QS/3 Team
Confined Space 4 Roles (4 ฝั)	New Staff (Operation and SPM Team)	Day/Shift	4 days	Classroom/Practice	TBC	-	PUB	QS/42
Confined Space for Operator (ฝัปฏิบัติงาน)	New Staff (AS, IR, TE)	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
E-Permit to Work for New Operator	New Operator (2024)	Shift	1 day	Classroom	2-May-2025	18	Canteen 2	QS/41
PN work shop no1		shift B/C			4-Feb-2025			
PN work shop no1		shift A/D			6-Feb-2025			
Boiler training					24Feb-1Mar2025			
Boiler training					26-31 May 2025			
Boiler training					21-26 Jul 2025			
PN work shop no2		shift B/C			5-Aug-2025			
PN work shop no2		shift A/D			7-Aug-2025			
A3 Project and com for T&I		shift A/D			29-Jul-2025			
A3 Project and com for T&I		shift B/C			31-Jul-2025			
A2 Project and com for T&I		shift B/C			19-Aug-2025			
A2 Project and com for T&I		shift A/D			21-Aug-2025			
A1 Project and com for T&I		shift A/D			26-Aug-2025			
A1 Project and com for T&I		shift B/C			28-Aug-2025			
EHS and com for T&I		shift B/C			16-Sep-2025			
EHS and com for T&I		shift A/D			18-Sep-2025			
A4 Project and com for T&I		shift A/D			23-Sep-2025			
A4 Project and com for T&I		shift B/C			25-Sep-2025			
SCS and com		shift A/D			7-Oct-2025			
SCS and com		shift B/C			9-Oct-2025			
NG meter					13-14 Aug			
NG meter					1-2 Sep			

Operation - PD = 11.5 days (estimated) [per EHS training plan & maintenance requirement]

Operation - PN = 11.5 days (estimated) [per EHS training plan & boiler & maintenance requirement]

Non = Not ERT/Not OSC

EHS-OT-QS-0001 EHS\_Standard\_Training\_Program\_



## ภาคผนวก ข.23

### แผนฉุกเฉิน และการซ้อมแผนฉุกเฉิน



บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน)

แผนคุณภาพ สิ่งแวดล้อม อาชีวอนามัยและความปลอดภัย

## แผนปฏิบัติการประจำท่าเรือ เพื่อป้องกันและขจัดมลพิษทางน้ำเนื่องจากน้ำมัน

จัดทำโดย:



นายโอภาส ไวยสัจจา  
ผู้จัดการส่วนท่าเทียบเรือ



นายบัณฑิต วายูวัฒนศิริ  
หัวหน้าหน่วยการบริหารจัดการตอบโต้ภาวะฉุกเฉิน

ทบทวน



และอนุมัติโดย:

นายพงษ์กรณ์ ช่อชูวงศ์  
รองกรรมการผู้จัดการใหญ่ ด้านปฏิบัติการเพื่อความเป็นเลิศ

## แผนปฏิบัติการประจำท่าเรือเพื่อป้องกันและขจัดมลพิษทางน้ำเนื่องจากน้ำมัน

### 1. บทนำ

#### (ก) ข้อมูลทั่วไป

ท่าเทียบเรือ และท่อน้ำมันดิบกลางทะเลของบริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน) (SPRC) ได้รับการออกแบบ บำรุงรักษา และดำเนินการเพื่อลดโอกาสการรั่วไหลของน้ำมัน อย่างไรก็ตาม SPRC ตระหนักดีว่าโอกาสที่น้ำมันจะรั่วไหลนั้นไม่สามารถกำจัดได้อย่างสมบูรณ์ ดังนั้นแผนฉุกเฉินนี้จึงได้รับการออกแบบมาเพื่อให้คำแนะนำสำหรับการรับมือเหตุฉุกเฉินต่อการรั่วไหลของน้ำมัน แผนอธิบายการดำเนินการตอบสนองที่สามารถดำเนินการเพื่อปกป้องบุคลากรและลดความเสียหายต่อสิ่งแวดล้อม

#### (ข) วัตถุประสงค์ของแผน

SPRC มุ่งมั่นที่จะตอบสนองอย่างทันทั่วถึงและเหมาะสมต่อการรั่วไหลของน้ำมัน วัตถุประสงค์ของขั้นตอนนี้คือเพื่อตรวจสอบและเตรียมรับมือการรั่วไหลของน้ำมัน แผนนี้จัดทำขึ้นเพื่อเตรียมบุคลากรของโรงกลั่น ท่าเทียบเรือและท่อน้ำมันดิบสำหรับการตอบโต้สถานการณ์น้ำมันรั่วไหลในทะเล เพื่อลดผลกระทบต่อสิ่งแวดล้อม ปกป้องสุขภาพและความปลอดภัยของบุคลากร ปกป้องอุปกรณ์ของโรงงาน และช่วยให้บุคลากรปฏิบัติตามกฎระเบียบ

แนวคิดของการตอบโต้ภาวะฉุกเฉินคือการลดการแพร่กระจายของการรั่วไหลของน้ำมันให้น้อยที่สุดและบรรเทาผลกระทบ โดยการควบคุมแหล่งที่มาของการเกิดการรั่วไหล และกักเก็บให้ใกล้กับแหล่งที่มากที่สุด การปกป้องพื้นที่ชายฝั่งและพื้นที่อ่อนไหวด้านสิ่งแวดล้อม และกำจัดน้ำมันและคราบน้ำมันโดยเร็วที่สุด

#### (ค) ขอบเขตของพื้นที่รับผิดชอบ

การดำเนินงานของ SPRC อยู่ในพื้นที่ของการนิคมอุตสาหกรรมแห่งประเทศไทย (กนอ.) ที่นิคมอุตสาหกรรมมาบตาพุด จังหวัดระยอง ประกอบด้วยท่อน้ำมันดิบกลางทะเล ท่าเทียบเรือ และโรงกลั่น ตั้งอยู่ห่างจากกรุงเทพฯ ประมาณ 200 กม. ในเขตพัฒนาชายฝั่งทะเลตะวันออก แผนฉุกเฉินนี้ครอบคลุมความเสี่ยงของการรั่วไหลของน้ำมันที่เกิดจากกิจกรรมที่สถานีรับน้ำมัน คือ ท่อน้ำมันดิบกลางทะเล Single Point Mooring (SPM) และท่าเทียบเรื่อน้ำมัน



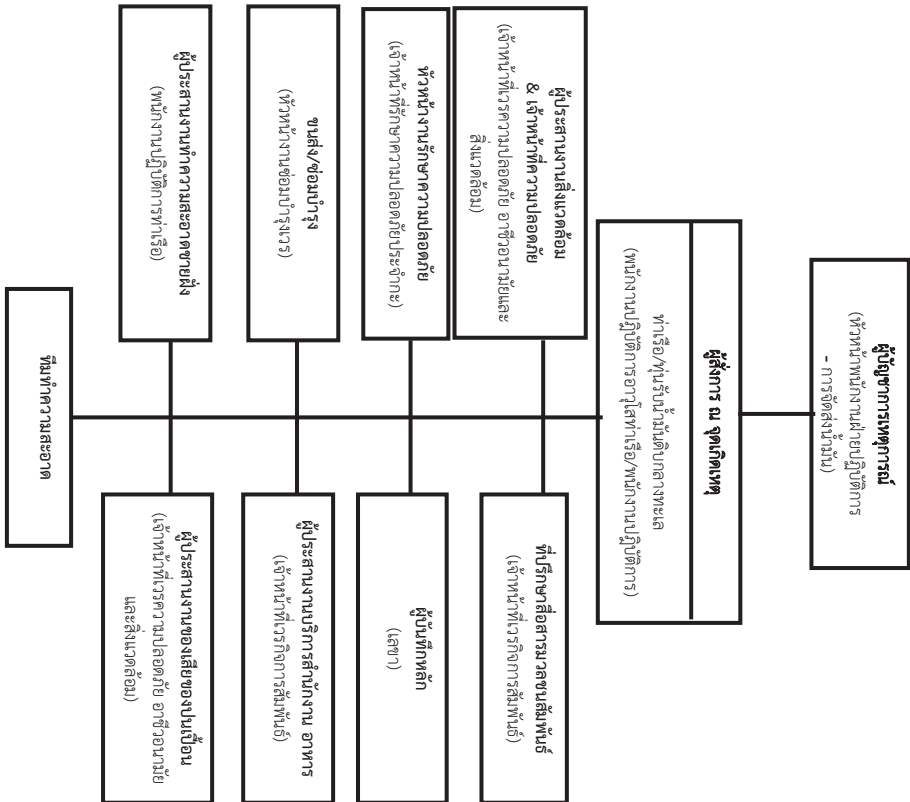
#### ท่อน้ำมันดิบกลางทะเล

ท่อน้ำมันดิบกลางทะเล หรือ Single Point Mooring (SPM) อยู่นอกชายฝั่งที่ละติจูด 12° 29' 12.6" N ลอง 101° 11' 57.6" E ห่างจากนิคมอุตสาหกรรมมาบตาพุดไปทางใต้ประมาณ 20 กม. ในอ่าวไทย SPM เชื่อมต่อกับระบบการรับน้ำมันดิบบนฝั่ง โดย Pipeline End Manifold (PLEM) บนพื้นทะเลใต้ SPM และท่อแข็งใต้ทะเล

SPM ถูกใช้เพื่อรับน้ำมันดิบระดับปานกลาง โดยมีความถี่เฉลี่ย 5 ครั้งต่อเดือน และสามารถรองรับเรือบรรทุกน้ำมันขนาด Very Large Crude Carrier (VLCC) ได้ ปริมาณน้ำมันดิบที่ได้รับผ่านทาง SPM โดยเฉลี่ยประมาณ 165,000 บาร์เรลต่อวัน (26,000 ลูกบาศก์เมตรต่อวัน) โดยสถิติการขนถ่ายผ่านท่อน้ำมันดิบกลางทะเล ตั้งแต่ปีพ.ศ. 2562-2566 มีดังนี้

2. การกำหนดองค์ประกอบหน้าที่ความรับผิดชอบ  
(ก) บทบาทหน้าที่ผู้รับผิดชอบ แผนผังแสดงหน้าที่ผู้รับผิดชอบ

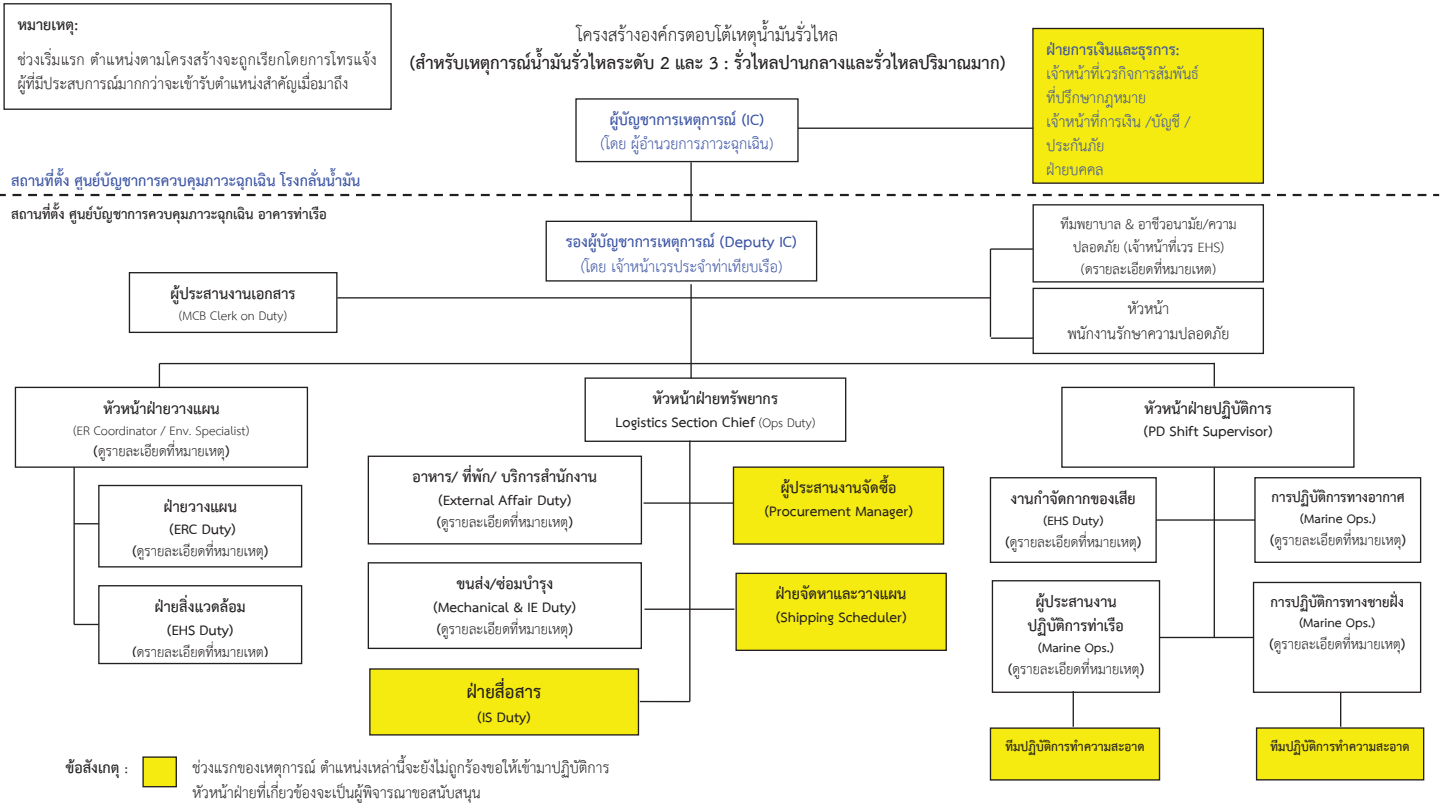
โครงสร้างองค์การตอบโต้เหตุน้ำมันรั่วไหลระดับ 1



หมายเหตุ: ในช่วงเริ่มต้น ตำแหน่งตามโครงสร้างจะถูกเรียกโดยการโทรแจ้ง ผู้มีประสบการณ์จะเข้ารับตำแหน่งสำคัญทันทีที่  
มาถึง

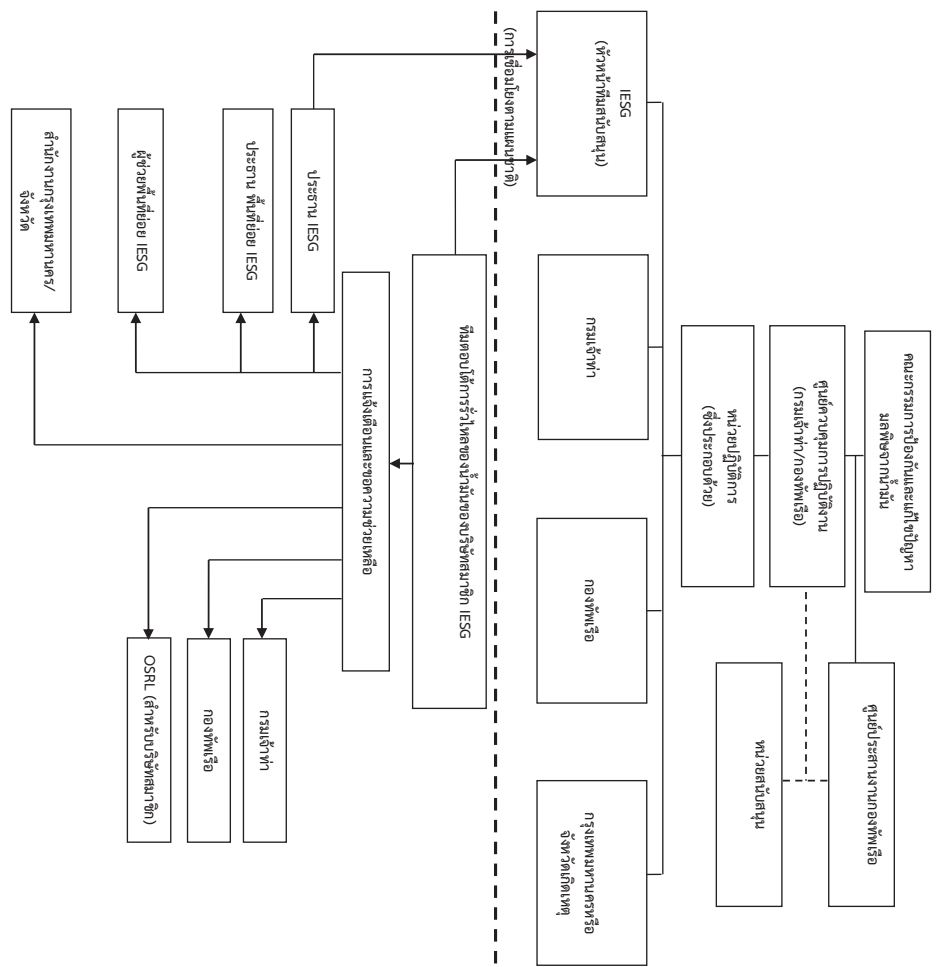
หมายเหตุ:  
ช่วงเริ่มแรก ตำแหน่งตามโครงสร้างจะถูกเรียกโดยการโทรแจ้ง  
ผู้ที่มีประสบการณ์มากกว่าจะเข้ารับตำแหน่งสำคัญเมื่อมาถึง

สถานที่ตั้ง ศูนย์บัญชาการควบคุมภาวะฉุกเฉิน โรงกลั่นน้ำมัน  
สถานที่ตั้ง ศูนย์บัญชาการควบคุมภาวะฉุกเฉิน อาคารท่าเรือ



ข้อสังเกต :   ช่วงแรกของเหตุการณ์ ตำแหน่งเหล่านี้จะไม่ถูกร้องขอให้เข้ามาปฏิบัติการ  
หัวหน้าฝ่ายที่เกี่ยวข้องจะเป็นผู้พิจารณาขอสนับสนุน

โครงสร้างการเชื่อมต่อการช่วยเหลือหุ้นส่วนร่วม  
(สำหรับเหตุการณ์ระดับ 2 และ 3 การเชื่อมโยงตามแนวนอน)



บทบาท: เป็นผู้บันทึกหลักอย่างเป็นทางการ

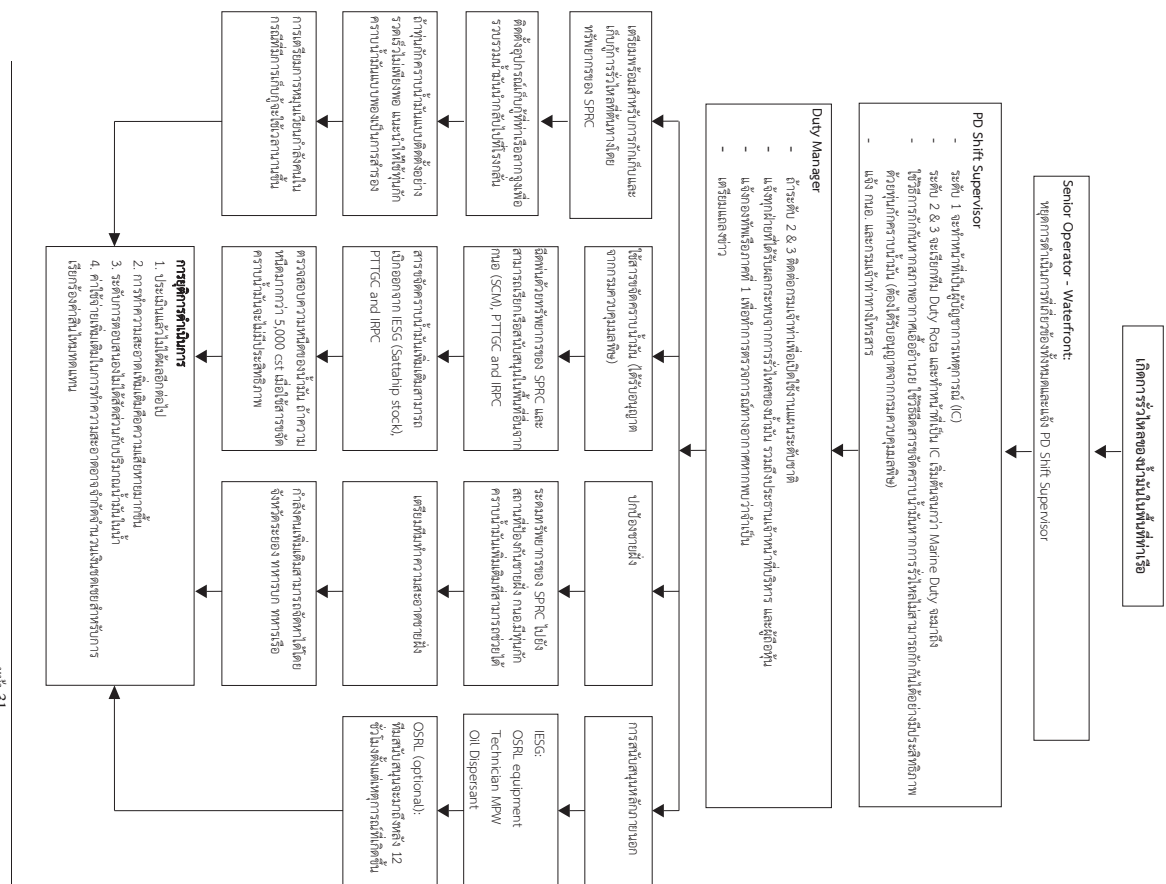
ความรับผิดชอบ:

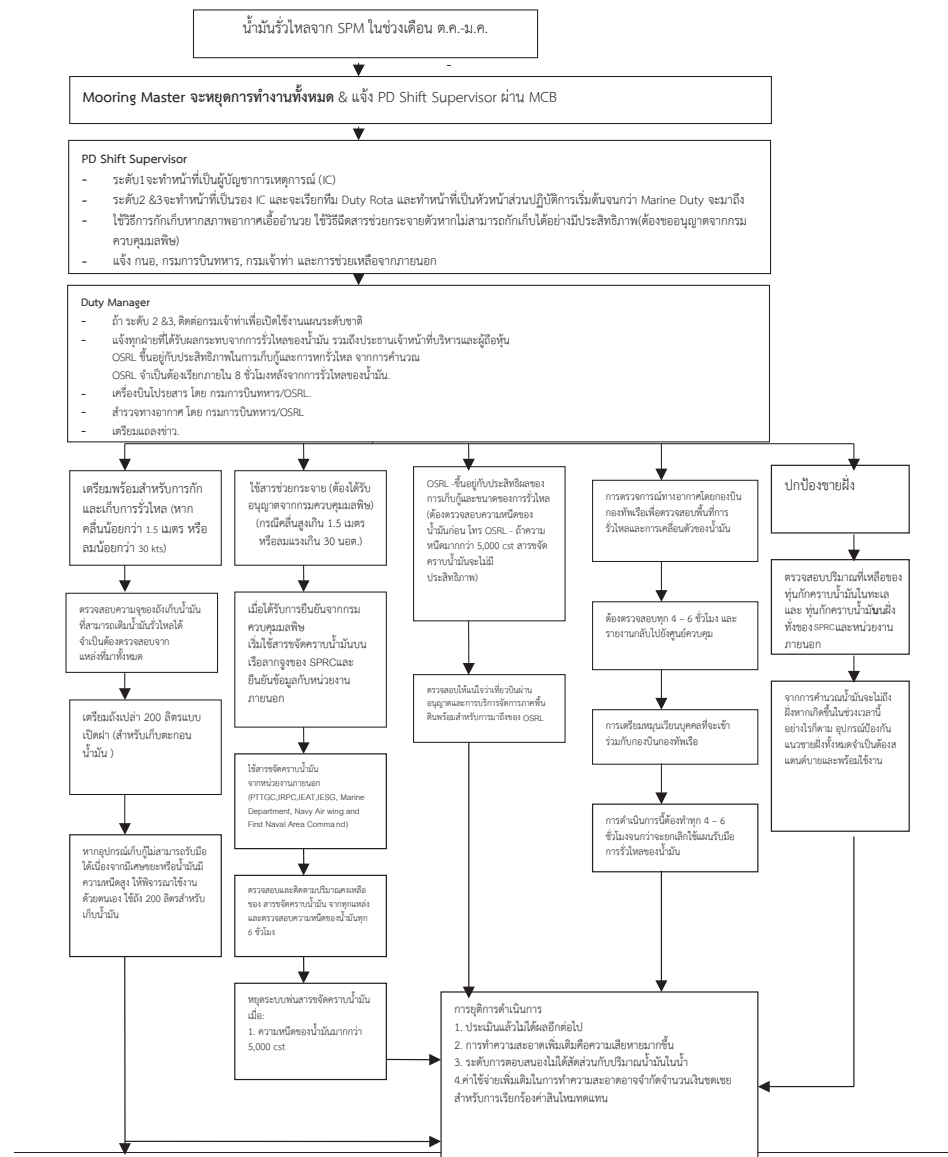
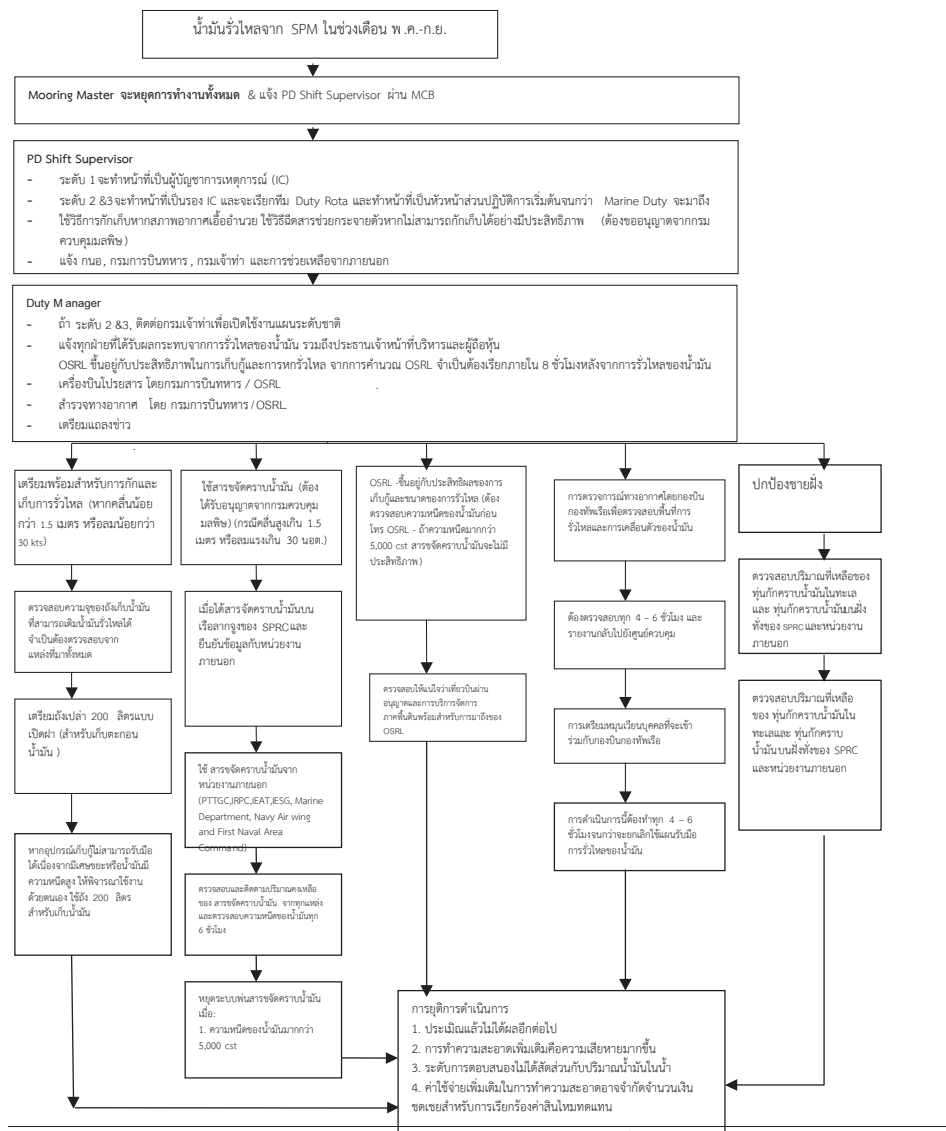
- มั่นใจว่าเหตุการณ์ที่มีนัยยะสำคัญจะต้องถูกบันทึกอย่างถูกต้อง
- ประสานกับศูนย์สื่อสารว่าข้อมูลที่มีนัยยะสำคัญถูกบันทึก
- มั่นใจว่าสมาชิกในศูนย์ฉุกเฉินให้ข้อมูลที่มีนัยยะสำคัญหรือเหตุการณ์ที่มีการเปลี่ยนแปลงสถานการณ์ฉุกเฉิน

ในกรณีเหตุการณ์ผิดปกติ เหตุการณ์ภาวะฉุกเฉิน ผู้อำนวยการภาวะฉุกเฉินต้องมั่นใจว่า ผู้มีส่วนได้เสียทั้งหมดได้รับการแจ้งเตือนแล้ว

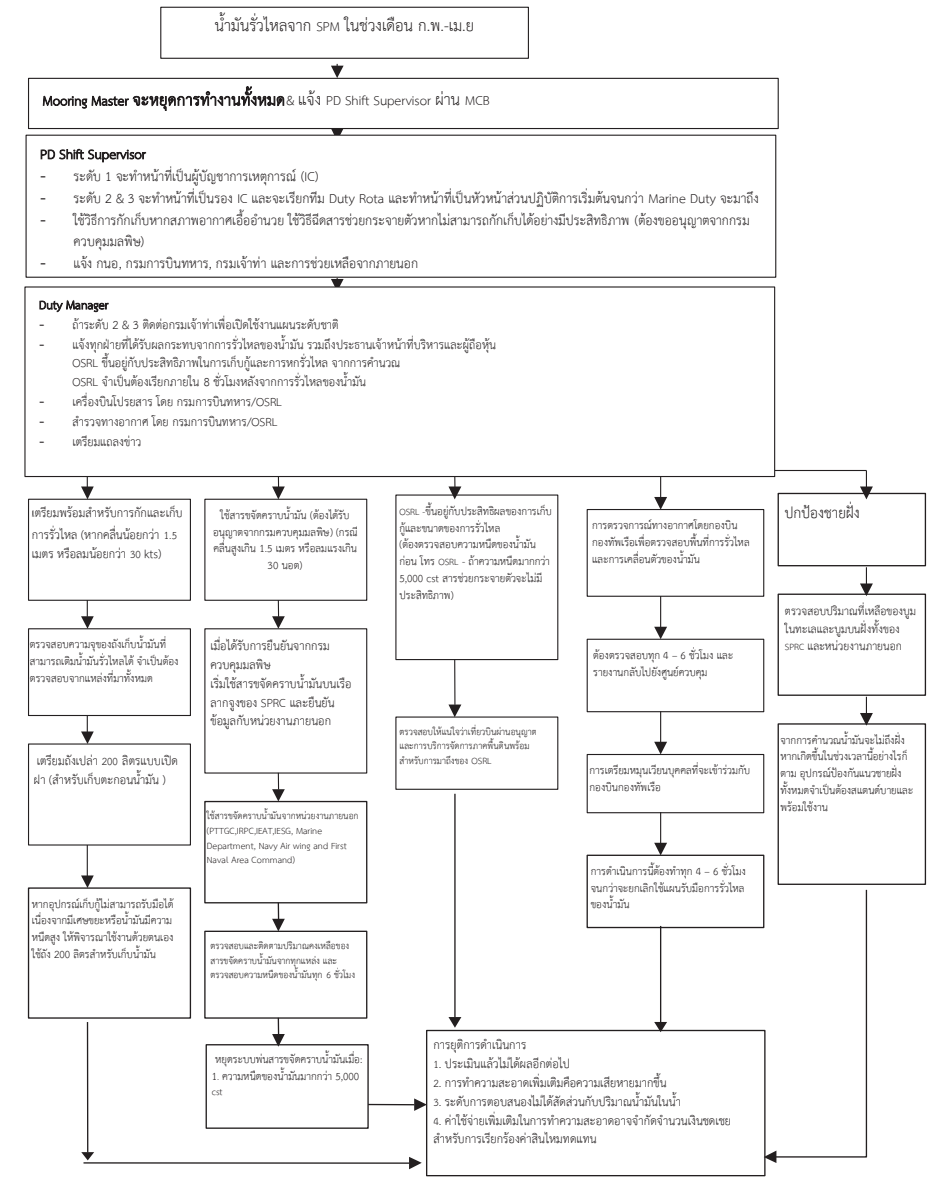
ผู้มีส่วนได้เสีย / สถานการณ์	สำนักงานท่าเรืออุตสาหกรรมมาบตาพุด	กรมเจ้าท่า ระยอง	กรมควบคุมมลพิษ (PCD)	เทศบาล มาบตาพุด จังหวัดระยอง	สมาคมอนุรักษ์สภาพแวดล้อมของกลุ่มอุตสาหกรรมน้ำมัน	โรงพยาบาลคูสัญญา	ชุมชนใกล้เคียง / บริษัทที่อยู่ในเอกสารการติดต่อหน่วยงานภายนอก (AM-OT-CA-012)	บริษัท พีทีที โกลบอล เคมิคอล จำกัด (มหาชน)	เซฟรอน
ภาวะฉุกเฉินระดับ 1	✓	✓	✓	ในกรณีที่เกิดเหตุบนฝั่ง	-	ในกรณีที่มีผู้บาดเจ็บและต้องนำส่งโรงพยาบาล	✓	✓	-
ภาวะฉุกเฉินระดับ 2	✓	✓	✓		✓		✓	✓	✓
ภาวะฉุกเฉินระดับ 3	✓	✓	✓		✓		✓	✓	✓

สถานการณ์	แจ้งโดย	ผู้มีส่วนได้เสีย	ช่องทางการติดต่อ
ภาวะฉุกเฉินระดับ 1	หัวหน้าพนักงานปฏิบัติการฝ่ายปฏิบัติการ-การจัดส่งน้ำมัน	กรมเจ้าท่า	ภูมิภาคระยอง : 038-687-456 โทรสาร: 038-687-457
		สำนักงานท่าเรืออุตสาหกรรมมาบตาพุด	โทรศัพท์: 038-687-810 โทรสาร: 038-683-176
	ฝ่ายสื่อสารองค์กร	ชุมชนข้างเคียง	ตามเอกสารรายชื่อหน่วยงานภายนอก AM-OT-CA-012
	ชั่วโมงทำการ โดยฝ่ายกิจการสัมพันธ์ นอกชั่วโมงทำการ โดยหัวหน้าพนักงานรักษาความปลอดภัย (Shift Security Officer, SSO)	บริษัทข้างเคียง	ตามเอกสารรายชื่อหน่วยงานภายนอก AM-OT-CA-012
	ผู้เชี่ยวชาญภาวะฉุกเฉิน (Emergency Response Coordinator Duty, ERC)	ศูนย์สื่อสาร PTTGC Group	แจ้งศูนย์สื่อสาร PTTGC Group ผ่านโทรศัพท์
	หัวหน้าพนักงานรักษาความปลอดภัย	PTTGC	PTTGC Group event report (PTT Group Intranet)
ภาวะฉุกเฉินระดับ 2/ 3	เจ้าหน้าที่กิจการสัมพันธ์	กรมเจ้าท่า	ภูมิภาคระยอง : 038-687-456 โทรสาร: 038-687-457
		สำนักงานท่าเรืออุตสาหกรรมมาบตาพุด	โทรศัพท์: 038-687-810 , โทรสาร: 038-683-176 (อ้างอิงเอกสารหมายเลข EHS-FO-QS-3108)
		เทศบาลเมืองมาบตาพุด	โทรศัพท์: 038-685191, วิทยุคลื่น :162.550 MHz
		ชุมชน/บริษัทข้างเคียง	ตามเอกสารรายชื่อหน่วยงานภายนอก AM-OT-CA-012
		โรงพยาบาลคูสัญญา	ตามเอกสาร EHS-OT-QS-3003
	ผู้เชี่ยวชาญภาวะฉุกเฉิน (ERC)	จังหวัดระยอง	วิทยุคลื่น :162.800MHz
		ศูนย์สื่อสาร PTTGC Group	โทรศัพท์มือถือ: 089-9696835 โทรศัพท์: 02-537-3111, 222, 333 โทรสาร: 02-537-3498-9 (PTT Crisis & Emergency Report Form)
	ผู้อำนวยการภาวะฉุกเฉิน	ผู้มีส่วนได้เสีย (เซฟรอน)	ถ้าต้องการความช่วยเหลือ ติดต่อ ศูนย์ข้อมูลฉุกเฉิน เซฟรอน: (+1)-510-231-0623
		ผู้มีส่วนได้เสีย (คณะกรรมการบริษัท) พนักงาน SPRC ผ่านทางอีเมล	ร่างการแจ้งเหตุ <sup>(1)</sup> สำหรับผู้บริหารเพื่อส่งให้คณะกรรมการบริษัท ผ่านทางอีเมล





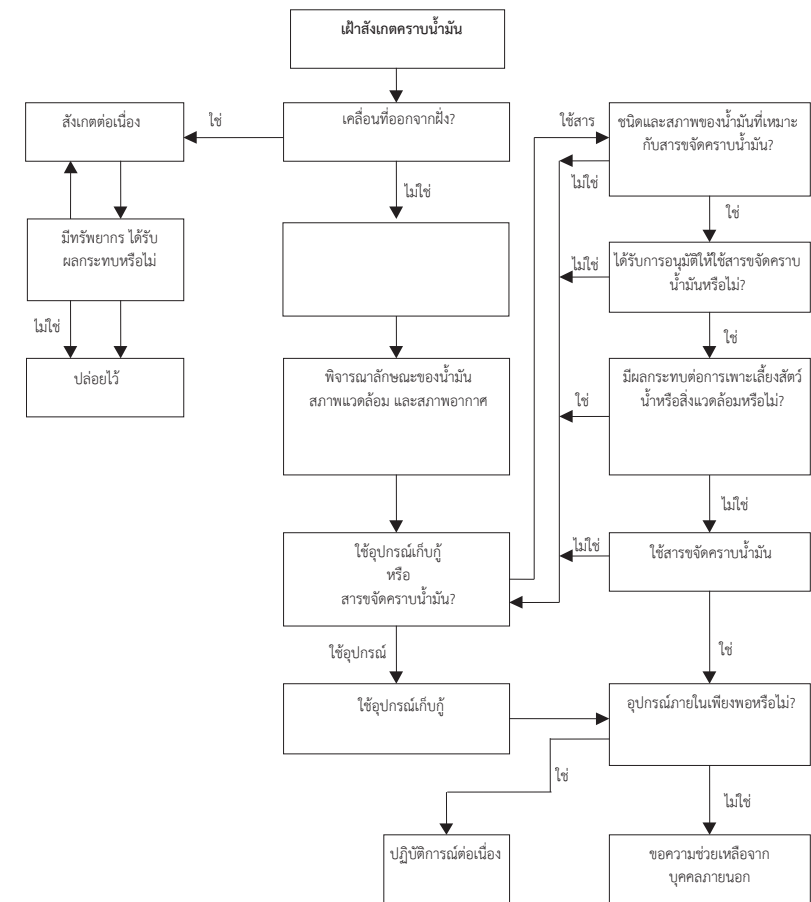




## (2) การตอบโต้ทั่วไป

ส่วนต่อไปนี้จะอธิบายขั้นตอนการตอบโต้เบื้องต้น โดย Marine Terminal Senior Operator/Mooring Master มีหน้าที่รับผิดชอบในการตรวจสอบให้แน่ใจว่าได้ปฏิบัติตามขั้นตอนต่างๆ จนกว่าจะถึงเวลาที่ได้ออกจากตำแหน่งผู้บัญชาการในที่เกิดเหตุแล้วส่งมอบหน้าที่ให้ Marine Duty

แผนผังขั้นตอนการตัดสินใจในการตอบโต้สถานการณ์







*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 Iab 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.
		4/4.0 Emergency 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	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	20/10.6 Leak Response Flow Chart  26/11.4 Emergency Contact Point in case of Neighboring Company Incident 44/Appendix A.5.5 EHS Duty 50/Appendix A7.Emergency Support Team 54/Appendix A11.Historian  65/Appendix C  103-104/Appendix V/W  106/15.Reference List	Update the Leak Response Flow Chart to be reflex the current practice  Change the company name from Bayer Thai to Covestro (Thailand)  Add role of keep monitoring and tracking of an injured person and head count details (to update to the Duty Team members)  Add the wording of the responsibilities will be assigned by Emergency Response Coordinator  Identify the roles of Historian to be the Assign Administrative Assistance or Marine Duty (If available/Not the Marine Case) by Duty Manager  Update the H2S concentration at fence line from 10 ppm to 5 ppm  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  Change the revision of IEAT-IEAT_MTP port emergency response plan from B.E.2557 to B.E.2558	Athit C.
8	24-Feb-16	10/8.1 Notification Flow Chart 11/8.2 Notification and reporting to Stakeholder  28/13 Post Incident Review  45/ Appendix A Role and Responsibility 5.6 Emergency Response Coordinator (Duty)  100/Appendix U Notification to the PTT  79, 80, 81 / Appendix C10.Failure of SPRC Trunked Radio system procedures	Take the PTT company out from the stakeholder notification list  Indicate the tracking and follow up process of recommendation/feedback received from post incident review.  Delete the role and responsibility of ERC Duty to notify the PTT out.  Delete the Notification from to PTT out  Update content on SPRC Trunked Radio system from old (analog) to new (digital) to reflect the fall back modes on new system implemented	Athit C (QS/3)       Soontorn S. (TE/717)

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		- Changed the Department name of QS & CA - Changed the position of Emergency Response Coordinator to Lead Emergency Management and Fire system specialist to Emergency management Specialist. - Add location of document control and updating on Smart Procedure - update actions on emergency table - Add Thai- MECC agency in Notification and Reporting to Stakeholder. - Changed the contact person to notify PorPor from CA to Emergency Response Coordinator. - Update responsibilities of OSC - Update responsibilities of PU Shift Supervisor - Add position and responsibilities of Emergency Response Team-Leader - Update responsibilities of ERT - Update responsibilities of FTD - Delete specific task "Act as site spoke person". - Update responsibilities of Emergency Response Coordinator (Duty) - Revised communication channel form EOC to REB - Update responsibilities of Staging Officer - Revised the SPRC Assistance to Other Companies and added the flow chart. - Add National Foam Universal Gold 1/3% at Foam Suppliers - Revised number of operation supporter from 4 person to 2 persons - Revised the assembly point. - update the IEAT-MTP Emergency Reporting Form - update the MTP-Port Abnormal situation and Emergency Reporting Form	QS/3
		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		

## TABLE OF CONTENTS

1. PURPOSE & SCOPE .....	1
2. DOCUMENT CONTROL AND UPDATING.....	6
3. EMERGENCY LEVEL.....	7
4. EMERGENCY RESPONSE ORGANISATION OVERVIEW .....	8
5. EMERGENCY RESPONSE DECISION PROCEDURE .....	9
6. ACTIONS ON EMERGENCY .....	10
7. COMMUNICATION METHODS .....	12
8. NOTIFICATION AND REPORTING .....	14
8.1 Notification Flowchart.....	14
8.2 Notification and Reporting to Stakeholder.....	15
9. CRISIS MANAGEMENT AND BUSINESS CONTINUITY PLAN .....	19
9.1 Objective .....	19
9.2 Activation and Deactivation of SPRC-CMP .....	19
9.3 SPRC Crisis Management Team .....	19
9.4 Roles & Responsibilities of SPRC Crisis Management Team.....	19
9.5 Schedule of Authority .....	20
10. Leak Response Guides Decision.....	21
10.1 Objective .....	21
10.2 Scope and Definition .....	21
10.3 Overview .....	21
10.4 Leak Response Timeline .....	22
10.5 Leak Response Flow Chart .....	23
11. EVACUATION PROCEDURES.....	24
11.1 In case of Fire:.....	24
11.2 In case of Smell or Toxic Gas Leak:.....	26
11.3 Neighbouring Community/Company Notification .....	29
11.4 Emergency Contact Points In Case of Neighbouring Company Incident .....	30
12. DEACTIVATION AND RECOVERY .....	31
12.1 Deactivation .....	31
12.2 Re-commissioning .....	31
12.3 Incident Investigation .....	31
13. POST INCIDENT REVIEW .....	32
14. APPENDIX .....	33
APPENDIX A ROLES AND RESPONSIBILITIES .....	33
1. Incident Commander (IC).....	33
2. On Scene Commander (OSC) .....	34
3. Production Unit Shift Supervisor of affected area.....	35
4. Emergency Response Team Leader (ERT-Leader).....	35
5. Emergency Response Team (ERT) .....	36
6. Fire Truck Drivers .....	36
7. Duty Rota Team .....	37
7.1 Duty Manager .....	38
7.2 Operation Duty.....	41



7.3	External Affair Duty - Corporate Affairs Issues .....	42
7.4	External Affair Duty - Human Resource Issues .....	44
7.5	EHS Duty .....	46
7.6	Emergency Response Coordinator (Duty) .....	47
7.7	Marine Duty .....	48
7.8	Mechanical / Instrument & Electrical Duty.....	49
8.	Operations Support Team .....	50
9.	Emergency Support Team.....	51
10.	Emergency Support Team (EST).....	53
11.	Operating Shift.....	53
12.	Historian .....	54
13.	Switchboard Operator .....	55
14.	Office Wardens .....	56
15.	Security .....	57
16.	Staging Officer .....	59
17.	Medical Team .....	60
18.	Legal Advisor.....	61
APPENDIX B	DUTY ROTA GUIDELINE FOR EMERGENCIES .....	62
1.	Generic Guidelines .....	62
2.	Emergency Duty Rota List .....	62
3.	Nomination to Duty Rota.....	62
APPENDIX C	EMERGENCY CONTINGENCY PLAN .....	64
1.	Hydrogen Sulphide (H <sub>2</sub> S) Leak.....	64
2.	Radiation Emergencies .....	66
3.	Bomb Threat.....	67
4.	Marine Terminal / SPM Emergencies .....	71
6.	TTLT Emergencies.....	76
7.	SPRC pipelines Emergencies.....	76
8.	Off Site Facilities Incident in SPRC Vicinity .....	77
9.	Off Site Road Accidents Involving Product from SPRC .....	78
10.	Failure of SPRC Trunked Radio system procedures .....	79
11.	Product Contamination Procedure .....	82
12.	Oil /Chemical Spill/Release and Leak on land .....	82
13.	Marine Oil Spill .....	82
APPENDIX D	MUTUAL AID and ASSISTING TO THIRD PARTIES.....	83
APPENDIX E	EMERGENCY ASSEMBLY AREAS.....	86
APPENDIX F	HEAD COUNT PROCEDURES.....	88
APPENDIX G	PRESS RELEASES GUIDELINES .....	89
APPENDIX H	FOAM SUPPLIERS.....	92
APPENDIX I	DRINKING WATER AND REFRESHMENTS .....	92
APPENDIX J	TRANSPORTATION .....	92
APPENDIX K	EMERGENCY ALARM TEST .....	92
APPENDIX L	MEDICAL ERP PROCEDURE.....	93
APPENDIX M	EMERGENCY TRAINING AND EXERCISES.....	94
APPENDIX N	EMERGENCY OPERATION CENTER LAYOUT .....	95
APPENDIX O	PIPE LINE LAY OUT .....	96
APPENDIX P	EMERGENCY TELEPHONE NUMBERS .....	97
APPENDIX Q	SPRC FLU PANDEMIC BUSINESS CONTINUITY PLAN.....	97
APPENDIX R	MUTUAL AID AGREEMENT BETWEEN SPRC & PTTGC-6.....	98
APPENDIX S	PIER EVACUATION GUIDELINE .....	100
APPENDIX T	The Reporting form to the Labour Protection Welfare .....	101
APPENDIX U	IEAT-MTP Emergency Reporting Form.....	102
APPENDIX V	MTP- Port Abnormal Situation and Emergency Reporting Form ..	103
15.	REFERENCE LIST .....	104

## 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)	1) Senior Operator of Area affect 2) Emergency Response Team 3) Incident commander 4) Security Shift Officer	1) Assess the situation that have to mobilize the ERT to response to the incident 2) Communicate via trunk radio (announcement) for the resources need	Pass the required emergency related training according to the EHS Training Requirement
Emergency Response Level 1B (Emergency Activation)	1) Senior Operator of Area affect 2) Incident commander 3) Emergency Response Team 4) Security Shift Officer 5) Duty Team members	1) Assess the situation at the scene that need more resource to handle the incident. 2) Communicate via trunk. 3) Call the Duty team by Security Shift officer (via SMS). ERT/EST by SS	Passed the required emergency related training according to the EHS Training Requirement. Trained the Emergency Response for Duty Rota team
Emergency Response Level 2	1) Senior Operator of Area affect 2) Incident commander 3) Emergency Response Team 4) Security Shift Officer 5) Duty Team members 6) Mutual Aid Team members 7)	1) Assess the situation at the scene that need more resource to handle the incident 2) Communicate via trunk 3) Call the Duty team by Security Shift officer (via SMS). ERT/EST by SS	Passed the required emergency related training according to the EHS Training Requirement. Trained the Emergency Response for Duty Rota team
Emergency Response Level 3	1) Senior Operator of Area affect 2) Incident commander 3) Emergency Response Team 4) Security Shift Officer 5) Duty Team members 6) Mutual Aid Team members	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 I ).

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

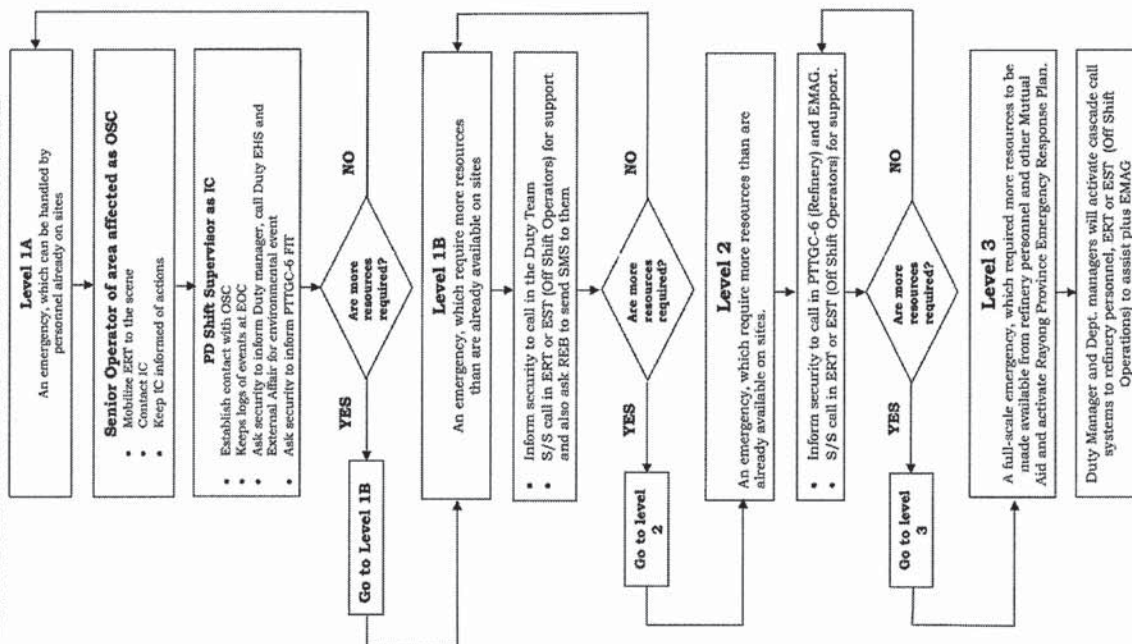
**An emergency, which will require some additional resources more than SPRC team. This would be the third-party mutual aid teams (EMAG,)**

#### Level 3

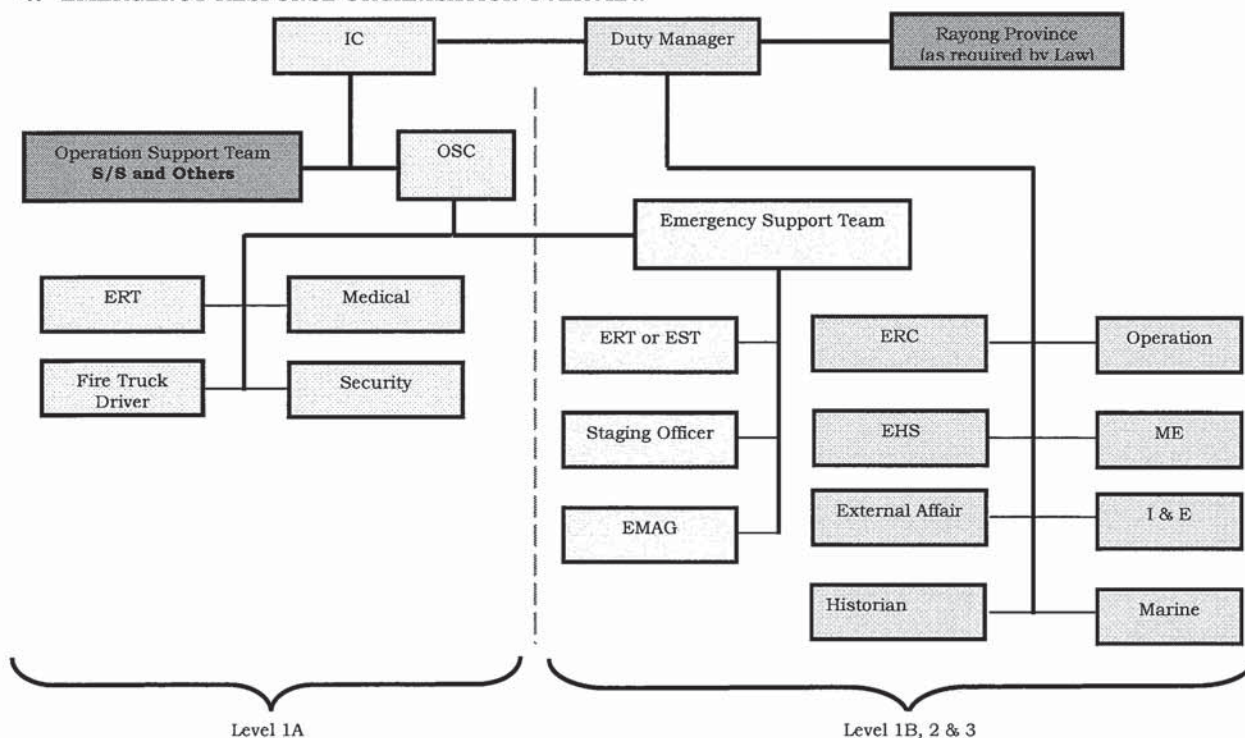
**A full-scale emergency which requires further resources to be made available from company personnel, other mutual aid teams, Map Ta Phut municipality and Rayong Province support team.**



## 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. <ul style="list-style-type: none"> <li>Telephone 7191</li> <li>Give the name and position, company.</li> <li>Give location and nature of incident.</li> </ul>			
Incident Commander (IC)  (PD Shift Supervisor on shift)	<ul style="list-style-type: none"> <li>Switch radio to Emergency Channel</li> <li>Go immediately to EOC and assume as IC</li> </ul>	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)	<ul style="list-style-type: none"> <li>Ask for ERT by radio</li> <li>Go immediately to the scene of the incident and assume the role of OSC.</li> <li>Set up the forward command post.</li> <li>Communicate with IC on Emergency channel.</li> <li>Cooperate with board man for plant condition</li> <li>Supervise ERT leader to control and secure the incident</li> </ul>	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	<ul style="list-style-type: none"> <li>Switch Radio to Area channel / Emergency Channel</li> <li>Make a decision unit shutdown agreement with OSC followed Leak response protocol.</li> <li>Control Emergency Shutdown procedures</li> <li>Consider to inform Off shift operator to aware</li> </ul>	As for Level 1A  Plus <ul style="list-style-type: none"> <li>Call in off shift to support ERT, shut down activity</li> </ul>	As for Level 1B	As for Level 1B
Emergency Response Team (ERT)  (Assigned operators)	<ul style="list-style-type: none"> <li>Switch radio to Emergency Channel</li> <li>Go immediately to the scene of the incident as directed by OSC.</li> </ul>	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.		<ul style="list-style-type: none"> <li>Get together at Fire Station and get ready to go to the scene as requested by OSC.</li> </ul>	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.)	<ul style="list-style-type: none"> <li>Switch radio to Emergency Channel</li> <li>Nominated drivers to take the fire truck to the scene of incident as requested by OSC</li> </ul>	As for Level 1A	As for Level 1A	As for Level 1A
Security  (REB)	<ul style="list-style-type: none"> <li>Activate the Emergency Alert System as requested by OSC</li> <li>Call out ERT team, if required by OSC.</li> <li>Alert ERT EMAG</li> <li>Provide support as requested by OSC</li> <li>SMS to Duty Team and all off shift operator to alert and stand by</li> </ul>	<ul style="list-style-type: none"> <li>Call in duty teams and Mutual Aid team requested by OSC.</li> </ul>	<ul style="list-style-type: none"> <li>Activate the Emergency Alert System</li> <li>Call the refinery personnel and mutual aid team as requested by OSC</li> </ul>	<ul style="list-style-type: none"> <li>As for Level 2</li> <li>Activate the Emergency Alert System</li> </ul>
Panel man of affected area	<ul style="list-style-type: none"> <li>Monitor operation of units from CCB.</li> <li>Initiate emergency shutdown procedure as instructed by Shift Sup./ Operation Procedures.</li> </ul>	As for Level 1A	As for Level 1A	As for Level 1A
Medical Team	<ul style="list-style-type: none"> <li>Provide first aid as requested by OSC.</li> <li>Evacuate by ambulance as needed.</li> </ul>	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 ศูนย์บัญชาการเรือไทยของชาติทางทะเล กระทรวง ทรัพยากร 095-8620506

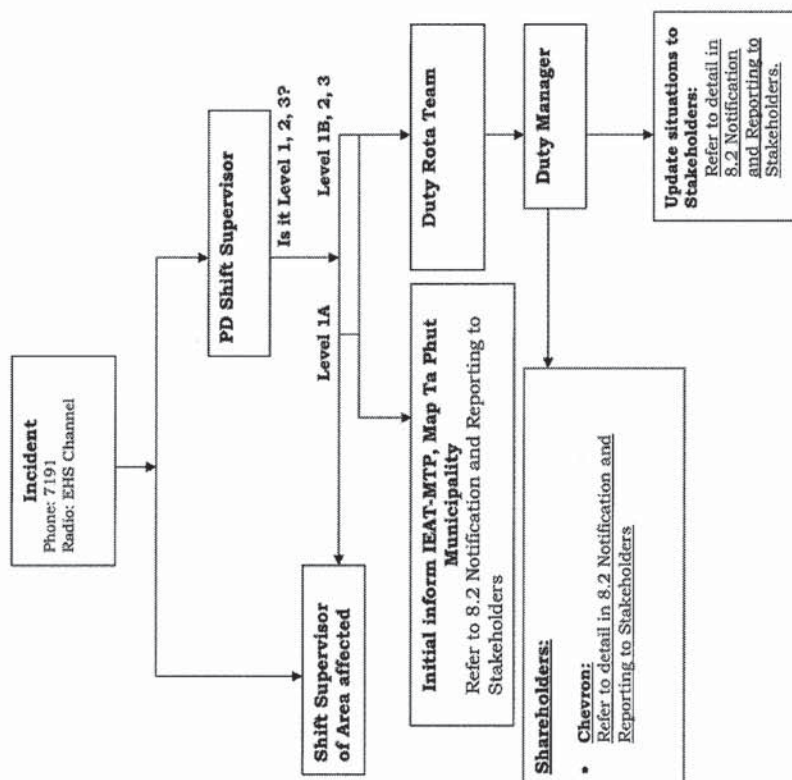
Revision No.:14  
Date: 7 June 2021

Copy No. 00

Page 15 of 104

## 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 095-8620506
	Nurse on Duty	Contract Hospital	Defined in Emergency Telephone Number (EHS-OT-QS-3003)
	ERC Duty	Rayong Province	PorPor Rayong 089-9696765 Rayong Welfare 065-5078682 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

Revision No.:14  
Date: 7 June 2021

Copy No. 00

Page 16 of 104

		Mailboxes)	
--	--	------------	--

**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.

Revision No.:14  
Date: 7 June 2021

Copy No. 00

Page 17 of 104

**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.

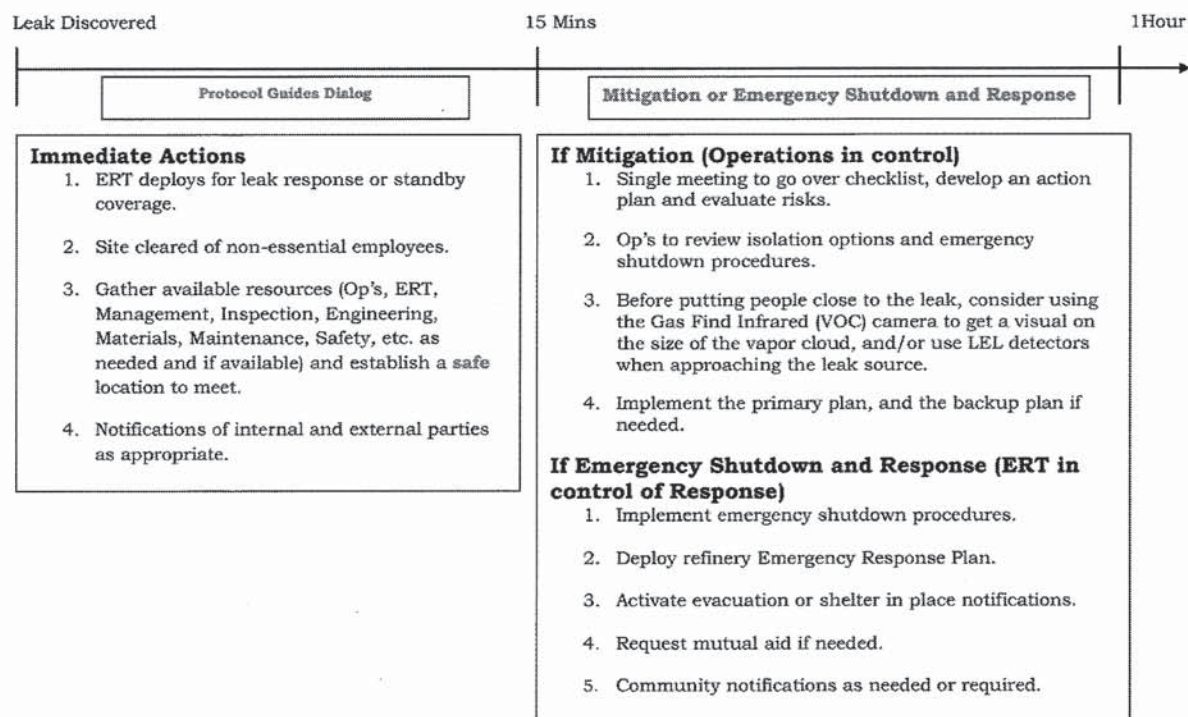
Incidental releases of hazardous substances where the substance can be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area, or by maintenance personnel, are not included.

### 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

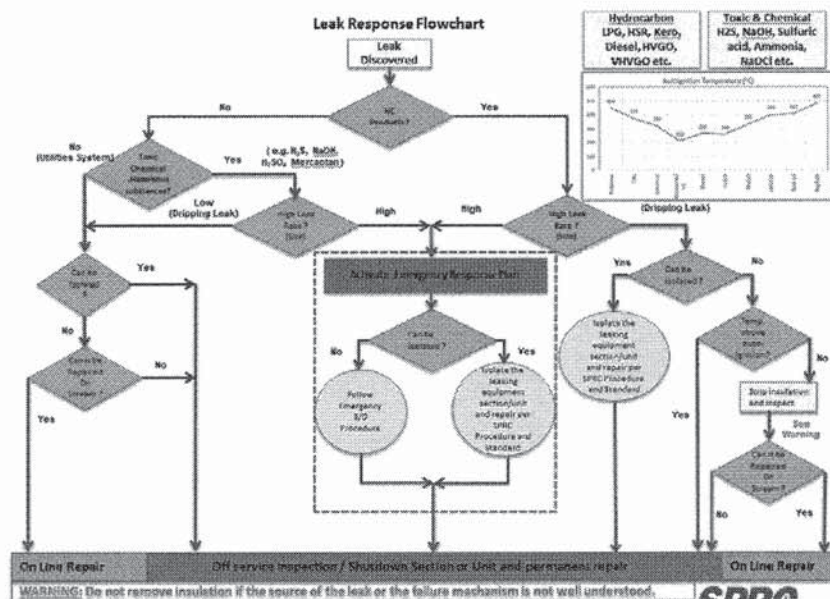


Revision No.: 14  
Date: 7 June 2021

Copy No. 00

Page 22 of 104

### 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](#)

Revision No.: 14  
Date: 7 June 2021

Copy No. 00

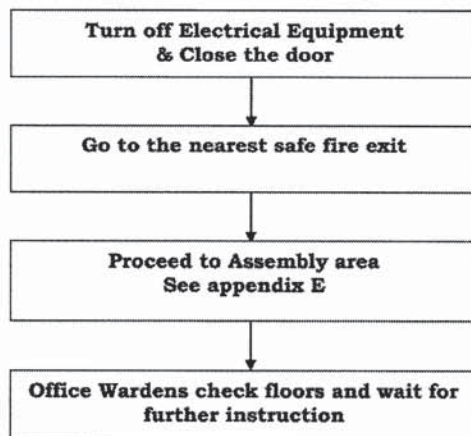
Page 23 of 104



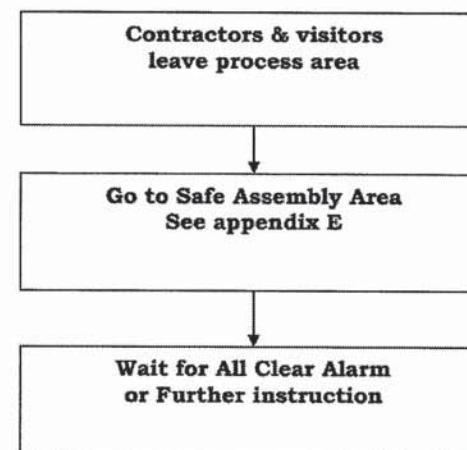
**11. EVACUATION PROCEDURES****11.1 In case of Fire:****11.1.1 Actions for Building Evacuation in case of Fire in Building**

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;

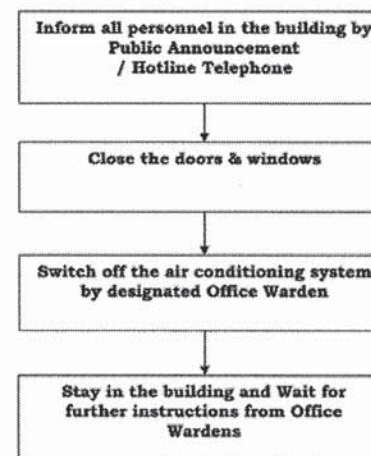
- Level 1** Only information of incident, do not need evacuation of the personnel.
- Level 2** The incident becomes more serious and the personnel on the affected area need to be either sheltered-in-place or evacuated.

**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**

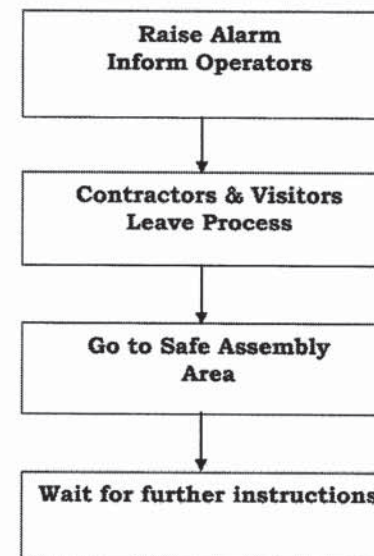


**11.2.2 Actions for Personnel in Other Working Areas****LEVEL 1**

- 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**

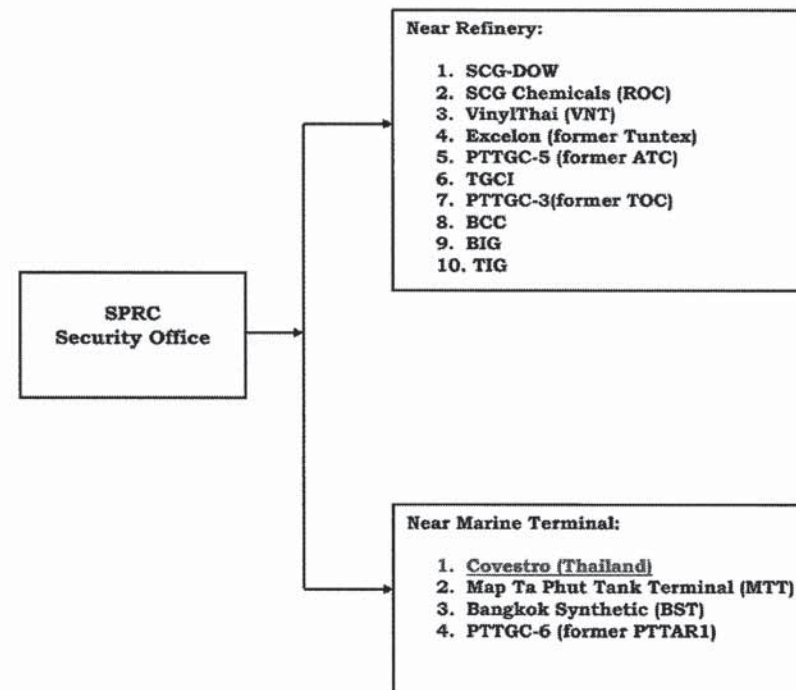
When emergency and abnormal situation which could effect to neighboring community /company, SPRC shall notify to the community leader or his deputy and company contact person refer to External Contact List (AM-OT-CA-012) for early aware refer to 8.2 Notification and Reporting to Stakeholder.

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. TTLT 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**

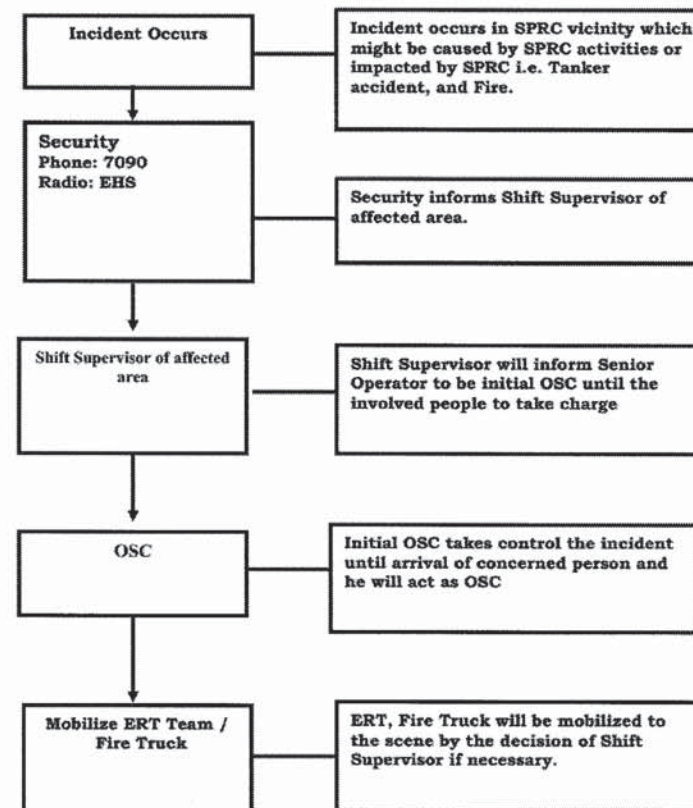
In event of an emergency at pipelines which are SPRC responsibility (see Appendix O) the response will be as for the refinery emergency as following:

- 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)

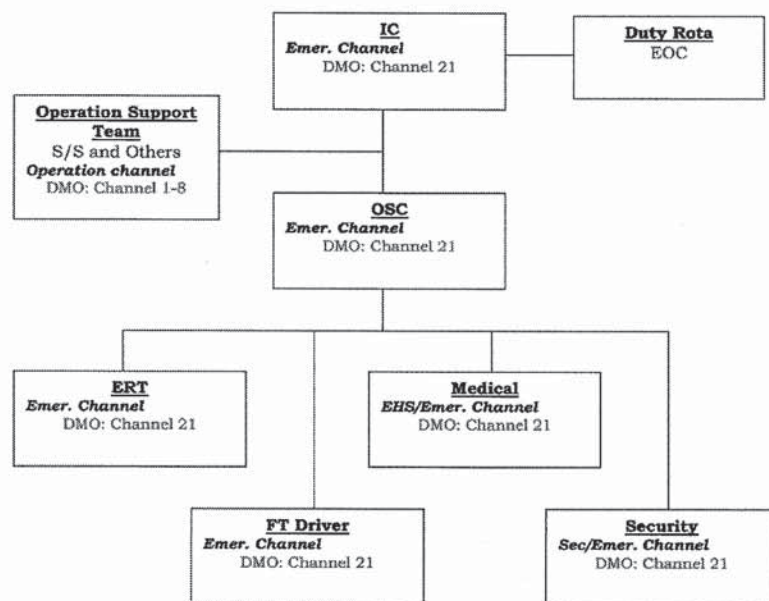
When all available network is lost, the radio displays channel indicates "No Service" word

**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**

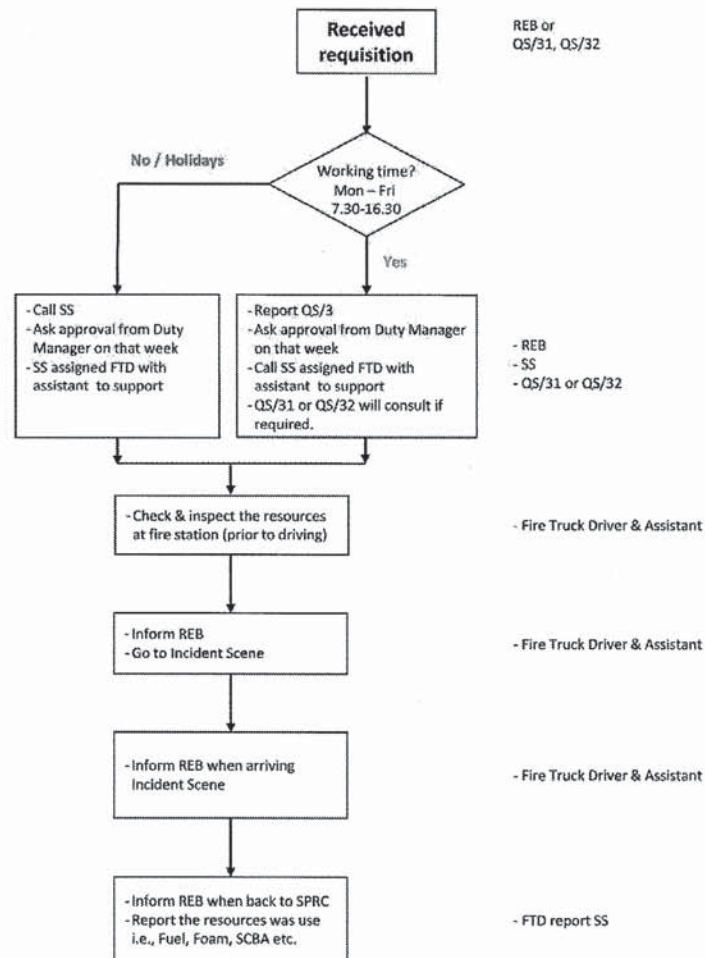
In case of the other companies which not in agreement need assistance from SPRC. SPRC will provide a Fire truck and necessary equipment. Fire Truck driver and an assistant or other personnel if needed will be arranged by Lead Emergency Management (**should not be Operators**)

**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"**

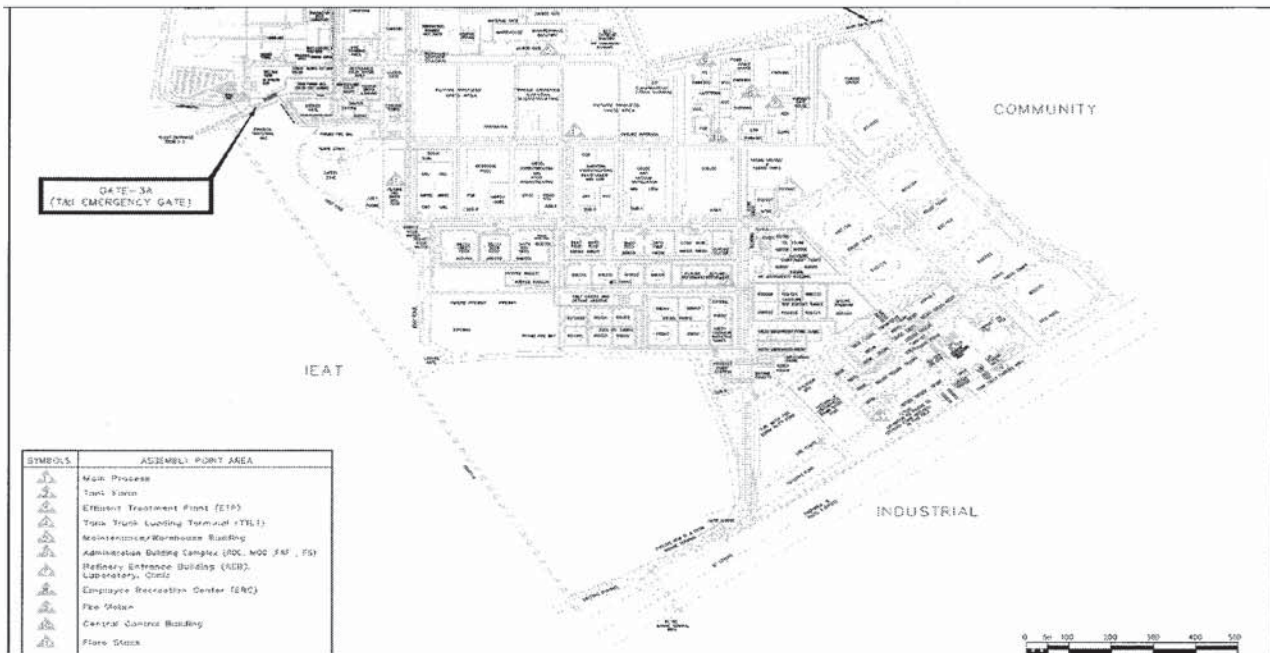
Mutual aid fire trucks should be parked in the vicinity of REB for PN in a safe location. If mutual aid fire trucks are required on site they must be accompanied at all times by SPRC personnel.

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

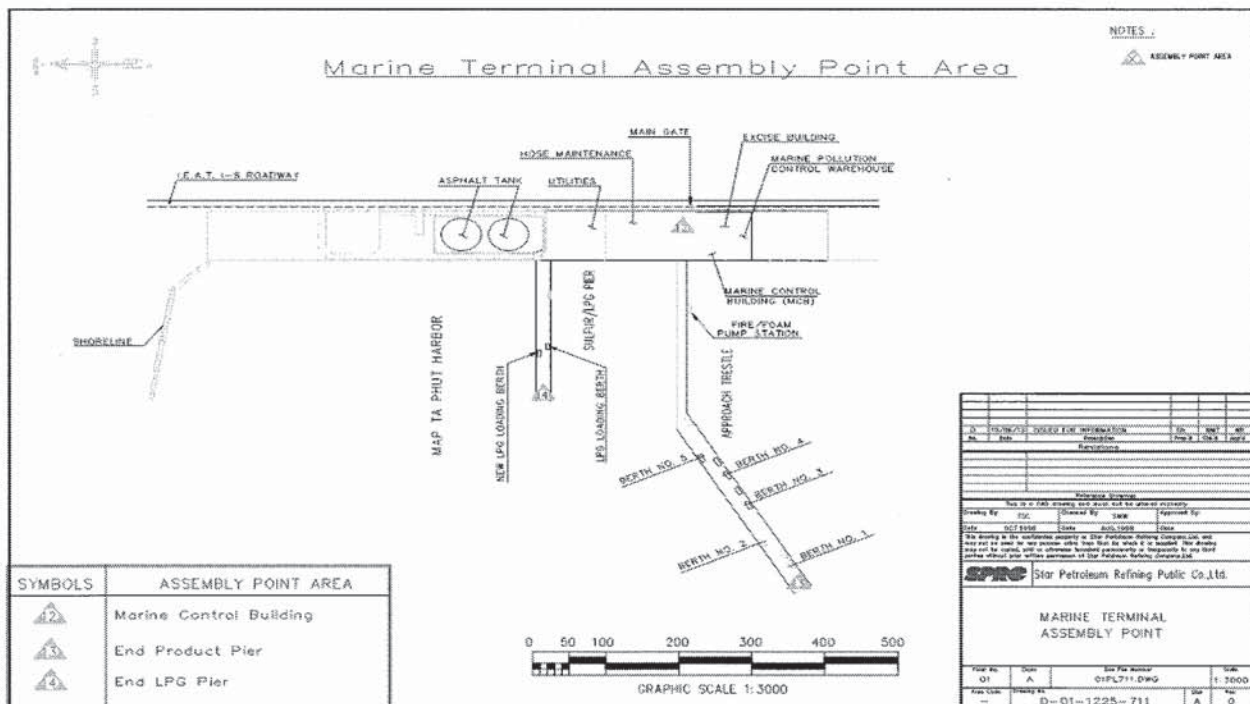
## Refinery Assembly Areas

Revision No.:14  
Date: 7 June 2021

Copy No. 00

Page 88 of 104

## Marine Terminal Assembly Areas

Revision No.:14  
Date: 7 June 2021

Copy No. 00

Page 89 of 104

## 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 TTLT (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

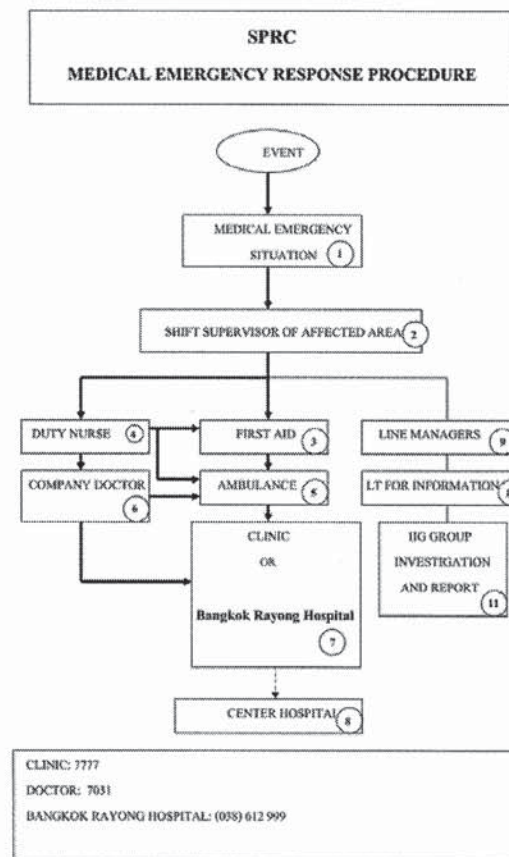
There is a driver available (stand by Lab) during off-hours at the shelter and vans are parked in the car parking shelter with the key are left in the ignition socket. Phone Number **7089**

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

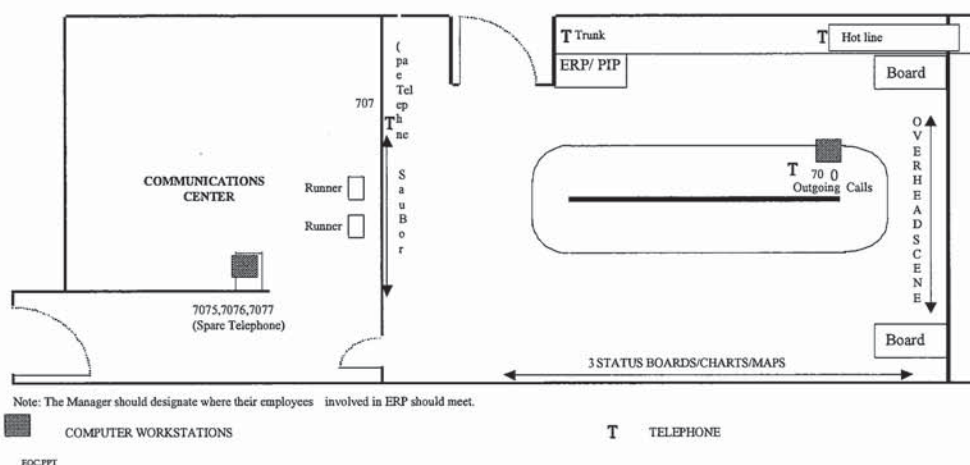
Refer to EHS-OT-QS-001 EHS Standard Training Program

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

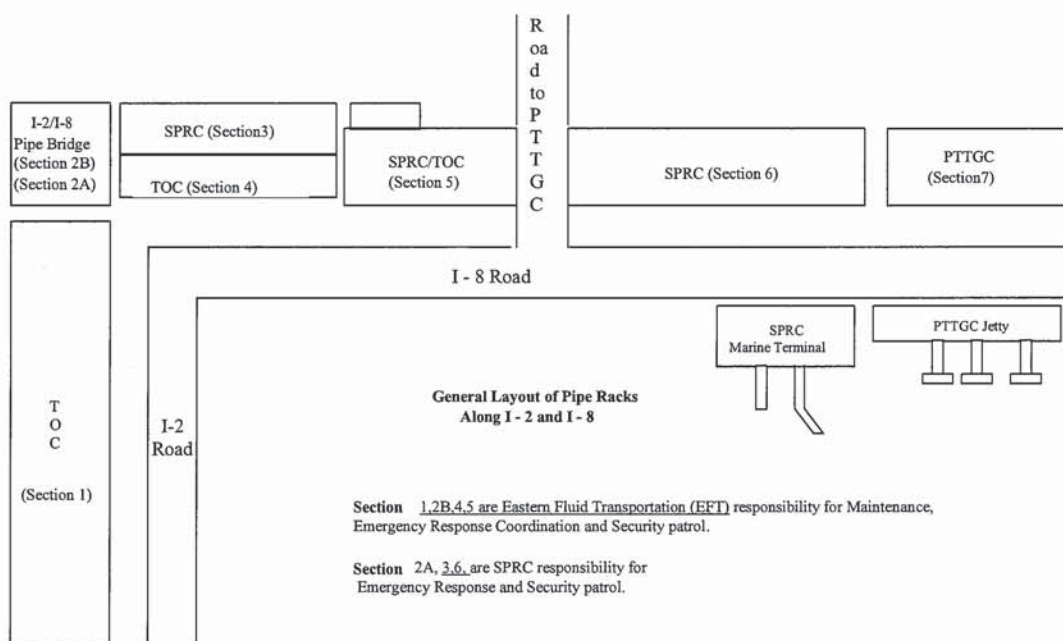
The Corporate Affairs and Emergency Response Coordinator are responsible for obtaining and updating a list of applicable local and national government contacts, with support and supervision by QEHS. This list is updated six monthly or when changed as detailed at [EHS-OT-QS-3003 Emergency Telephone Number.doc](#)

## 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.

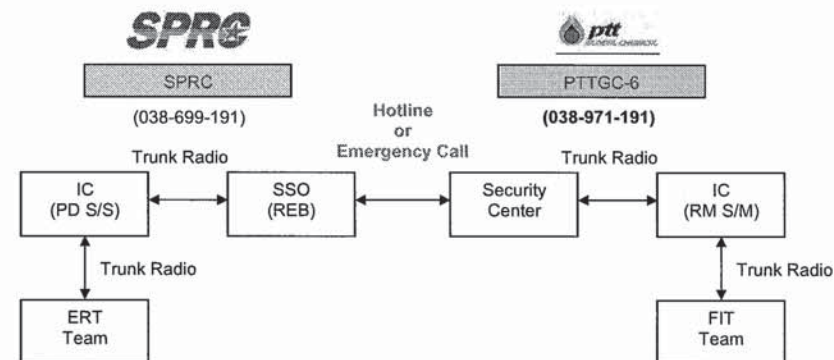
### Exercise:

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;

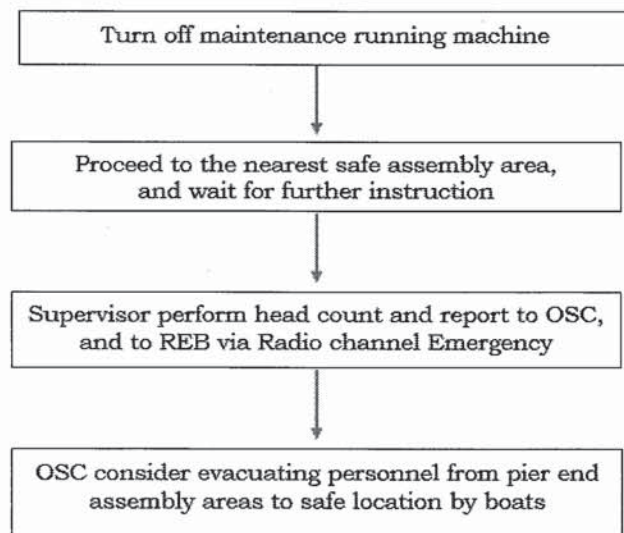
- It is the right of the company to deny on supporting of ERT team when request in case that there is an emergency case happen at site or other site which have agreed to provide support.



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

ข้าพเจ้าขอรับรองว่าข้อความข้างต้นเป็นความจริงทุกประการ

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



## APPENDIX U IEAT-MTP Emergency Reporting Form



แบบรายงานแจ้งเหตุการณ์ผิดปกติ / เหตุฉุกเฉิน เบื้องต้น  
ของผู้ประกอบการพื้นที่นิคมอุตสาหกรรมและท่าเรืออุตสาหกรรมมาบตาพุด

เรียน ผู้อำนวยการศูนย์เฝ้าระวังและควบคุมคุณภาพสิ่งแวดล้อม (EMCC) สำเนาเรียน <input type="checkbox"/> ผอ. สนม. <input type="checkbox"/> ผอ. สพร. ขอรายงานแจ้งเหตุการณ์ผิดปกติ / เหตุฉุกเฉิน เบื้องต้น ดังนี้	สำหรับโรงงาน/สถานประกอบการ รายงานภายใน 10 นาที หลังเกิดเหตุ
ลักษณะเหตุการณ์ <input type="checkbox"/> ไฟไหม้ <input type="checkbox"/> ระเบิด <input type="checkbox"/> ก๊าซ/สารเคมีอันตรายรั่ว <input type="checkbox"/> น้ำปนท่วไหล <input type="checkbox"/> อื่นๆ ระบุ .....	
ชื่อโรงงาน/บริษัทฯ ที่เกิดเหตุ ..... นิคมฯ .....	
ความรุนแรง <input type="checkbox"/> เล็กน้อย <input type="checkbox"/> ปานกลาง <input type="checkbox"/> มาก <input type="checkbox"/> อื่นๆ .....	
เหตุการณ์เบื้องต้น (ระบุเหตุการณ์ที่เกิดขึ้นคร่าวๆ เกิดอะไร ที่ไหน ผลกระทบต่อภายนอก) วันที่เกิดเหตุ ..... เวลา ..... น. เหตุการณ์เบื้องต้น .....	
ชื่อผู้แจ้ง (ตัวบรรจง) ..... หมายเลขโทรศัพท์ติดต่อกลับได้ .....	
ศูนย์สื่อสารและรับแจ้งเหตุ <input type="checkbox"/> สนท./EMCC Fax:0-3304-7041 Fax: 0-3868-3941 โทร:0-3868-3933 มือถือ 0-81732-3485 Line ID : adminemcc <input type="checkbox"/> สนม. Fax: 0-38017-480 โทร:0-3868-5776 <input type="checkbox"/> สพร. Fax: 0-3868-3176 โทร:0-3868-310 มือถือ 0-988452-426 <input type="checkbox"/> RIL Fax: 0-38915-316 โทร:0-38915-285	
สำหรับ: เจ้าหน้าที่ศูนย์เฝ้าระวังและควบคุมคุณภาพสิ่งแวดล้อม (EMCC) ผู้รับแจ้งเหตุ (ตัวบรรจง) : ..... เวลาที่รับแจ้ง ..... น. การดำเนินการ <input type="checkbox"/> แจ้งเจ้าหน้าที่เวร กณธ. <input type="checkbox"/> รายงาน ผอ. นิคมฯ <input type="checkbox"/> ออกตรวจสอบพื้นที่เกิดเหตุ <input type="checkbox"/> แจ้งเตือนโรงงาน/ชุมชน ที่อาจได้รับผลกระทบ <input type="checkbox"/> แจ้งขอความช่วยเหลือจากหน่วยงานที่เกี่ยวข้อง <input type="checkbox"/> ตำรวจ <input type="checkbox"/> โรงพยาบาล <input type="checkbox"/> ตำรวจ <input type="checkbox"/> อื่นๆ .....	
หมายเหตุ : ผอ.สนท. หมายถึง ผู้อำนวยการสำนักงานนิคมอุตสาหกรรมมาบตาพุด : ผอ.สพร. หมายถึง ผู้อำนวยการสำนักงานท่าเรืออุตสาหกรรมมาบตาพุด : ผอ.สนม. หมายถึง ผู้อำนวยการสำนักงานนิคมอุตสาหกรรมร่วมดำเนินการมาบตาพุด ข้าพเจ้าที่กำกับดูแล นิคมอุตสาหกรรมกับสิ่งแวดล้อมและวังออก (มาบตาพุด) นิคมอุตสาหกรรมเมืองเรือ, นิคมอุตสาหกรรมมาบตาพุด, นิคมอุตสาหกรรม อารี โด นอล	

ฉบับที่ 14 Mtp\_Rev.6 10 Jan 19

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



แบบรายงานแจ้งเหตุการณ์ผิดปกติ / เหตุฉุกเฉิน เบื้องต้น  
ของผู้ประกอบการพื้นที่นิคมอุตสาหกรรมและท่าเรืออุตสาหกรรมมาบตาพุด

เรียน ผู้อำนวยการศูนย์เฝ้าระวังและควบคุมคุณภาพสิ่งแวดล้อม (EMCC) สำเนาเรียน <input type="checkbox"/> ผอ. สนม. <input type="checkbox"/> ผอ. สพร. ขอรายงานแจ้งเหตุการณ์ผิดปกติ / เหตุฉุกเฉิน เบื้องต้น ดังนี้	สำหรับโรงงาน/สถานประกอบการ รายงานภายใน 10 นาที หลังเกิดเหตุ
ลักษณะเหตุการณ์ <input type="checkbox"/> ไฟไหม้ <input type="checkbox"/> ระเบิด <input type="checkbox"/> ก๊าซ/สารเคมีอันตรายรั่ว <input type="checkbox"/> น้ำปนท่วไหล <input type="checkbox"/> อื่นๆ ระบุ .....	
ชื่อโรงงาน/บริษัทฯ ที่เกิดเหตุ ..... นิคมฯ .....	
ความรุนแรง <input type="checkbox"/> เล็กน้อย <input type="checkbox"/> ปานกลาง <input type="checkbox"/> มาก <input type="checkbox"/> อื่นๆ .....	
เหตุการณ์เบื้องต้น (ระบุเหตุการณ์ที่เกิดขึ้นคร่าวๆ เกิดอะไร ที่ไหน ผลกระทบต่อภายนอก) วันที่เกิดเหตุ ..... เวลา ..... น. เหตุการณ์เบื้องต้น .....	
ชื่อผู้แจ้ง (ตัวบรรจง) ..... หมายเลขโทรศัพท์ติดต่อกลับได้ .....	
ศูนย์สื่อสารและรับแจ้งเหตุ <input type="checkbox"/> สนท./EMCC Fax:0-3304-7041 Fax: 0-3868-3941 โทร:0-3868-3933 มือถือ 0-81732-3485 Line ID : adminemcc <input type="checkbox"/> สนม. Fax: 0-38017-480 โทร:0-3868-5776 <input type="checkbox"/> สพร. Fax: 0-3868-3176 โทร:0-3868-310 มือถือ 0-988452-426 <input type="checkbox"/> RIL Fax: 0-38915-316 โทร:0-38915-285	
สำหรับ: เจ้าหน้าที่ศูนย์เฝ้าระวังและควบคุมคุณภาพสิ่งแวดล้อม (EMCC) ผู้รับแจ้งเหตุ (ตัวบรรจง) : ..... เวลาที่รับแจ้ง ..... น. การดำเนินการ <input type="checkbox"/> แจ้งเจ้าหน้าที่เวร กณธ. <input type="checkbox"/> รายงาน ผอ. นิคมฯ <input type="checkbox"/> ออกตรวจสอบพื้นที่เกิดเหตุ <input type="checkbox"/> แจ้งเตือนโรงงาน/ชุมชน ที่อาจได้รับผลกระทบ <input type="checkbox"/> แจ้งขอความช่วยเหลือจากหน่วยงานที่เกี่ยวข้อง <input type="checkbox"/> ตำรวจ <input type="checkbox"/> โรงพยาบาล <input type="checkbox"/> ตำรวจ <input type="checkbox"/> อื่นๆ .....	
หมายเหตุ : ผอ.สนท. หมายถึง ผู้อำนวยการสำนักงานนิคมอุตสาหกรรมมาบตาพุด : ผอ.สพร. หมายถึง ผู้อำนวยการสำนักงานท่าเรืออุตสาหกรรมมาบตาพุด : ผอ.สนม. หมายถึง ผู้อำนวยการสำนักงานนิคมอุตสาหกรรมร่วมดำเนินการมาบตาพุด ข้าพเจ้าที่กำกับดูแล นิคมอุตสาหกรรมกับสิ่งแวดล้อมและวังออก (มาบตาพุด) นิคมอุตสาหกรรมเมืองเรือ, นิคมอุตสาหกรรมมาบตาพุด, นิคมอุตสาหกรรม อารี โด นอล	

ฉบับที่ 14 Mtp\_Rev.6 10 Jan 19

**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
Dispersant Spryer	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 \*\*\*

<b>Date/Time</b>	29 July 2025 / 10:30-12:30 hr.	<b>WF Shift</b>	C	<b>SC Shift/Foreman</b>	Mr. Pisan W.
------------------	--------------------------------	-----------------	---	-------------------------	--------------

**SCENARIO**

Spill Location	Berth 4		
Product/Quantity/Area Size	Recovered Oil 100 m <sup>2</sup>		
Wind Direction/Speed	348 deg / 8.6 knot	Tide	0.3 meter still
OSR Equipment	Boom 50 x 2 meter		
General Scenario	Found recovered oil overflow at berth NO. 4		

**EVENTS**

Time	Description
10:30	The Berth Operator called MCB to inform that Oily water spilled at berth NO. 4 due to overflow from Oily water tank.
10:35	Berth operators find Oil film around 100 m <sup>2</sup>
10:37	Senior operator informed Shift Supervisor, Marine duty, Port control and inform to SP team. Senior operator acting to OSC then informed IC and REB to announce Oil spill response Tier 1A.
11:05	IC & OSC and ERT setting team to prepare Oil spill equipment
11:15	OSC request SC and ERT team commence deployed boom by tug RS-18 & SC-23
11:30	Boom 25m x 2. was deployed to spill areas for contain and protect sensitive area.
11:40	Apply dispersant after getting approval from PCD
11:50	Assign RS-18, RS-23 to spray dispersant.
12:20	Berth operators do surveys around all berth and LPG pier to find out another oil slick.
12:30	Exercise over.

**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	24 Aug 25/ 10:00-11:30	WF Shift	D	SC Shift/Foreman	Mr. Viroj J.
-----------	------------------------	----------	---	------------------	--------------

**SCENARIO**

Spill Location	Berth 4, around ship		
Product/Quantity/Area Size	Black oil/ 10 liter / Area 10 m <sup>2</sup>		
Wind Direction/Speed	110 deg / 6 knot	Tide	2.0 meter still
OSR Equipment	Boom 50 m / Wier skimmer / Minimax		
General Scenario	Black oil approx. 10 liters unknown source.		

**EVENTS**

Time	Description
10:00	Berth operator calling to MCB found black oil slick around berth # 4
10:05	Berth operator goes to site and found oil spill from port side to sea ~10 m <sup>2</sup> and inform to MCB.
10:06	Senior operator informed to Shift Supervisor, Marine duty, Port control and SP team. Senior operator act as onscene commander announce tier 1.
10:10	Onscene setting team for prepare Oil spill equipments and requeste MCB panel man to cease all ship loading operation at Product pier.
10:25	Onscene request SC foreman commenced deploy boom by RS-14 , SC-23 Quick response boom 4x25 m. was deploying to spilled area at berth3.
10:35	Onscene request folk lift to move dispersant drum to tug berth for unloading and request SC foreman commenced RS 18 to unload dispersant at tug berth.
10:45	Onscene request SC foreman commenced to launch the Minimax / Weir skimmer to collect black oil at spilled area by RS 27 and then started skim oil by the Minimax / Weir skimmer.
10:50	Onscene request SC foreman commenced RS 18 spray dispersant to oil slick.
11:00	Survey under product pier.
11:15	Survey around all berth and LPG pier was clean.
11:30	All clear / exercised over.

**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
Dispersant Spryer	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 \*\*\*

<b>Date/Time</b>	05 Sep 2025 / 08:15-09:00 hr.	<b>WF Shift</b>	A	<b>SC Shift/Foreman</b>	Mr. Prakorb
------------------	-------------------------------	-----------------	---	-------------------------	-------------

**SCENARIO**

Spill Location	Berth 2		
Product/Quantity/Area Size	Oil sheen 100 m <sup>2</sup>		
Wind Direction/Speed	36 deg / 3 knot	Tide	1.5 meter still
OSR Equipment	Boom 50 x 2 meter		
General Scenario	Found an unknown oil sheen nearby berth NO. 2		

**EVENTS**

Time	Description
08:15	Berth operators calling to MCB panel man to find an unknown oil sheen nearby berth NO. 2
08:16	MCB panel man stop loading and finding the source.
08:20	Berth operators informed the unknown oil sheen around 100 m <sup>2</sup> .
08:21	Senior operator acting to OSC then informed to IC and REB for announce Oil spill response tier 1.
08:25	OSC request SC and ERT team commence deployed boom by tug RS-14 & SC-23 And spray dispersant by RS-18
08:45	The oil spill equipment and dispersant carried from The Oilspill Warehouse to Truck berth. The DISPERSANT SPRAY loaded to RS-18.
08:45	ERT arrived at MCB and setting team for prepare oil spill equipment and dispersant.
08:55	Dispose the Oil sheen.
08:55	Side survey.
09:00	Exercise over.

**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
Dispersant Spryer	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 \*\*\*

<b>Date/Time</b>	07 OCT 25 / 14:00-15:00 hr.	<b>WF Shift</b>	B	<b>SC Shift/Foreman</b>	Mr. Prakorb
------------------	-----------------------------	-----------------	---	-------------------------	-------------

**SCENARIO**

Spill Location	Berth 2		
Product/Quantity/Area Size	Oil sheen 100 m²		
Wind Direction/Speed	36 deg / 3 knot	Tide	1.5 meter still
OSR Equipment	Boom 50 x 2 meter		
General Scenario	Found an unknown oil sheen nearby berth NO. 2		

**EVENTS**

Time	Description
14:00	Berth operators calling to MCB panel man to find an unknown oil sheen nearby berth NO. 2
14:10	MCB panel man stop loading and finding the source.
14:20	Berth operators informed the unknown oil sheen around 100 m <sup>2</sup> .
14:21	Senior operator acting to OSC then informed to IC and REB for announce Oil spill response tier 1.
14:25	OSC request SC and ERT team commence deployed boom by tug RS-14 & SC-23 And spray dispersant by RS-18
14:45	The oil spill equipment and dispersant carried from The Oilspill Warehouse to Truck berth. The DISPERSANT SPRAY loaded to RS-18.
14:45	ERT arrived at MCB and setting team for prepare oil spill equipment and dispersant.
14:55	Dispose the Oil sheen.
14:55	Side survey.
16:00	Exercise over.

**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
Dispersant Spryer	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	27 NOV 25 / 15:00-16:00 hr.	WF Shift	C	SC Shift/Foreman	Mr. Trairong P.
-----------	-----------------------------	----------	---	------------------	-----------------

## SCENARIO

Spill Location	Berth 5		
Product/Quantity/Area Size	Mogas 100 m <sup>2</sup>		
Wind Direction/Speed	36 deg / 3 knot	Tide	1.5 meter still
OSR Equipment	Boom 50 x 2 meter		
General Scenario	Found a Mogas leak from ship at berth NO. 5		

## EVENTS

Time	Description
15:00	Berth operators calling to MCB panel man to find a Mogas leak from ship at berth NO. 5
15:10	MCB panel man stop loading and finding the source.
15:20	Berth operators informed the Mogas around 100 m <sup>2</sup> .
15:21	Senior operator acting to OSC then informed to IC and REB for announce Oil spill response tier 1.
15:25	OSC request SC and ERT team commence deployed boom by tug RS-14 & SC-23 And spray dispersant by RS-18
15:45	The oil spill equipment and dispersant carried from The Oilspill Warehouse to Truck berth. The DISPERSANT SPRAY loaded to RS-18.
15:45	ERT arrived at MCB and setting team for prepare oil spill equipment and dispersant.
15:55	Dispose the Mogas.
15:55	Side survey.
16:00	Exercise over.

### 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
Dispersant Spryer	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 \*\*\*

<b>Date/Time</b>	04 DEC 25 / 09:00-10:30 hr.	<b>WF Shift</b>	<b>D</b>	<b>SC Shift/Foreman</b>	Mr. Pisan W.
------------------	-----------------------------	-----------------	----------	-------------------------	--------------

### SCENARIO


Spill Location	Berth 4		
Product/Quantity/Area Size	DSL 100 m <sup>2</sup>		
Wind Direction/Speed	125 deg / 12.8 knot	Tide	0.3 meter still
OSR Equipment	Boom 50 x 2 meter		
General Scenario	Found a DSL leak from ship at berth NO. 4		

### EVENTS

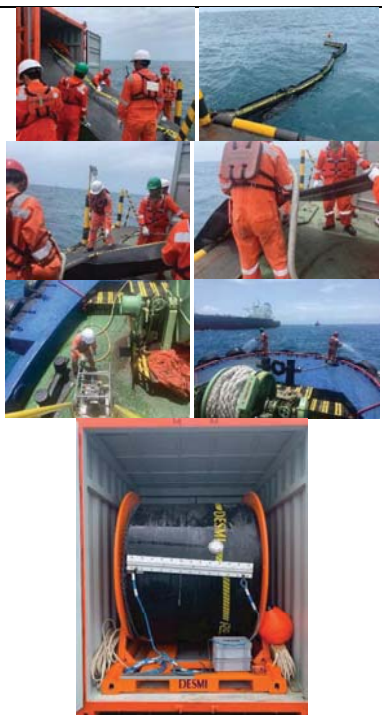
Time	Description
09:00	Berth operators calling to MCB panel man to find a DSL leak from ship at berth NO. 4
09:05	MCB panel man stop loading and finding the source.
09:18	Berth operators informed the DSL around 100 m <sup>2</sup> .
09:26	Senior operator acting to OSC then informed to IC and REB for announce Oil spill response tier 1.
09:30	OSC request SC and ERT team commence deployed boom by tug RS-23 & SC-27 And use fire water disperse by RS-27
09:43	The oil spill equipment and dispersant carried from The Oilspill Warehouse to Truck berth. The DISPERSANT SPRAY loaded to RS-14.
09:50	ERT arrived at MCB and setting team for prepare oil spill equipment and dispersant.
10:00	Clear up DSL.
10:15	Side survey.
10:30	Exercise over.



**Comments/Remarks:**

	Date : Jul 27, 2025	Revision : 00	Page : 1 of 1
	<b>EMERGENCY RESPONSE TRAINING FORM</b>		

General Information			
Date of Training	July 27, 2025	Vessel name	M.V. RS38
Place of Training	SPM Terminal	Name of Inspector	Prachya Plainsirichai
Name of Master	Mr. Chalerm Boonkerd	Name of Chief Engineer	Mr. Pairat Butrda
Type of Drill	Oil Spill Drill	Time Record	12:00 Lt – 13:00 Lt

Photo	Description
	<p>Our tug boat left from the tug base and sailed to the SPM terminal for preventing oil pollution during M.T. KOKKARI had her cargo operations at the SPM terminal. There was tug movement as report below:</p> <p><u>12:00 Lt</u> Pre-oil spill exercise meeting.</p> <p><u>12:15 Lt</u> Commenced oil spill exercise,</p> <ul style="list-style-type: none"> <li>- Took out oil booms from container and deployed into the sea together with running the power pack</li> <li>- Expand oil spill dispersant spray arms and running oil spill dispersant sprayer pump (LOMBARDINI)</li> <li>- Running oil spill dispersant sprayer pump (ALFEDO) and exercised by spraying water into the sea by crews at bow.</li> <li>- Patrolled around the SPM terminal for oil spill surveillance and exercise.</li> </ul> <p><u>12:45 Lt</u> Check condition of all OSR equipment after completed the drill</p> <p><u>13:00 Lt</u> Completed oil spill exercise.</p> <p>All firefighting appliances and oil spill response equipment were in good condition. This drill considered satisfactory to the master and company.</p>


M.V. RS 38

Master's Signature


MASTER

นายปรัชญ์ พลเยี่ยมศิริชัย

Marine Operations Supervisor

	Date : Aug 02, 2025	Revision : 00	Page : 1 of 1
	<b>EMERGENCY RESPONSE TRAINING FORM</b>		

General Information			
Date of Training	August 02, 2025	Vessel name	M.V. RS38
Place of Training	SPM Terminal	Name of Inspector	Prachya Plainsirichai
Name of Master	Mr. Chalerm Boonkerd	Name of Chief Engineer	Mr. Pairat Butrda
Type of Drill	Oil Spill Drill	Time Record	12:00 Lt – 13:00 Lt

Photo	Description
	<p>Our tug boat left from the tug base and sailed to the SPM terminal for preventing oil pollution during M.T. DHT STALLION had her cargo operations at the SPM terminal. There was tug movement as report below:</p> <p><u>12:00 Lt</u> Pre-oil spill exercise meeting.</p> <p><u>12:10 Lt</u> Commenced oil spill exercise,</p> <ul style="list-style-type: none"> <li>- Took out oil booms from container and deployed into the sea together with running the power pack</li> <li>- Expand oil spill dispersant spray arms and running oil spill dispersant sprayer pump (LOMBARDINI)</li> <li>- Running oil spill dispersant sprayer pump (ALFEDO) and exercised by spraying water into the sea by crews at bow.</li> <li>- Patrolled around the SPM terminal for oil spill surveillance and exercise.</li> </ul> <p><u>12:50 Lt</u> Check condition of all OSR equipment after completed the drill</p> <p><u>13:00 Lt</u> Completed oil spill exercise.</p> <p>All firefighting appliances and oil spill response equipment were in good condition. This drill considered satisfactory to the master and company.</p>


M.V. RS 38

Master's Signature

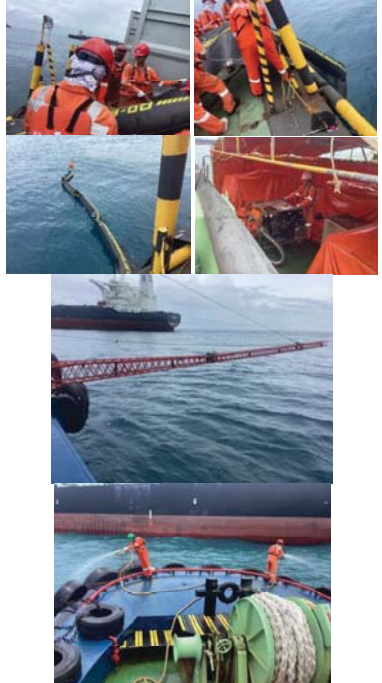
MASTER

นายปรัชญ์ พลเยี่ยมศิริชัย

Marine Operations Supervisor


	Date : Sep 07, 2025	Revision : 00	Page : 1 of 1
	<b>EMERGENCY RESPONSE TRAINING FORM</b>		

General Information			
Date of Training	September 07, 2025	Vessel name	M.V. RS38
Place of Training	SPM Terminal	Name of Inspector	Prachya Plainsirichai
Name of Master	Mr. Chalerm Boonkerd	Name of Chief Engineer	Mr. Pairat Butrda
Type of Drill	Oil Spill Drill	Time Record	12:00 Lt – 13:00 Lt

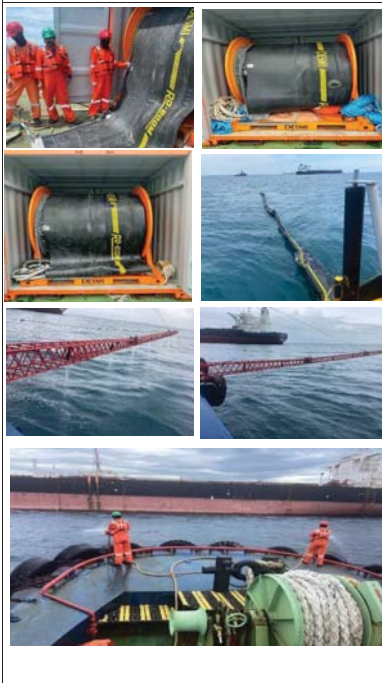
Photo	Description
	<p>Our tug boat left from the tug base and sailed to the SPM terminal for preventing oil pollution during M.T. AWTAD had her cargo operations at the SPM terminal. There was tug movement as report below:</p> <p><u>12:00 Lt</u> Pre-oil spill exercise meeting.</p> <p><u>12:15 Lt</u> Commenced oil spill exercise,</p> <ul style="list-style-type: none"> <li>- Took out oil booms from container and deployed into the sea together with running the power pack</li> <li>- Expand oil spill dispersant spray arms and running oil spill dispersant sprayer pump (LOMBARDINI)</li> <li>- Running oil spill dispersant sprayer pump (ALFEDO) and exercised by spraying water into the sea by crews at bow.</li> <li>- Patrolled around the SPM terminal for oil spill surveillance and exercise.</li> </ul> <p><u>12:40 Lt</u> Check condition of all OSR equipment after completed the drill</p> <p><u>13:00 Lt</u> Completed oil spill exercise.</p> <p>All firefighting appliances and oil spill response equipment were in good condition. This drill considered satisfactory to the master and company.</p>

  
 Master's Signature  
**MASTER**


  
 นายปรีชา บุญศิริชัย  
 Marine Operations Supervisor

	Date : Oct 09, 2025	Revision : 00	Page : 1 of 1
	<b>EMERGENCY RESPONSE TRAINING FORM</b>		


General Information			
Date of Training	October 09, 2025	Vessel name	M.V. RS38
Place of Training	SPM Terminal	Name of Inspector	Prachya Plainsirichai
Name of Master	Mr. Chalerm Boonkerd	Name of Chief Engineer	Mr. Pairat Butrda
Type of Drill	Oil Spill Drill	Time Record	12:00 Lt – 13:00 Lt

Photo	Description
	<p>Our tugboat left from the tug base and sailed to the SPM terminal for preventing oil pollution during M.T. IOANNA had her cargo operations at the SPM terminal. There was tug movement as report below:</p> <p><u>12:00 Lt</u> Pre-oil spill exercise meeting.</p> <p><u>12:12 Lt</u> Commenced oil spill exercise,</p> <ul style="list-style-type: none"> <li>- Took out oil booms from container and deployed into the sea together with running power pack</li> <li>- Expand oil spill dispersant spray arms and running Oil spill dispersant sprayer pump (LOMBARDINI)</li> <li>- Running oil spill dispersant sprayer pump (ALFEDO) and exercised by spraying water into the sea by crews at bow.</li> <li>- Patrolled around the SPM terminal for oil spill surveillance and exercise.</li> </ul> <p><u>12:42 Lt</u> Check condition of all OSR equipment after completing the drill</p> <p><u>13:00 Lt</u> Completed oil spill exercise.</p> <p>All firefighting appliances and oil spill response equipment were in good condition. This drill considered satisfactory to the master and company.</p>


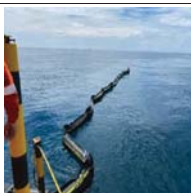




  
 Master's Signature  
**MASTER**

  
 Marine Operations Supervisor



	Date : Oct 09, 2025	Revision : 00	Page : 1 of 1
	<b>EMERGENCY RESPONSE TRAINING FORM</b>		

General Information			
Date of Training	November 03, 2025	Vessel name	M.V. RS38
Place of Training	SPM Terminal	Name of Inspector	Cheerawat Thanongart
Name of Master	Mr. Chalerm Boonkerd	Name of Chief Engineer	Mr. Pairat Butrda
Type of Drill	Oil Spill Drill	Time Record	12:00 Lt – 12:54 Lt


Photo	Description
     	<p>Our tugboat left from the tug base and sailed to the SPM terminal for preventing oil pollution during M.T. MARAN TAURUS had her cargo operations at the SPM terminal. There was tug movement as report below:</p> <p><u>12:00 Lt</u> Pre-oil spill exercise meeting.</p> <p><u>12:12 Lt</u> Commenced oil spill exercise,</p> <ul style="list-style-type: none"> <li>- Took out oil booms from container and deployed into the sea together with running power pack</li> <li>- Expand oil spill dispersant spray arms and running Oil spill dispersant sprayer pump (LOMBARDINI)</li> <li>- Running oil spill dispersant sprayer pump (ALFEDO) and exercised by spraying water into the sea by crews at bow.</li> <li>- Patrolled around the SPM terminal for oil spill surveillance and exercise.</li> </ul> <p><u>12:42 Lt</u> Check condition of all OSR equipment after completing the drill</p> <p><u>12:54 Lt</u> Completed oil spill exercise.</p> <p>All firefighting appliances and oil spill response equipment were in good condition. This drill considered satisfactory to the master and company.</p>

M.V. RS 38







Master's Signature

MASTER

Marine Operations Supervisor

	Date : JAN 5, 2026	Revision : 00	Page : 1 of 1
	<b>EMERGENCY RESPONSE TRAINING FORM</b>		

General Information			
Date of Training	December 08, 2025	Vessel name	M.V. RS40
Place of Training	SPM Terminal	Name of Inspector	Cheerawat Thanongart
Name of Master	Mr. Alongkorn Poonpanao	Name of Chief Engineer	Mr. Seksit Saesoong
Type of Drill	Oil Spill Drill	Time Record	08:00 Lt – 09:00 Lt

Photo	Description
     	<p>Our tugboat left from the tug base and sailed to the SPM terminal for preventing oil pollution during M.T. EAGLE VERONA had her cargo operations at the SPM terminal. There was tug movement as report below:</p> <p><u>08:00 Lt</u> Pre-oil spill exercise meeting.</p> <p><u>08:12 Lt</u> Commenced oil spill exercise,</p> <ul style="list-style-type: none"> <li>- Took out oil booms from container and deployed into the sea together with running power pack</li> <li>- Expand oil spill dispersant spray arms and running Oil spill dispersant sprayer pump (LOMBARDINI)</li> <li>- Running oil spill dispersant sprayer pump (ALFEDO) and exercised by spraying water into the sea by crews at bow.</li> <li>- Patrolled around the SPM terminal for oil spill surveillance and exercise.</li> </ul> <p><u>08:42 Lt</u> Check condition of all OSR equipment after completing the drill</p> <p><u>09:00 Lt</u> Completed oil spill exercise.</p> <p>All firefighting appliances and oil spill response equipment were in good condition. This drill considered satisfactory to the master and company.</p>

M.V. RS 38

Master's Signature

MASTER

Marine Operations Supervisor



TRAINING NEEDS			
No	Additional Training Required	Internal / External	Requires OFFICE Action?
1			
2			
3			



# SHIPBOARD DRILL REPORT

Always read the Instructions Tab before starting on the form.

VESSEL & DRILL INFORMATION			
Vessel	UNIWISE RAYONG		Date 10-Sep-25
Drill Type	OIL SPILL RESPONSE (SOEP) OSR		
Time Start	8:30	Time Complete	10:00
Location	SPM MapTa Phut		
Prepared By	Name	SAKKARIN MANAKLA	
	Rank	Chief Officer	
Approved By Master	Name	CAPT. KRIANGSAK NOOCHUAY	

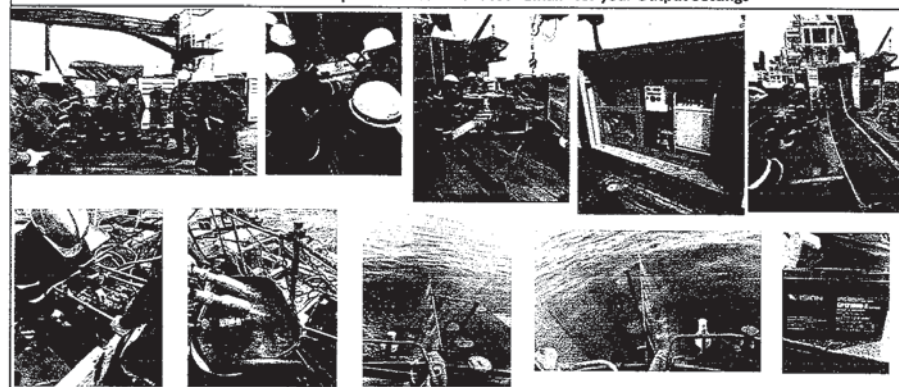
SCENARIO / SEQUENCE OF DRILL	
1	Conducted toolbox meeting, assume situation oil spill at SPM, RO BOOM operation was carried out.
2	Master raise Emergency Alarm & follow by announcement. Every body on muster station. All head count.
3	Emergency Team prepared & set up all equipments on deck and secured to carry out.
4	Paid out the involvement should be established and clearly communicated.
5	Started Power Pack and deployed the Ro-Boom.
6	Explain the operation system of the Ro-Boom in the container
7	Brief after drill and find out any problem.
8	Completed Oil spill & Ro-Boom drill.
9	Started operation of dispersant Spray boom testing.
10	Completed dispersant Spray boom testing, found satisfactory
11	UV Search Light testing in night time later, found satisfactory
12	Wind SW 10-12 Knots, Mod. sea 0.5-0.8 M
	Found Battery for Blower of RO BOOM unable to recharge anymore.

LESSONS LEARNT			
No	What was observed - what did not go as planned?	What can be done to better improve? i.e. Training, etc.	Requires OFFICE Action?
1	Satisfactory		NO
2			NO
3			NO
4			NO
5			NO

## ATTACH PHOTOS

Always compress photos to it's minimum size

Go to "Format --> Compress Photos --> Choose "Email" for your Output Settings



## CREW ATTENDEES

No	Name	Rank	No	Name	Rank
1	CAPT. KRIANGSAK NOOCHUAY	Master	16		
2	SAKKARIN MANAKLA	Ch/Offr	17		
3	BOONNAK PUNPINIT	Ch/Eng	18		
4	PHANOMWAN CHANGSIRI	2nd / Eng	19		
5	PRASERTPORN KHUNTHONG	BOSUN	20		
6	THONGCHAI KASINTURAM	AB	21		
7	THANAPON SRISOMBOON	A/B	22		
8	WANNASIT PHONSIT	A/B	23		
9	BUNDET PHAKDEESUJARIT	Oiler	24		
10	NATHANAKORN CHANSIRI	Cook	25		
11	KHANIN DEESALID	Rigger	26		
12	CHAIMONSEKHON DETPIAPRUET	Rigger	27		
13	APIPOO PUTHONGBOR	Rigger	28		
14	SURACHAI PRACHUMPHAN	Rigger	29		
15			30		

## TRAINING NEEDS

No	Additional Training Required	Internal / External	Requires OFFICE Action?
1			
2			
3			
4			

## SHIPBOARD DRILL REPORT

Always read the **Instructions Tab** before starting on the form.

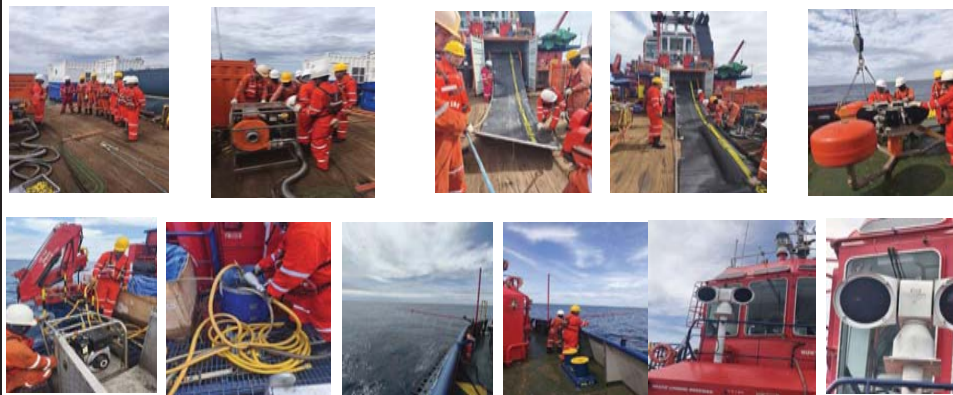
VESSEL & DRILL INFORMATION			
Vessel	UNIWISE RAYONG	Date	24-๓.๓.-25
Drill Type			
Time Start	9:00	Time Complete	10:30
Location	SPM MapTa Phut		
Prepared By	Name	SAKKARIN MANAKLA	
	Rank	Chief Officer	
Approved By Master	Name	CAPT.KRIANGSAK NOOCHUAY	

SCENARIO / SEQUENCE OF DRILL	
1	Conducted toolbox meeting, assume situation oil spill at SPM, RO BOOM operation was carried out.
2	Master raise Emergency Alarm & follow by announcement. Every body on muster station. All head count.
3	Emergency Team prepared & set up all equipments on deck and secured to carry out.
4	Paid out the involvement should be established and clearly communicated.
5	Started Power Pack and deployed the Ro-Boom.
6	Explain the operation system of the Ro-Boom in the container
7	Brief after drill and find out any problem.
8	Completed Oil spill & Ro-Boom drill.
9	Started operation of dispersant Spray boom testing.
10	Completed dispersant Spray boom testing, found satisfactory
11	UV Search Light testing in night time later, found satisfactory
12	Wind NE 10-12 Knots, Mod. sea 0.5-0.7 M

LESSONS LEARNT			
No	What was observed - what did not go as planned?	What can be done to better improve? i.e. Training, etc.	Requires OFFICE Action?
1			NO
2			NO
3			NO
4			NO
5			NO

## ATTACH PHOTOS

Always compress photos to it's minimum size  
Go to "Format --> Compress Photos --> Choose "Email" for your Output Settings



## CREW ATTENDEES

No	Name	Rank	No	Name	Rank
1	CAPT.KRIANGSAK NOOCHUAY	Master	16		
2	SAKKARIN MANAKLA	Ch/Offr	17		
3	BOONNAK PUNPINIT	Ch/Eng	18		
4	WATCHARA KERDSANGSRI	2nd / Eng	19		
5	PRASERTPORN KHUNTHONG	AB	20		
6	SAYCHOL KHOTRAT	AB	21		
7	NUPONG PANSAIN	A/B	22		
8	WANNASIT PHONSIT	A/B	23		
9	BUNDET PHAKDEESUJARIT	Oiler	24		
10	SOMSAK BUAYAIRAKSA	Cook	25		
11	CHAIMONGKHON DETPRAPRUET	Rigger	26		
12	SURACHAI PRACHUMPHAN	Rigger	27		
13	POTCHANAD JITSA ARD	Trainee Chief Officer	28		
14			29		
15			30		

## TRAINING NEEDS

No	Additional Training Required	Internal / External	Requires OFFICE Action?
1			
2			
3			
4			

**SHIPBOARD DRILL REPORT**

Always read the **Instructions Tab** before starting on the form.

VESSEL & DRILL INFORMATION			
Vessel	Uniwise Rayong-Uniwise Rayong	Date	10-Nov.-25
Drill Type			
Time Start	9:00	Time Complete	10:30
Location	SPM, Map Ta Phut		
Prepared By	Name	SAKKARIN MANAKLA	
	Rank	Chief Officer	
Approved By Master	Name	CAPT.KRIANGSAK NOOCHUAY	

SCENARIO / SEQUENCE OF DRILL	
1	Conducted toolbox meeting, assume situation oil spill at SPM, RO BOOM operation was carried out.
2	Master raise Emergency Alarm & follow by announcement. Every body on muster station. All head count.
3	Emergency Team prepared & set up all equipments on deck and secured to carry out.
4	Paid out the involvement should be established and clearly communicated.
5	Started Power Pack and deployed the Ro-Boom.
6	Explain the operation system of the Ro-Boom in the container
7	Brief after drill and find out any problem.
8	Completed Oil spill & Ro-Boom drill.
9	Started operation of dispersant Spray boom testing.
10	Completed dispersant Spray boom testing, found satisfactory
11	UV Search Light testing in night time later, found satisfactory
12	Wind W 2-3 Knots, Mod. sea 0.3-0.5 M
13	
14	
15	
16	
17	
18	
19	
20	

LESSONS LEARNT			
No	What was observed - what did not go as planned?	What can be done to better improve? i.e. Training, etc.	Requires OFFICE Action?
1			NO
2			NO
3			NO
4			NO
5			NO

**ATTACH PHOTOS**

Always compress photos to it's minimum size  
Go to "Format --> Compress Photos --> Choose "Email" for your Output Settings










CREW ATTENDEES					
No	Name	Rank	No	Name	Rank
1	CAPT.KRIANGSAK NOOCHUAY	Master	16		
2	SAKKARIN MANAKLA	Ch/Offr	17		
3	POTCHANAD JITSAR	Trainee Chief Officer	18		
4	BOONNAK PUNPINIT	Ch/Eng	19		
5	WATCHARA KERDSANGSRI	2nd / Eng	20		
6	PRASERTPORN KUNTHONG	Bosun	21		
7	WANNASIT PHONSIT	AB	22		
8	NUPONG PANSAIN	A/B	23		
9	BUNDET PHAKDEESUJARIT	Oiler	24		
10	THAWORN RITARAM	Rigger	25		
11	PONGPITAK KAMLAMOON	Rigger	26		
12	KHANIN DEESALID	Rigger	27		
13	APIPOO PUTHONGBOR	Rigger	28		
14	SURACHAI PRACHUMPHAN	Rigger	29		
15			30		

TRAINING NEEDS			
No	Additional Training Required	Internal / External	Requires OFFICE Action?
1			
2			
3			
4			



**SHIPBOARD DRILL REPORT**

 Always read the **Instructions Tab** before starting on the form.

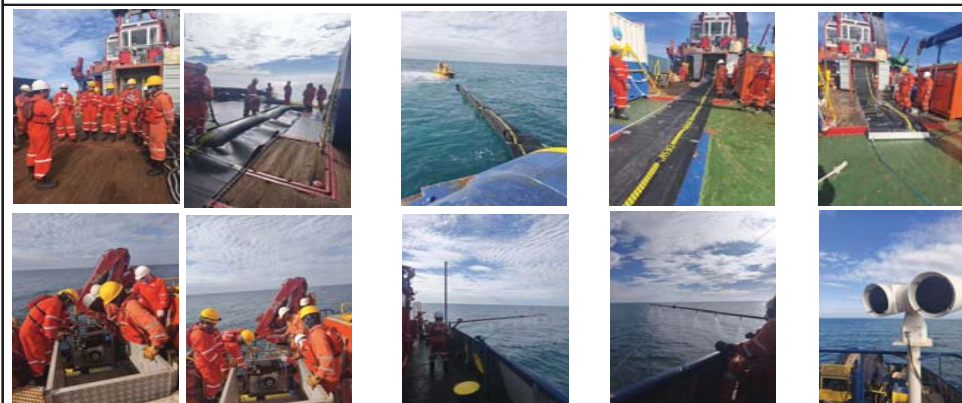
VESSEL & DRILL INFORMATION			
Vessel	Uniwise Rayong-Uniwise Rayong	Date	04-ธ.ค.-25
Drill Type			
Time Start	15:00	Time Complete	16:30
Location	SPM, Map Ta Phut		
Prepared By	Name	SAKKARIN MANAKLA	
	Rank	Chief Officer	
Approved By Mast	Name	CAPT.KRIANGSAK NOOCHUAY	

SCENARIO / SEQUENCE OF DRILL	
1	Conducted toolbox meeting, assume situation oil spill at SPM, RO BOOM operation was carried out.
2	Master raise Emergency Alarm & follow by announcement. Every body on muster station. All head count.
3	Emergency Team prepared & set up all equipments on deck and secured to carry out.
4	Paid out the involvement should be established and clearly communicated.
5	Started Power Pack and deployed the Ro-Boom.
6	Explain the operation system of the Ro-Boom in the container
7	Brief after drill and find out any problem.
8	Completed Oil spill & Ro-Boom drill.
9	Started operation of dispersant Spray boom testing.
10	Completed dispersant Spray boom testing, found satisfactory
11	UV Search Light testing in night time later, found satisfactory
12	Wind E 12-16 Knots, Mod. sea 0.5-0.8 M
13	
14	
15	
16	
17	
18	
19	
20	

LESSONS LEARNT			
No	What was observed - what did not go as planned?	What can be done to better improve? i.e. Training, etc.	Requires OFFICE Action?
1			NO
2			NO
3			NO
4			NO
5			NO

ATTACH PHOTOS
---------------

Always compress photos to it's minimum size  
Go to "Format --> Compress Photos --> Choose "Email" for your Output Settings



CREW ATTENDEES					
No	Name	Rank	No	Name	Rank
1	CAPT.KRIANGSAK NOOCHUAY	Master	16		
2	SOONTORN SOUNNUEY	Trainee Master	17		
3	SAKKARIN MANAKLA	Ch/Offr	18		
4	POTCHANAD JITSA ARD	Trainee Chief Officer	19		
5	BOONNAK PUNPINIT	Ch/Eng	20		
6	WATCHARA KERDSANGSRI	2nd / Eng	21		
7	NAMPECH KERDCHOD	2nd Engineer	22		
8	PRASERTPORN KUNTHONG	Bosun	23		
9	WANNASIT PHONSIT	AB	24		
10	NUPONG PANSAIN	A/B	25		
11	BUNDET PHAKDEESJARIT	Oiler	26		
12	KHANIN DEESALID	Rigger	27		
13	APIPOO PUTHONGBOR	Rigger	28		
14	SURACHAI PRACHUMPHAN	Rigger	29		
15	PANTAKAN CHUREAUNG	Rigger	30		

TRAINING NEEDS			
No	Additional Training Required	Internal / External	Requires OFFICE Action?
1			
2			
3			
4			

## การฝึกซ้อมการโต้ตอบสถานการณ์ฉุกเฉิน

# การประชุม EMAG 2025



## Minute of Meeting

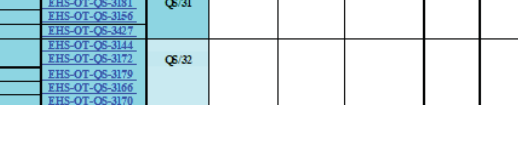
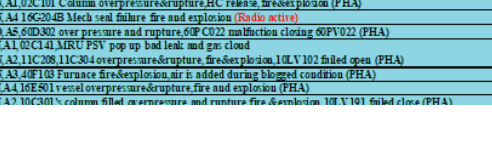
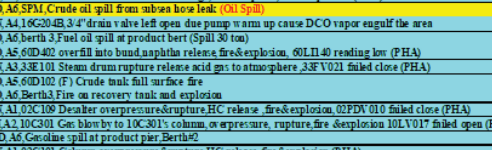
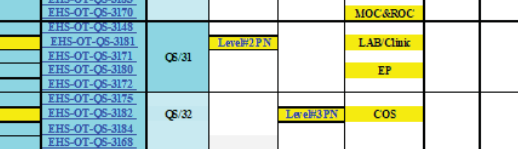
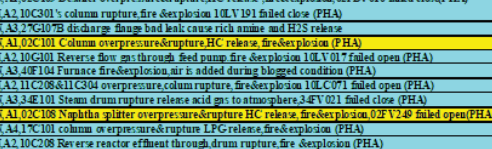
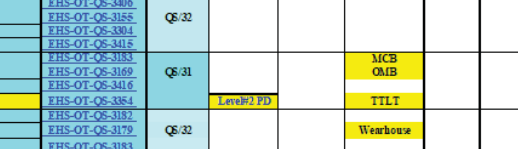
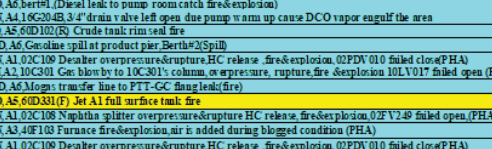
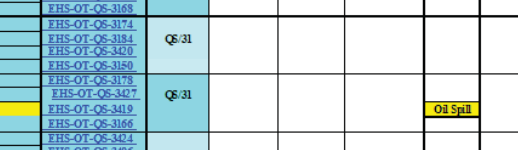
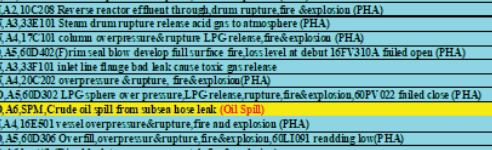
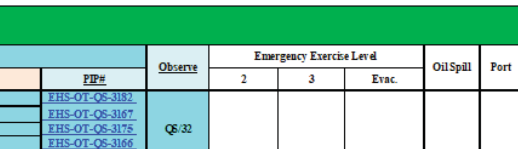
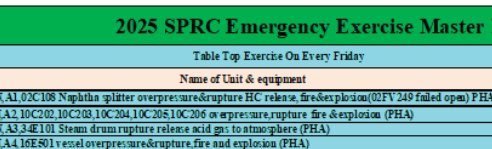
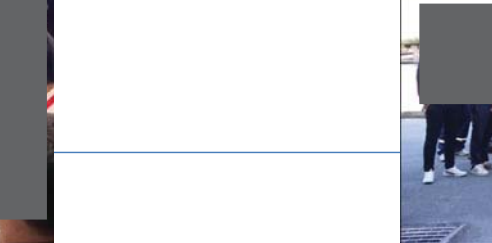
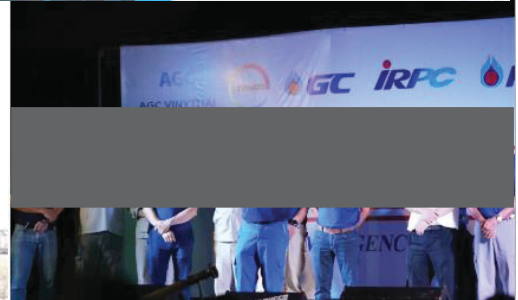
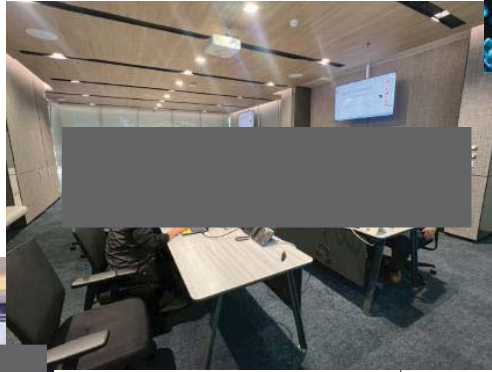
1<sup>st</sup> EMAG group meeting 2025/26

Date: 10 April 2025

Venue: Covestro Board room, MS Team

### Agenda:

1. Lesson Learn/Best practice sharing
2. รับรองรายงานการประชุมครั้งที่ผ่านมา
3. แผนงาน EMAG และการติดตาม
4. เรื่องอื่นๆ
5. สรุปการประชุม





## Emergency Exercise 2025

## Data link

 Narcisgrat Boomer

[illegible]

- The FRP's box and CSC vest are not found in CSC vehicle's cargo, action by CG/31. Done 27 Feb.



 Sanjaya Kumar 10c

To: **Research Project Officer** (to be filled) **Atmospheric Pollution Monitoring Academic Centre**, Division of Chemical Sciences, Indian Institute of Technology, New Delhi 110016, India  
For: **Post Graduate Programme in Science**, **Ministry of Education, Government of India**  
C/o: **Atmospheric Pollution Monitoring Academic Centre**, IITM, Society 5/8/1, Off-ICE  
E-mail: [atm@iitm.ac.in](mailto:atm@iitm.ac.in), [atm@iitd.ac.in](mailto:atm@iitd.ac.in), [atm@iitb.ac.in](mailto:atm@iitb.ac.in), [atm@iitk.ac.in](mailto:atm@iitk.ac.in), [atm@iitg.ac.in](mailto:atm@iitg.ac.in)

11/20/2017 10:00 AM

100



△

## Emergency Exercise 2025

Wattanasak Chueathai

Follow up. Start by Monday, June 9, 2025. Due by Monday, June 9, 2025.

Dear Duty Team week 23

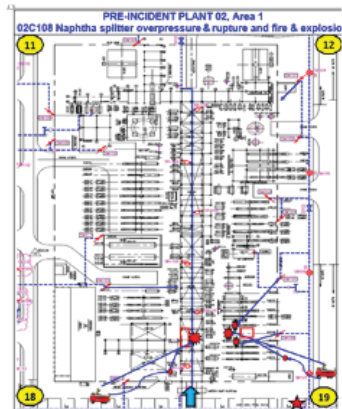
Please see the feedback from the exercise.

Good point

- IC & Operation practice **"02C108 Naphtha splitter overpressure & rupture HC release, fire & explosion,"**
- Good communication IC, OSC, REB, and clinic.
- 1 press release issued
- SAFER Modeling, vessel burst event, helps the team to clarify the Incident's impact on the company and the community nearby
- Good incident scenario
- Good sharing on the tactic for keeping water spray due to it pyrophoric that can reignite when it dry.

### Opportunity to develop

- Duty manager recommends considering the condition of the back smoke from the burning may affect to community
- Duty manager recommends considering to show the FRANCE Line released information in the same screen of "SAFER ONE" (if possible)



## Data link

## Level 1B

### Friday Table-Top Exercise

□



# Emergency Exercise Level 2 at Jet A-1 Tank May 2025

RE: Emergency Exercise Level 2 60D331 Jet A-1 time 0900-1200



Narongrat Boontor

To: [Wanchai Prassachoteng](#); [Phanugan Muylhum](#); [Suthap Jainoom](#); [Wattanasak Chuethai](#); [Janjira Phatthanoon](#); [Varoonnaga Chaingam](#); [Pratin Srimuang](#); [Nitha Lim annuang](#); [Winyawit Pluckkijjaree](#); [Sanae Panna](#); [Anchulee Kamdee](#); [Nilewan Paniboot](#); [Nida Leelapromsue](#); [Kisak Kijjontarakul](#); +21 others  
Cc: [Bundit Vajyuttanasare](#); [Pongkom Chochuwong](#); [Narong Triytee](#)

Reply Reply All Forward

Mon 02/06/2025 19:52

Please accept my appreciation for the Annual Emergency Exercise Level 2 PD. The exercise met our goals: no one got hurt, there were no communication complaints, and all related procedures were followed. Although the exercise did not provide detailed scenarios, you demonstrated a good understanding of your roles and responsibilities and performed well as the scenario unfolded.

However, the exercise did not run as smoothly as we expected. We can learn from this and improve it for the future.

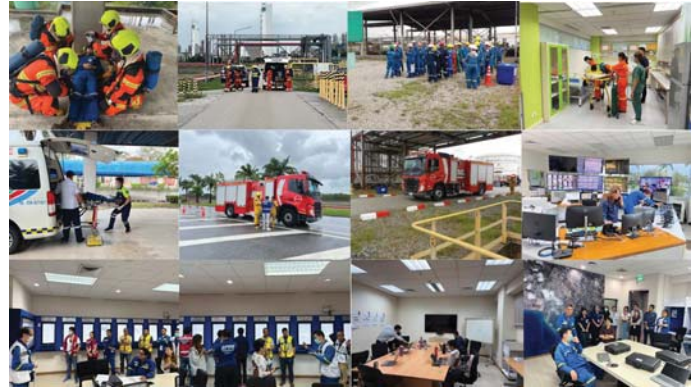
Please see the feedback below.

## Good point

- The ERT conducted briefings to understand the situation, strategies, and tactics, and set up teams to respond.
- The ERT demonstrated good teamwork.
- Radio communication was clear, although there were occasional traffic jams.
- The IC has a good understanding of the storage tank process unit.
- The P&ID document in the EOC is up to date.
- The EOC facility is functioning well.
- The press release was well-reviewed by CA and legal.
- Good cooperation between CA team with Wat So Phon community

## Opportunity to develop

- The amount of SCBA sets on the vehicle is not adequate for the ERT (12 persons).
- The ambulance driver is not familiar with the road closure numbers.
- The connector of the foam chamber demonstration is locked (cannot turn).
- The search time for rescue is too long (20 minutes).
- There should be a practice for victim transportation and response zoning.
- The nozzle monitor of Fire Truck No. 2 cannot adjust the pattern from fog to jet.
- There was no communication about the specific drop-off point for resource support (SCBA, refreshments).
- Consider choosing a safe location to pick up victims in the hot zone. Can the ambulance pick up victims in the hot zone?
- There is no CCTV at the incident location.
- No contractor management in case of victim transfer to medical treatment at Bangkok-Rayong Hospital.
- Consider installing voice recording machines in the REB control room and EOC.
- Consider adding IT staff to the weekly duty to conduct emergency exercises every time.
- Consider the protocol for calling EMAG members to standby at the main gate (level 1B).
- Consider providing a CCTV manual instruction in the EOC.
- Consider the notification protocol for Level 2 or 3 by the Duty Manager (refer to topic 8.2 notification and reporting to stakeholders).
- Consider notification to insurance.
- Support raincoats for MC at REB.
- Consider separating the security team to support incidents within and outside the SPRC boundary.
- Consider a message template for external calls (REB).
- Remind all duty team members to log key activities into OneNote.
- Consider inviting new duty team members who have not participated in the annual emergency exercise to join next time. (The annual exercise is scheduled according to the operation shift.)

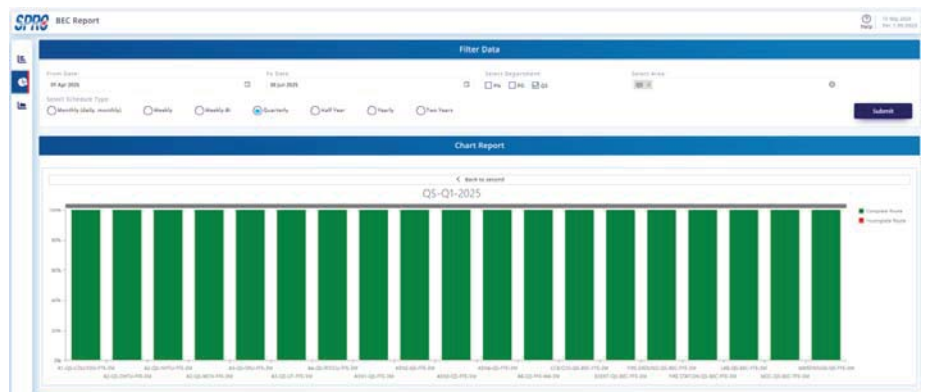
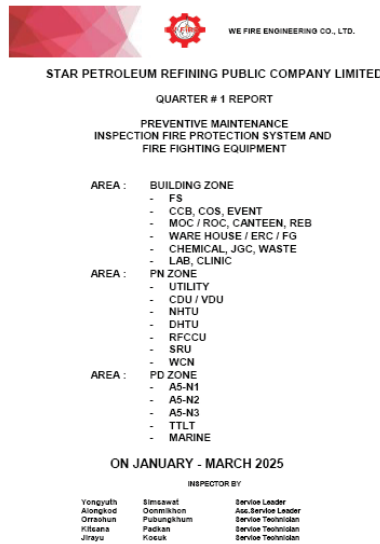


## Building Evacuation Exercise in 2025





# FFE inspection



8

## การเข้าร่วมการฝึกซ้อม Naval Security Map Ta Phut Exercise 2025 (NASMEX '25)



### สรุปการประเมินผลการฝึก

วันที่ 2 ก.ค.68 (จำนวน 4 สถานการณ์)																							
	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	0000				
สถานการณ์					ซ้อม	ประจำ			ฝึกซ้อม														
วันที่ 3 ก.ค.68 (จำนวน 3 สถานการณ์)																							
	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	0000				
สถานการณ์				ซ้อม	EOD				ฝึกซ้อม														
วันที่ 4 ก.ค.68 (จำนวน 2 สถานการณ์)																							
	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	0000				
สถานการณ์		ฝึกซ้อม	โดน																				
การแบ่งหัวข้อขึ้นแบบประเมิน																							
บริษัท	ลำดับ	สถานการณ์ฝึก										หัวข้อแบบประเมิน											
SPRC	1	ห้องควบคุมสถานการณ์										หัวข้อแบบประเมิน											
	2	ซ้อม										สถานการณ์ฝึก ห้องควบคุมสถานการณ์ ห้องควบคุมเหตุการณ์ ( CONTROL ROOM/WAR ROOM)											
	3	ประจำ										สถานการณ์ฝึก ซ้อม / ช่วงระเบิด / โหม่ง / ซ้อม / ซ้อม											
	4	ฝึกซ้อม										สถานการณ์ฝึก การประจำ / หน่วย / หน่วย / หน่วย / หน่วย											
	5	ก่อนทางทะเล										สถานการณ์ฝึก การก่อวินาศกรรม / หน่วยทางทะเล / หน่วยทางทะเล											
	6	วัดคุณสมบัติ										สถานการณ์ฝึก วัดคุณสมบัติ											
	7	ลักษณะยานพาหนะ										สถานการณ์ฝึก ลักษณะยานพาหนะ											
	8	ทะเลบริเวณ										สถานการณ์ฝึก ทะเลบริเวณ											
	9	โดน										สถานการณ์ฝึก โดน											



9



# Oil Spill Tabletop exercise #2 in 2025

## การฝึกซ้อมสถานการณ์ครึ้นน้ำมัน และสารเคมีรั่วไหล ทุก 6 เดือน

Feedback Tabletop Oil Spill Exercise at SPM on Friday 5 Sep. 2025 (Continue from March)

Narongrat Boontor  
To: Ogas Waiyatsaj, Bundit Vayavattanasri, Natthakrich Kasuwan, Siripong Boondirek, Wattana Phaengree, Nutira Kangsingha, Nipa Nimmanseethakul, Wanyut Promnor, Sawai Paena, Akasit Rumpagaporn, Wisit Sukprasert, Paltoon Merattananaboonlom, Worawut Muangsarn, Sukhum Khankhang, 52 others  
Cc: Pongkorn Chochuwong, Narong Triyotee, Hathairat Thongmal, Seontorn Sathupak, Narong Chanline, Sawas Hanchana, Jakkrit Arpanjanun, Pichan Intakhumkruat, Trairong Rattanamuang, Warathorn Wongutthikul, Yodlawee Nathantuek, #AII PN Shift Supervisor, Somchai Naonsri, 15 others  
IAP exercise 21 Mar and 5 Sep 2025.pdf  
2 MB

Reply Reply All Forward  
Mon 15/09/2025 13:42

# Emergency level 3 exercise in 2025

Feddback from emergency exercise level 3,PN,A1,02C108, Duty Rota - Week 33rd

Siripong Boondirek  
To: Sita Kamintagoot, Wisit Sukprasert, Piya Kittichachana, Nittha Lim amnuai, Nillawan Ponlaboot, Paltoon Merattananaboonlom, Kannakrid Purasa, Manoch Ampornmahas, Thanusorn Sinthong, Arcorn Srekanok, Woraphong Sutjanadamrong, Kornin Potirab, Phakphum Aodis, 12 others  
Cc: Narong Triyotee, Bundit Vayavattanasri, Pongkorn Chochuwong, Anucha Jakk, Narong Chanline, Seontorn Sathupak, Pulitorn Kecoosinik, Narongrat Boontor, Nillawan Ponlaboot, Mayuree Saenglop, Anchulee Kamdee, #AII PD Shift Supervisor, #AII PN Shift Supervisor, 8 others  
Follow up: start by Tuesday, September 2, 2025. Due by Tuesday, September 2, 2025.

Reply Reply All Forward  
Mon 18/09/2025 12:12





## ภาคผนวก ข.24

### การตรวจสอบภาพพนักงาน



ที่ HPC 333/2568

ศูนย์ส่งเสริมสุขภาพและอาชีวเวชศาสตร์

19 พฤศจิกายน 2568

เรียน ผู้จัดการฝ่ายทรัพยากรบุคคล

บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน)

หนังสือฉบับนี้จัดทำขึ้นเพื่อรับรองว่า บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน) ได้ทำการตรวจสอบสุขภาพพนักงานประจำปี 2568 ในวันที่ 21 มิถุนายน 2568 ถึง วันที่ 6 ตุลาคม 2568 ซึ่งมีรายชื่อพนักงานเข้ารับการตรวจสุขภาพ จำนวน 533 คน กระทำการตรวจสุขภาพโดยศูนย์ส่งเสริมสุขภาพและอาชีวเวชศาสตร์ โรงพยาบาลกรุงเทพระยอง ตามใบอนุญาตให้ดำเนินการสถานพยาบาลเลขที่ 10201002057 และใบอนุญาตให้ประกอบกิจการเลขที่ 10201002657 ดำเนินการโดย บริษัทโรงพยาบาลกรุงเทพระยอง จำกัด ได้ทำการสรุปผลและรวบรวมผลการตรวจสุขภาพประจำปีไว้เป็นที่เรียบร้อยแล้ว และขอรับรองผลการตรวจสุขภาพ ว่าเป็นไปตามข้อกำหนดกฎกระทรวงในเรื่องกำหนดมาตรฐานการตรวจสุขภาพลูกจ้าง ซึ่งทำงานเกี่ยวกับปัจจัยเสี่ยง พ.ศ. 2563 และมาตรฐานทางการแพทย์ที่เกี่ยวข้อง

จึงเรียนมาเพื่อทราบ และขอขอบคุณมา ณ โอกาสนี้

ขอแสดงความนับถือ



(นายแพทย์สิรินุต สอนันตะ)

แพทย์อาชีวเวชศาสตร์ โรงพยาบาลกรุงเทพระยอง



(คุณพัชรินทร์ อุดสาหประคิษฐ์)

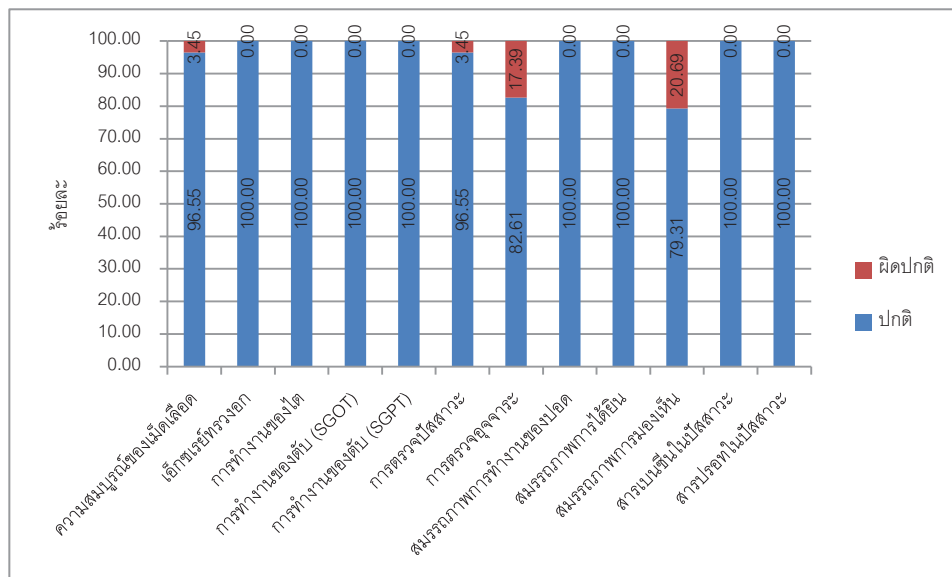
ผู้ช่วยผู้จัดการฝ่าย PCG 3

หากมีข้อสงสัยหรือต้องการรายละเอียดเพิ่มเติม

ศูนย์ส่งเสริมสุขภาพและอาชีวเวชศาสตร์ โทร. (038) 921999 ต่อ 1821

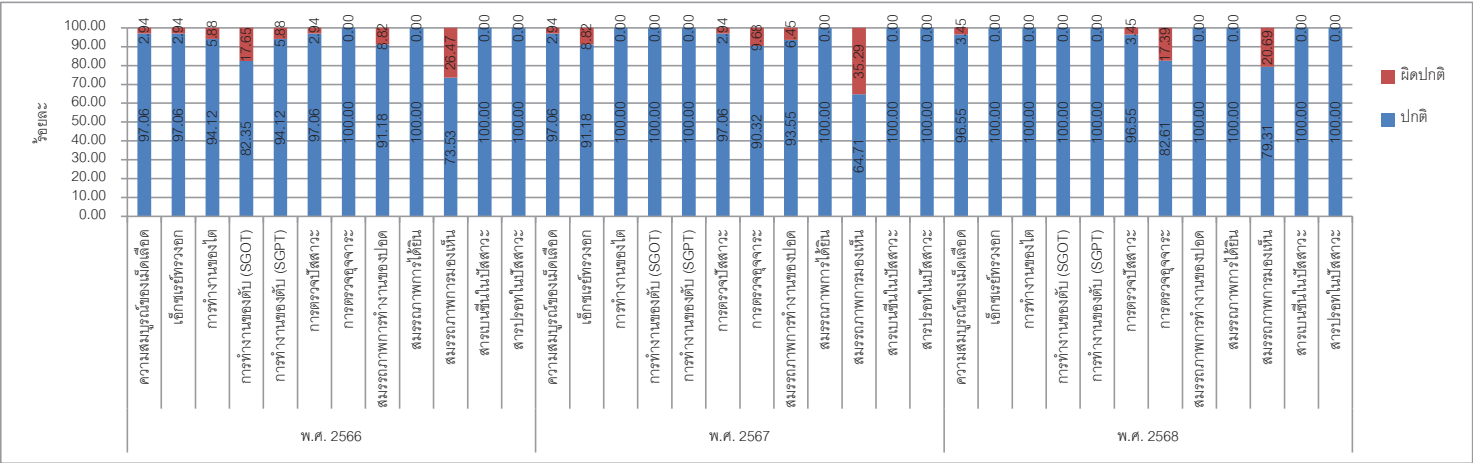
สถิติผลการตรวจสุขภาพพนักงาน ประจำปี พ.ศ. 2568  
 โครงการทำเทียบเรือ บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน)  
 โดยโรงพยาบาลกรุงเทพระยอง

รายการตรวจ	พ.ศ. 2568				
	ผู้เข้ารับ การตรวจ	ปกติ	ผิดปกติ	ปกติ	ผิดปกติ
	(คน)	(คน)	(คน)	(ร้อยละ)	(ร้อยละ)
ความสมบูรณ์ของเม็ดเลือด	29	28	1	96.55	3.45
เอ็กซเรย์ทรวงอก	29	29	0	100.00	0.00
การทำงานของไต	29	29	0	100.00	0.00
การทำงานของตับ (SGOT)	29	29	0	100.00	0.00
การทำงานของตับ (SGPT)	29	29	0	100.00	0.00
การตรวจปัสสาวะ	29	28	1	96.55	3.45
การตรวจอุจจาระ	23	19	4	82.61	17.39
สมรรถภาพการทำงานของปอด	29	29	0	100.00	0.00
สมรรถภาพการได้ยิน	28	28	0	100.00	0.00
สมรรถภาพการมองเห็น	29	23	6	79.31	20.69
สารเบนซีนในปัสสาวะ	28	28	0	100.00	0.00
สารปรอทในปัสสาวะ	28	28	0	100.00	0.00



สถิติผลการตรวจสุขภาพพนักงาน ระหว่างปี พ.ศ. 2566-2568  
โครงการทำเทียบเรือ บริษัท สตาร์ ปิโตรเลียม รีไฟน์นิ่ง จำกัด (มหาชน)

รายการตรวจ	พ.ศ. 2566					พ.ศ. 2567					พ.ศ. 2568				
	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	34	33	1	97.06	2.94	34	33	1	97.06	2.94	29	28	1	96.55	3.45
เอ็กซเรย์ทรวงอก	34	33	1	97.06	2.94	34	31	3	91.18	8.82	29	29	0	100.00	0.00
การทำงานของไต	34	32	2	94.12	5.88	34	34	0	100.00	0.00	29	29	0	100.00	0.00
การทำงานของตับ (SGOT)	34	28	6	82.35	17.65	34	34	0	100.00	0.00	29	29	0	100.00	0.00
การทำงานของตับ (SGPT)	34	32	2	94.12	5.88	34	34	0	100.00	0.00	29	29	0	100.00	0.00
การตรวจปัสสาวะ	34	33	1	97.06	2.94	34	33	1	97.06	2.94	29	28	1	96.55	3.45
การตรวจอุจจาระ	28	28	0	100.00	0.00	31	28	3	90.32	9.68	23	19	4	82.61	17.39
สมรรถภาพการทำงานของปอด	34	31	3	91.18	8.82	31	29	2	93.55	6.45	29	29	0	100.00	0.00
สมรรถภาพการได้ยิน	34	34	0	100.00	0.00	32	32	0	100.00	0.00	28	28	0	100.00	0.00
สมรรถภาพการมองเห็น	34	25	9	73.53	26.47	34	22	12	64.71	35.29	29	23	6	79.31	20.69
สารเบนซีนในปัสสาวะ	34	34	0	100.00	0.00	33	33	0	100.00	0.00	28	28	0	100.00	0.00
สารปรอทในปัสสาวะ	34	34	0	100.00	0.00	33	33	0	100.00	0.00	28	28	0	100.00	0.00





ภาคผนวก ข.25

---

กิจกรรมส่งเสริมสุขภาพและความปลอดภัย



กิจกรรมส่งเสริมความปลอดภัย

มกราคม - ธันวาคม 2568

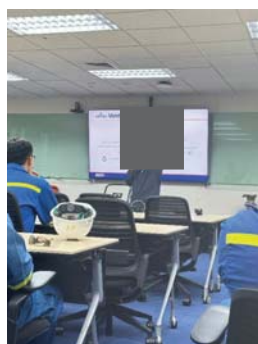


*"One family ...  
fueling the future  
of Thailand"*

กิจกรรมลดการทำงานครบ 2 ล้านชั่วโมง  
โดยปราศจากการบาดเจ็บขั้นบันทึก



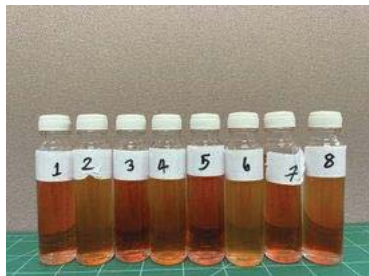
การอบรมการทำงานในที่อับอากาศ



การตรวจวัดคุณภาพอาหารที่โรงอาหารเป็นประจำทุกเดือน



## การตรวจคุณภาพน้ำประจำเดือน



## กิจกรรมส่งเสริมเรื่องสุขภาพ

ทำ Functional Capacity Evaluation เพื่อประเมินสุขภาพที่มดัดแปลง



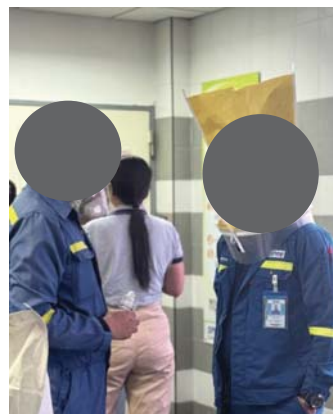
## กิจกรรมส่งเสริมเรื่องสุขภาพ

โครงการฉีดวัคซีนป้องกันไข้หวัดใหญ่ให้กับพนักงานและผู้รับเหมา



## กิจกรรมส่งเสริมเรื่องสุขภาพ

ทำ Fit Test เพื่อประเมินความพร้อมสุขภาพในการทำงานในกิจกรรมที่มีความเสี่ยงสูง  
เช่น การทำงานในที่อับอากาศ และการทำงานที่สูง เป็นต้น





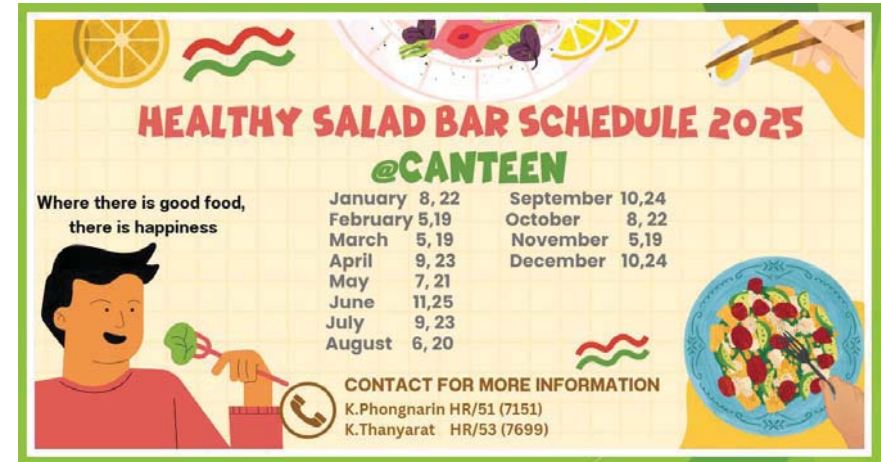
## กิจกรรมส่งเสริมเรื่องสุขภาพ

โครงการ Department Challenge 2025 เพื่อส่งเสริมให้พนักงานออกกำลังกาย



## 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

#### Training Schedule

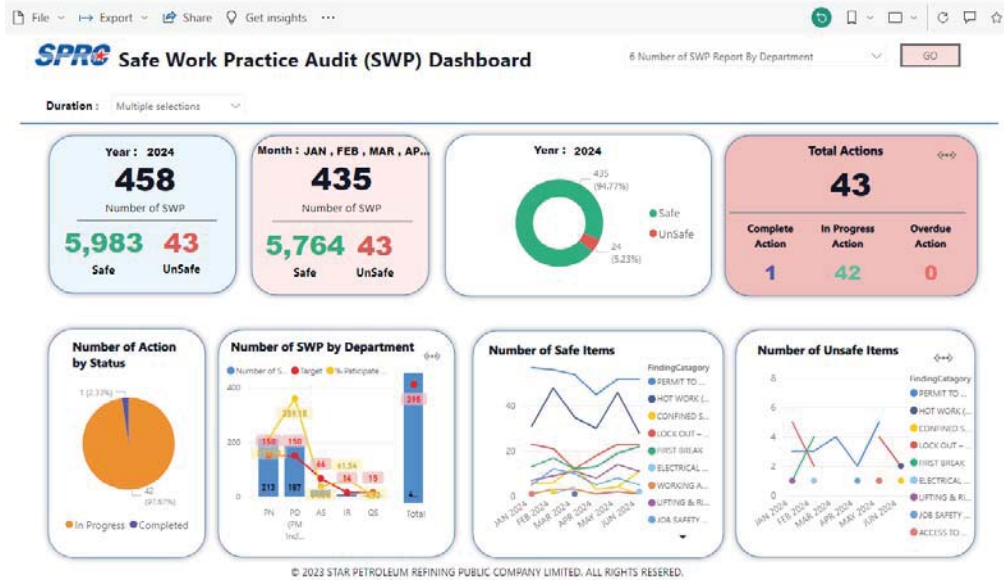
Session	Course Name	Staff	Day	Date	Venue	Time	Instructor
1	CPR & First Aid Training Refresher for Shift Staff (Shift A)	Shift A	0.5 Day	Wednesday, May 28, 2025	R106	08.00 – 12:00	QS/43 Team
2	CPR & First Aid Training Refresher for Shift Staff (Shift B)	Shift B	0.5 Day	Tuesday, June 10, 2025	REB	08.00 – 12:00	QS/43 Team
3	CPR & First Aid Training Refresher for Shift Staff (Shift C)	Shift C	0.5 Day	Thursday, June 5, 2025	R106	08.00 – 12:00	QS/43 Team
4	CPR & First Aid Training Refresher for Shift Staff (Shift D)	Shift D	0.5 Day	Thursday, Jun 12, 2025	R106	08.00 – 12:00	QS/43 Team



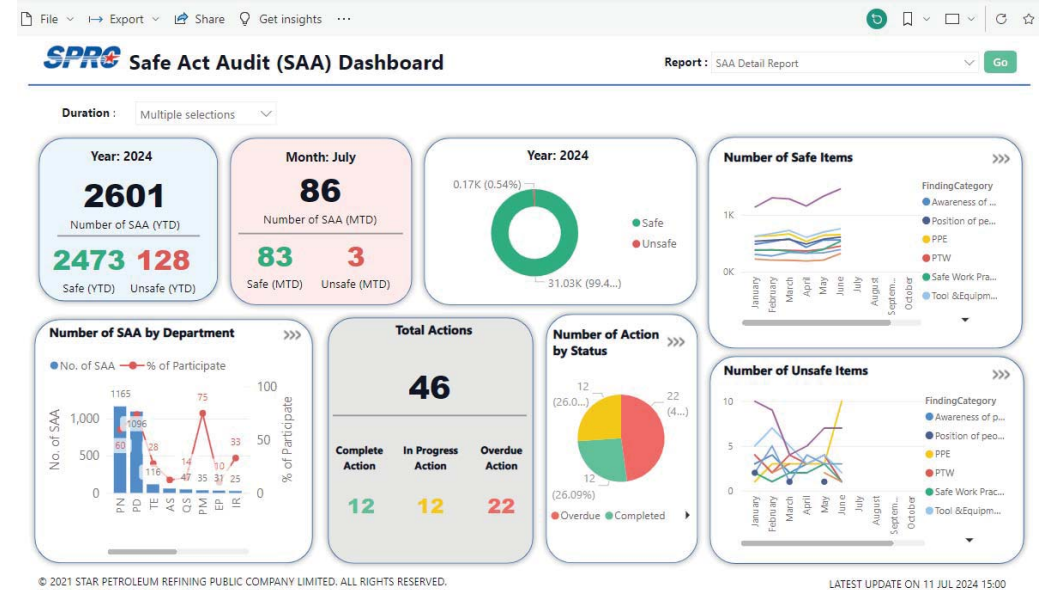
## การตรวจวัดคุณภาพอากาศในสถานที่ทำงาน



## การเดินตรวจความปลอดภัย (SWP Audit)



## การเดินตรวจความปลอดภัย (SWP Audit)



## กิจกรรม Tool Box Talk ประจำสัปดาห์



ภาคผนวก ข.26

---

ขั้นตอนการปฏิบัติในการล้างท่อรับน้ำมันและ SPM  
ก่อนการซ่อมบำรุงระบบท่อ







## 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.

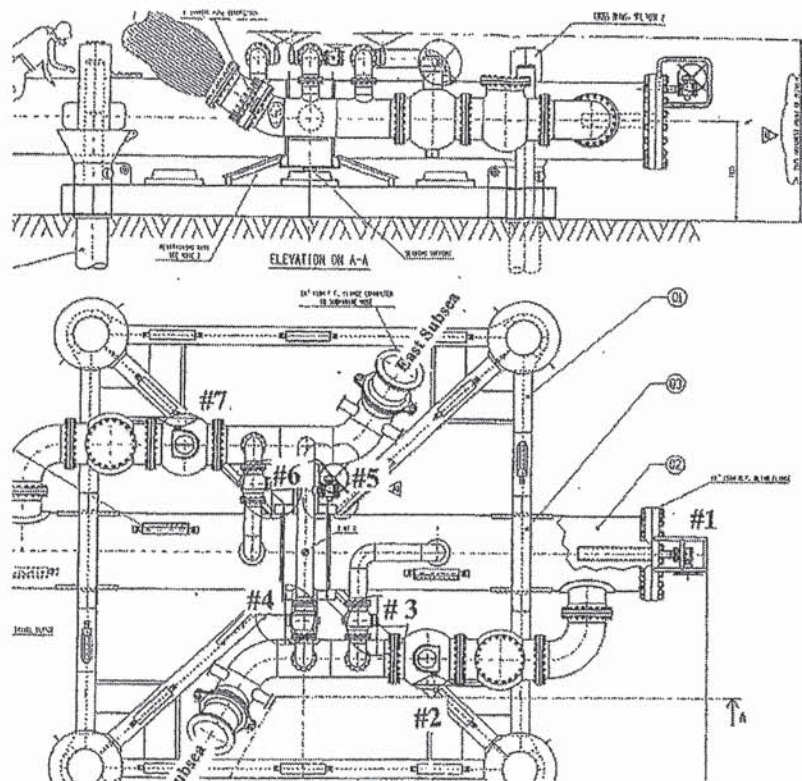


- 3.2.2 The shore tank which is to receive the oil from the flush should be measured so that an accurate estimate can be made on completion of the seawater used in the flush.
- 3.2.3 Close port string butterfly valve and open starboard string butterfly valve ( at the hose end on SPM Maintenance Boat )
- 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.27

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	BS- Thepha
Date	18-12-25
Berth	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

This is a controlled document and must be used within 7 days of printing 30 November, 2025

HC-FO-PD-6022

Page 1 of 2

### 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 (หนังสือขอทำการสอบเทียบปริมาณความจุของถังเรือ)</li> <li>ใบรับแจ้งเป็นผู้ขนส่งน้ำมันเชื้อเพลิง ตามมาตรา 12 ทวิ</li> <li>ใบอนุญาตใช้เรือของกรมเจ้าท่า (ทะเบียนเรือ)</li> </ul>	<input type="checkbox"/>
<b>Check By:</b>			
<b>END OF TASK</b>			

Revision No.: 4.1

Date: 20 August 2018

This is a controlled document and must be used within 7 days of printing 30 November, 2025

HC-FO-PD-6022

Page 2 of 2



## Tanker to Terminal: Pre-Arrival Information

To Terminal: SPRC From Tanker: BS THEPHA

Company: BIG SEA CO., LTD.

Sent by (Name/Rank): CAPT.KADIS RODJUN / Master of MT. BS THEPHA

Pre-Arrival Information		
1	Ship Name	MT. BS THEPHA
2	Flag	Bangkok Thailand
3	LOA (Length Overall)	104.93 M.
4	GRT (Gross Registered Tonnage)	3,775 Tons
5	NRT (Net Registered Tonnage)	1,770 Tons
6	DWT (Deadweight Tonnage)	4,999 Tons
7	Arrival/ Departure Displacement	3,387 MT./ 6,348 MT
8	If loaded, the type and quantity of cargo and disposition, discharge port including any toxic properties.	N/A
9	Proposed cargo handling, including grades, sequence, quantities and any rate restrictions.	PLAN TO LOAD HSD, TK. 2,4,6 P/S:2,500,000 Liters BASE-95, TK. 1,3,5 P/S: 2,800,000 Liters
10	ETA (Estimated Time Arrival)	17 DEC 2025 / 2000 LT.
11	Arrival / Departure Freeboard (Water Level Line to Center Manifold)	4.12 M / 2.52 M
12	Maximum Arrival Draft	4.20 M.
13	Maximum Departure Draft (Estimated)	5.80 M.
14	Discharge rate per line	Maximum capacity 1,200 m3/hr.
15	Number of Pumps available and plan to use	2 Pump/ Load condition no use ship pump
16	Stripping, if any, how many hours?	N/A
17	On heated cargoes, average temperature	N/A
18	Maximum Loading Rate	678 m3/hr.

19	Number and size of manifold / reducer planned to use	304 Millimeters / 4 Manifold at Port side. 304 Millimeters / 5 Manifold at Port side. 203 Millimeters / 6 Manifold at Port side. 304 Millimeters / 4 Manifold at STBD side. 203 Millimeters / 5 Manifold at STBD side. 152 Millimeters / 6 Manifold at STBD side.
20	Quantity and nature of slops and dirty ballast and any contamination by chemical additives.	N/A
21	Identification of any toxic components, such as hydrogen sulphide (H2S) or benzene.	N/A
22	Ballast on board and individual tank quantities.	NIL
23	Mooring wire or rope?	Rope type
24	Any mooring lines at main deck (fore and aft)?	FWD 6 /Spare 2 & AFT 6 / Spare 1
25	Breaking Strength for Mooring lines	29.5 Tons
26	Is vessel equipped with an Inert Gas System?	No
27	If Yes, is the system operational and in use? (Note: Vessels fitted with IGS are required to have tanks inerted prior berthing)	No
28	C.O.W required? (Only permitted for Crude discharge)	No
29	Last calibration certificate of the gas detection system and gas meters, including the IG system.	17 MAR 2025
30	Any defects in the hull, machinery or equipment.	No
31	Ship Security Level	LEVEL 1
32	Contracted Oil Spill Response Organization (OSRO).	Marine Department

Remark : Send e-mail to Marine\_terminal@sprc.co.th



บริษัท บิ๊กซี จำกัด Big Sea Co., Ltd	SHIP/SHORE SAFETY CHECKLIST รายการตรวจสอบความปลอดภัยระหว่างเรือและท่าเรือ	Document No.: No. S-1553-CO
		Revision no.: 06
		Date: 18-September-23

Ship's Name : ...BS THEPHA.....

Voy NO. : 072/25

(ชื่อเรือ)

Birth : ...SPRC No. 5

Port : ...MAPTAPHUT .....

(ท่าเรือ)

(เมืองท่า)

Date of Arrival : 18/12/25

Time of Arrival : .....

(วันมาถึง)

(เวลาถึง)

### Instructions for completing the Ship/Shore Safety Checklist

Before completing the SSSCL, tanker and terminal representatives should read and understand the following instructions to ensure satisfactory completion. An effective application of the SSSCL will provide a basis for safe operations while the tanker is at terminal. It is important that each applicable part is completed as required to ensure this.

### คำแนะนำในการกรอกการตรวจสอบความปลอดภัยของเรือ / ชายฝั่ง

ก่อนเริ่มทำรายการตรวจสอบ SSSCL ตัวแทนเรือและตัวแทนท่าเรือควรอ่านและทำความเข้าใจคำแนะนำรายละเอียดต่างๆ ต่อไปนี้เพื่อไปปฏิบัติได้อย่างถูกต้อง การประยุกต์ใช้ SSSCL อย่างมีประสิทธิภาพจะเป็นพื้นฐานสำหรับการปฏิบัติงานที่ปลอดภัยในขณะที่เรือบรรทุกน้ำมันอยู่ท่าเรือ เป็นสิ่งสำคัญที่แต่ละส่วนที่เกี่ยวข้องจะต้องดำเนินการให้เสร็จสมบูรณ์ตามที่กำหนดเพื่อให้มั่นใจว่าสิ่งนี้

1. Pre-arrival ก่อนเรือถึง
2. Checks after mooring การตรวจสอบหลังเทียบเรือ
3. Checks before transfer - the pre-transfer conference ตรวจสอบก่อนส่งสินค้า - การประชุมก่อนส่งสินค้า
4. The declaration รายการแจ้งทราบ
5. Summary of repetitive checks during and after transfer สรุปรายการที่ต้องตรวจสอบระหว่างและหลังปฏิบัติงานส่งถ่ายสินค้า

#### 1. Pre-arrival ก่อนเรือถึง

The tanker should complete part 1A (and 1B if using an IG system) and then forward a copy to the terminal for review before arrival, the terminal should complete part 2 and then similarly forward a copy to the tanker for review before arrival. On completion of the pre-arrival parts, if it is not possible to send a copy of the completed part to the tanker and/or terminal, then a message should be sent confirming the time and date of completion to the relevant party before arrival. If there are any outstanding issues not marked "Yes" in the status box, this should be explained in this communication.

เรือบรรทุกน้ำมันควรทำส่วน 1A ให้เสร็จสมบูรณ์ (และ 1B หากใช้ระบบ IG) จากนั้นส่งต่อสำเนาไปยังทางท่าเพื่อตรวจสอบก่อนเดินทางมาถึงท่าควรกรอกส่วนที่ 2 ให้เสร็จสิ้นจากนั้นส่งสำเนาไปยังเรือบรรทุกน้ำมันเพื่อตรวจสอบก่อนเดินทางมาถึง เมื่อส่วนเตรียมการเข้าท่าเสร็จสมบูรณ์หากไม่สามารถส่งสำเนาของส่วนที่เสร็จสมบูรณ์ไปยังเรือบรรทุกน้ำมันและ / หรือท่าเรือได้ควรส่งข้อความยืนยันเวลาและวันที่เสร็จสิ้นไปยังฝ่ายที่เกี่ยวข้องก่อนเดินทางมาถึง หากมีปัญหาที่ค้างอยู่ใด ๆ ที่ไม่ได้ทำเครื่องหมายว่า "ใช่" ในช่องสถานะนี้ควรได้รับการอธิบายไว้ในคำอธิบาย

### ISGOTT Checks pre-arrival Ship/Shore Safety Checklist

Part 1A. Tanker: Checks pre-arrival เรือ: รายการตรวจสอบก่อนเรือถึง			
Item	Check	Status	Remark
1	Pre-arrival information is exchanged (6.5,21.2) มีการแลกเปลี่ยนข้อมูลกันระหว่างเรือและท่า	<input checked="" type="checkbox"/> Yes	
2	International shore fire connection is available (5.5,19.4.3.1) ข้อต่อ International shore fire connection พร้อมใช้งาน	<input checked="" type="checkbox"/> Yes	พนักงกรชายฝั่ง

บริษัท บิ๊กซี จำกัด Big Sea Co., Ltd	SHIP/SHORE SAFETY CHECKLIST รายการตรวจสอบความปลอดภัยระหว่างเรือและท่าเรือ	Document No.: No. S-1553-CO
		Revision no.: 06
		Date: 18-September-23

Part 1A. Tanker: Checks pre-arrival เรือ: รายการตรวจสอบก่อนเรือถึง			
3	Transfer hoses are of suitable construction (18.2) ท่อยางและท่อรับน้ำมันมีโครงสร้างที่เหมาะสม	<input checked="" type="checkbox"/> Yes	LOADING ARM
4	Terminal information booklet reviewed การทบทวนคู่มือข้อมูลท่าเรือ (15.2.2)	<input checked="" type="checkbox"/> Yes	
5	Pre-berthing information is exchanged (21. 3,22.3) มีการแลกเปลี่ยนข้อมูลกันระหว่างเรือและท่า ก่อนการเทียบท่า	<input checked="" type="checkbox"/> Yes	
6	Pressure/vacuum valves and/or high velocity vents are operational (11.1.8) ระบบระบายอากาศในถังสินค้าพร้อมใช้งาน	<input checked="" type="checkbox"/> Yes	
7	Fixed and portable oxygen analyzers are operational (2.4) เครื่องมือวิเคราะห์ก๊าซออกซิเจนประเภทติดตั้งประจำที่และประเภทเคลื่อนย้ายได้พร้อมใช้งาน	<input checked="" type="checkbox"/> Yes	

Part 1B. Tanker: Checks pre-arrival if using an inert gas system เรือ: รายการตรวจสอบก่อนเรือถึงถ้าใช้ระบบ IGS			
Item	Check	Status	Remark
8	Inert gas system pressure and oxygen Recorders are operational (11.1.5, 11.1.11) ระบบบันทึกแรงดันของก๊าซเฉื่อยและออกซิเจนพร้อมใช้งาน	N/A	
9	Inert gas system and associated equipment are operational (11.1.5.2,11.1.11) ระบบก๊าซเฉื่อย และอุปกรณ์ที่เกี่ยวข้องพร้อมใช้งาน	N/A	
10	Cargo tank atmospheres oxygen content is less than 8% (11.1.3) ในถังสินค้ามีปริมาณออกซิเจนน้อยกว่า 8 %	N/A	
11	Cargo tank atmospheres are at positive pressure (11.1.3) แรงดันในถังสินค้ามากกว่าแรงดันบรรยากาศ	N/A	




Part 2. Terminal: Check pre-arrival ท่าเรือ: รายการตรวจสอบก่อนเรือถึง			
Item	Check	Status	Remark
12	Pre-arrival information is exchanged (6.5,21.2) มีการแลกเปลี่ยนข้อมูลกันระหว่างเรือและท่า	<input type="checkbox"/> Yes	
13	International shore fire connection is available (5.5, 19.4.3.1, 19.4.3.5) ข้อต่อ International shore fire connection พร้อมใช้งาน	<input type="checkbox"/> Yes	
14	Transfer equipment is of suitable construction (18.1, 18.2) ท่อยางและท่อรับน้ำมันมีโครงสร้างที่เหมาะสม	<input type="checkbox"/> Yes	
15	Terminal information booklet transmitted to tanker (15.2.2) มีการส่ง Terminal information booklet สำสุดให้กับเรือ	<input type="checkbox"/> Yes	
16	Pre-berthing information is exchanged (21.3,22.3) มีการแลกเปลี่ยนข้อมูลกันระหว่างเรือและท่า ก่อนการเทียบท่า	<input type="checkbox"/> Yes	

#### 2 Checks after mooring การตรวจสอบหลังเทียบเรือ

The tanker should complete part 3 and give a copy to the Terminal Representative as soon as possible, but no later than at the pre-transfer conference. The terminal should complete part 4 and give a copy to the tanker as soon as possible, but no later than at the pre-transfer conference. เรือบรรทุกน้ำมันควรทำส่วนที่ 3 ให้เสร็จสิ้นและส่งสำเนาให้กับผู้แทนท่าเรือโดยเร็วที่สุด แต่ไม่ช้ากว่าในการประชุมก่อนการเตรียมการส่งสินค้า ท่าเรือควรดำเนินการส่วนที่ 4 ให้เสร็จสิ้นและส่งสำเนาให้กับเรือบรรทุกน้ำมันโดยเร็วที่สุด แต่ไม่ช้ากว่าในการประชุมก่อนการเตรียมการส่งสินค้า



ISGOTT: Pre-berthing exchange of information รายการแลกเปลี่ยนข้อมูลก่อนเรือเทียบ (SPRC NO 2, 5)

Tanker to terminal and/or pilot / Checks pre-berthing exchange of information รายการแลกเปลี่ยนข้อมูลก่อนเรือเทียบระหว่างเรือกับท่าหรือผู้นำร่อง			
Refer: ISGOTT / 21.3.1			
Item	Description รายละเอียด	Check	Remarks
1	Master/Pilot information exchange documentation as per ICS "Bridge Procedures Guide". มีการแลกเปลี่ยนข้อมูลระหว่างนายเรือกับผู้นำร่องหรือไม่	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> N/A	Not applicable if self-pilot by Master ไม่บังคับใช้หากการนำเรือเข้าเทียบโดยนายเรือ
P2	Location of the chocks, bollards and strong points that can be used for towing. ระบุตำแหน่งของช่องผ่านเชือก พุกและจุดแข็งแรงที่ใช้ในการลากจูงสำหรับเรือทัก		Location of the chocks ตำแหน่งของช่องผ่านเชือก F:(C-3S) CLOSED CHOCK No.10 A: (C-1S) CLOSED CHOCK No.7 Location of bollards ตำแหน่งของพุกที่ใช้คล้องเชือกสำหรับเรือทัก F:(B-2S) BOLLARDS No.4 A:(B-1S) BOLLARDS No.2
3	Safe Working Load (SWL) of towing equipment. SWL ของอุปกรณ์ที่ใช้ในการลากจูงสำหรับเรือทัก		SWL of the chocks ช่องผ่านเชือก: 280 kN SWL of bollards พุกที่ใช้รับเชือกทัก: 400 kN SWL of ship's mooring lines เชือกเรือสำหรับรับเรือทัก หากต้องใช้: 39.3 Tons
4	Number and location of areas on the tanker's hull that are strengthened or suitable for pushing, and details of the identification marks. จำนวนและตำแหน่งรอบตัวเรือที่แข็งแรงหรือเหมาะสำหรับให้เรือทักดัน เช่น Port side on frame No.20 : กรวยขาวบริเวณนี้ (frame No.98) ที่มีสัญลักษณ์ T : กรวยขาวบริเวณนี้ (frame No.35) ที่มีสัญลักษณ์ T Detail of the identification marks สัญลักษณ์ที่จะระบุจุดสำหรับให้เรือทักดัน เช่น Tug with arrow เขียนว่า Tug พร้อมลูกศรชี้ลง: มีสัญลักษณ์ T		Number of areas suitable for pushing จำนวนตำแหน่งที่เหมาะสมสำหรับให้เรือทักดัน: 2 point / จุด Location of areas suitable for pushing ตำแหน่งที่เหมาะสมสำหรับให้เรือทักดัน เช่น Port side on frame No.20 : กรวยขาวบริเวณนี้ (frame No.98) ที่มีสัญลักษณ์ T : กรวยขาวบริเวณนี้ (frame No.35) ที่มีสัญลักษณ์ T Detail of the identification marks สัญลักษณ์ที่จะระบุจุดสำหรับให้เรือทักดัน เช่น Tug with arrow เขียนว่า Tug พร้อมลูกศรชี้ลง: มีสัญลักษณ์ T
5	Summary of up-to-date critical information for the port call มีการแจ้งข้อมูลที่สำคัญการเทียบเรือครั้งนี้หรือไม่	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	เช่น มีข้อบกพร่องเกี่ยวกับเครื่องจักรใหญ่ เครื่องไฟฟ้า หางเสือ กว้าน สมอ หรือไม่ กิจกรรมที่จะทำในขณะที่เทียบท่าต่างๆ เช่น มีการรับ Bunker, น้ำจืด, เกล็ด และอื่นๆ หรือไม่ If Yes ระบุ:
6	Detail of the tanker's mooring system as per MEG รายละเอียดเกี่ยวกับการเทียบเรือตามคำแนะนำของ MEG	<input checked="" type="checkbox"/> Yes	ให้ติ๊ก Yes หากทำการเช็คแล้วว่า มีระบุดังนี้ - Snap-back danger marked. พื้นที่อันตรายได้ระบุไว้แล้ว - Mooring ropes and other equipment ready for use. เชือกเทียบเรือและอุปกรณ์อื่นๆ พร้อมใช้ - Mooring lines plan and position were discussed. แผนการขึ้นเชือก/ติดพุกแล้วหรือไม่

Sent by

CHIEF OFFICER

Rank

17 12 25

Movement/Dispatches		
<b>SPRC 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	MD. SRI PRUN PIN
Date	08-Dec-2018 1900 hr.
Berth	Nº 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"/>

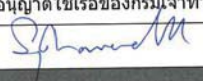
Revision No.: 4.1

Date: 20 August 2018

This is a controlled document and must be used within 7 days of printing 08 December, 2025

HC-FO-PD-6022


Page 1 of 2

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"/>
<div style="display: flex; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin-right: 5px;">NOTE</div> <div>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.</div> </div>			
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 (หนังสือขอทำการสอนเทียบปริมาณความจุของถังเรือ)</li> <li>ใบรับแจ้งเป็นผู้ขนส่งน้ำมันเชื้อเพลิง ตามมาตรา 12 ทวิ</li> <li>ใบอนุญาตใช้เรือของกรมเจ้าท่า (ทะเบียนเรือ)</li> </ul>	<input checked="" type="checkbox"/>
Check By:		 110139	
<b>END OF TASK</b>			

ภาคผนวก ข.28

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	

## Table of Contents

<b>Purpose</b> .....	<b>2</b>
<b>System Information</b> .....	<b>2</b>
Summary .....	2
Roles and Responsibility .....	2
Precautions .....	2
Prerequisites .....	2
<b>Detailed Activities</b> .....	<b>4</b>
1. Tank Preparation .....	4
2. Sample analysis .....	5
3. Crude header preparation .....	6
3.1 SPRC/PTTGC line up .....	6
3.2 PD tank farm line up .....	7
4. Crude tank line up and switching .....	7
4.1 60D101 Line Up .....	7
4.2 60D102 Line Up .....	8
4.3 60D103 Line Up .....	9
4.4 60D104 Line Up .....	9
4.5 60D105 Line Up .....	10
4.6 60D106 Line Up .....	11
4.7 60D107 Line Up .....	12
5. Receive SPM line flushing setting by program .....	12
6. Unloading activities .....	13
7. Crude Oil filling/mixing .....	14
8. SPRC crude tank switching .....	14
9. Stop crude unloading setting by DCS .....	15
10. Tank close gauge .....	16
11. Crude switch SPRC to PTTGC .....	17
12. Crude circulation heater .....	19
<b>Appendix</b> .....	<b>20</b>
<b>Definitions</b> .....	<b>25</b>
<b>References</b> .....	<b>26</b>

## 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

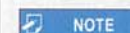
### Precautions



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.

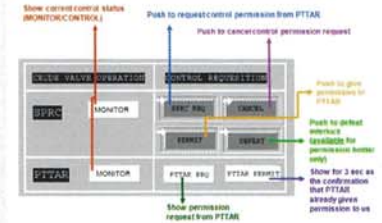
### Prerequisites

- 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"/>
 <b>WARNING</b>		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.		
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>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>				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
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>			
<div>NOTE</div> 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"/>
<div>NOTE</div> 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"/>
<div>NOTE</div> 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"/>
<div>NOTE</div> 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"/>
<div>NOTE</div> 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"/>
<div>NOTE</div> 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 ratio10 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"/>

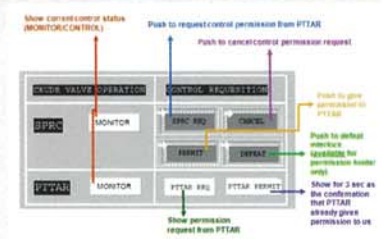
Who	Step	Action		Check
DCS	9.2	IF	THEN	<input type="checkbox"/>
		Demulsifier injecting,	<b>Notify</b> DCS Marine to stop Demulsifier injection.	
DCS	9.3	WHEN	THEN	<input type="checkbox"/>
		The crude remaining volume left to 1,250 m <sup>3</sup> .	<b>Notify</b> DCS Marine stand by 15 minutes.	
DCS	9.4	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>96HV001/002</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>96HV001/002</td> <td>96YA001/2</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	96HV001/002		no		96HV003/004	96HV003/004	96YA003/4	off	96HV001/002		no			96HV001/002	96YA001/2	off	96HV001/002		no		
NEW																																			
open	MOV fault	Defeat switch (01KSA013)	keep close																																
96HV001/002	96YA001/2	off	96HV001/002																																
	no		96HV003/004																																
96HV003/004	96YA003/4	off	96HV001/002																																
	no																																		
96HV001/002	96YA001/2	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

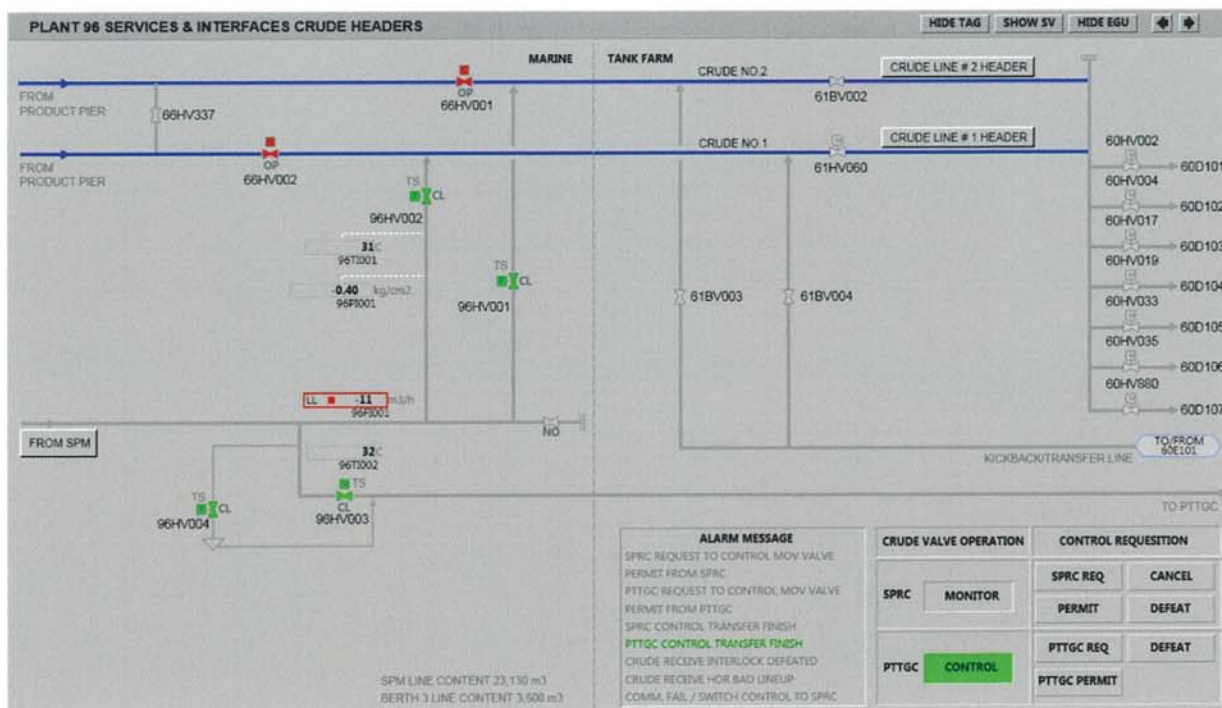
Initial

Time

Date

**Appendix**

## Appendix A : GR0781 Service and Interface Crude HDR



Revision No.: 5.1

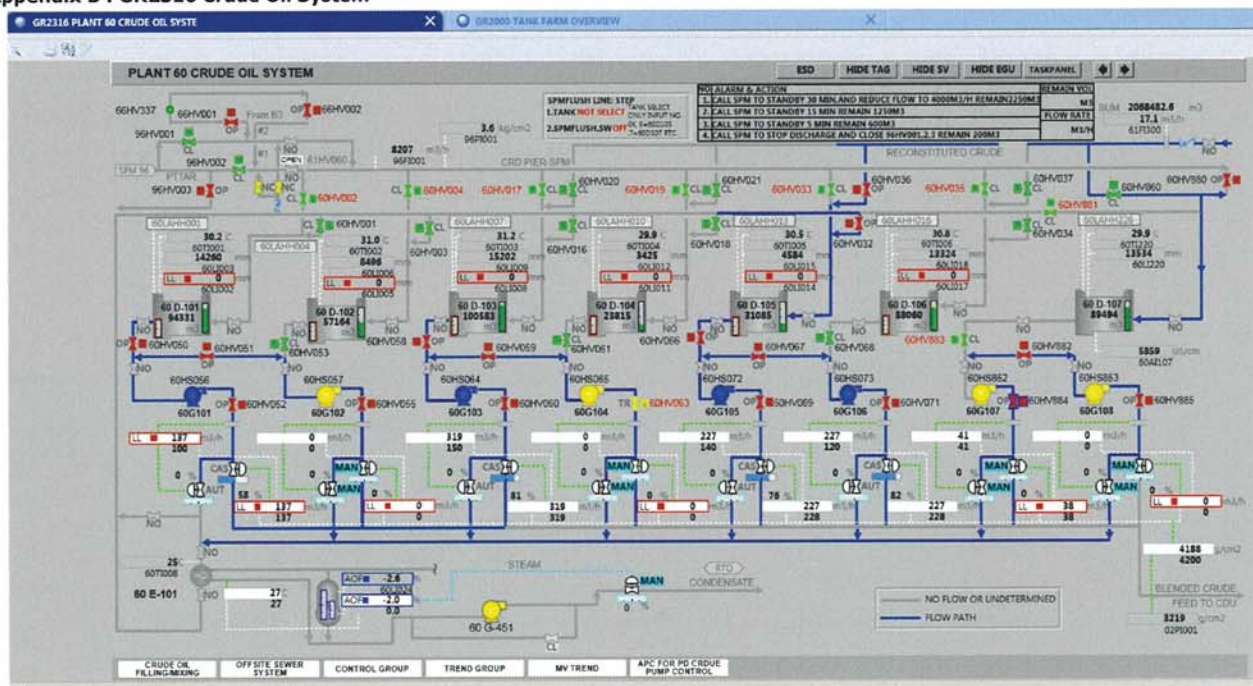
HC-WI-PD-5391

Date: 19 October 2021

Page 21 of 27

This is a controlled document and must be used within 7 days of printing 12 July, 2022

## Appendix B : GR2316 Crude Oil System



Revision No.: 5.1

HC-WI-PD-5391

Date: 19 October 2021

Page 22 of 27

This is a controlled document and must be used within 7 days of printing 12 July, 2022



## 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																							
Quantity :		78,520 m <sup>3</sup>																							
Crude type :		Murban																							
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.																									
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		
		1623	1623			2118	2118			8790	8790														
6	46940	7199	8822	10	23130	3548	5666	12	8630	1324	10114														
7	23130	3548	12370	11	55390	8495	14161			0															
		0		12	14500	2224	16385			0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															
		0				0				0															



## 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.29

บันทึกการตรวจสอบอัตราการส่งน้ำมันดิบ และระดับน้ำมันในถังเก็บ



Movement/Dispatches		
 <b>Area 6 SPM Ship/Shore Hourly Cargo Figures</b>		
Prepared by: Sawai Paena	Number: HC-FO-PD-6026	
Approved by: Opas Waiyasatja	Revision: .1	
Low	Medium	High

101 = 6.520

### SPM Crude Unloading Record

VESSEL Eagle Ventura (SPRC/PTTGC)  
 CARGO 1 PTTGC - WTI Midland B/L QTY 80,540 M3  
 CARGO 2 \_\_\_\_\_ B/L QTY \_\_\_\_\_ M3  
 CARGO 3 \_\_\_\_\_ B/L QTY \_\_\_\_\_ M3  
 Line displacement to \_\_\_\_\_, Ship figures \_\_\_\_\_ M3, Shore figures \_\_\_\_\_ M3  
 Line displacement to \_\_\_\_\_, Ship figures \_\_\_\_\_ M3, Shore figures \_\_\_\_\_ M3

Date Time	Ship ROB (M3)	Ship Disch rate (M3/hr)	Ship total disch (M3)	Shore received (M3)	Ship/ Shore Diff (M3)	Flow 96FI001 M3/hr	Press 96PI001 Kg/cm2	Remark Level
14:24	All Fast							
15:48	Completed	See connection						
16:12	Commence	discharge	step #1	760101 = 23150.80		100101 Level bulge = 11651		
17:00				2725				12069
18:00	205577		11776	105755		7890		119267
19:00	194379	8194	19340	18469		7934		14484
19:36	Completed	Line displacement	step #1	760101				
	190389	3990	23300	22961		4492		15173
20:30	Commence	discharge	step #2	75203 = 57,330 m <sup>3</sup>	(PTTGC)			
21:00	188583	1806	25106	24649				1688
22:00	181923	6660	31766	30956				6307
23:00	174676	7247	39013	38647				7699
00:01	167498	7238	46251	45128				6489
01:00	160607	6897	53088	51973				6845
02:00	153387	7220	60308	59289				7316
03:00	146198	7233	67541	66742				7453
04:00	139081	7067	74608	73651				7179
05:00	132678	6403	81011	79843				6992
05:48	Complete	Discharge	step #2	81476				1633

Dear all, **Normal case:**

Next PTTGC crude tanker is "M/T EAGLE VENTURA" The latest ETA will be on 05<sup>th</sup> Dec 25 at 12.00 hrs.  
 Please pilot on board up on arrival at SPM.

She carried crude for **PTTGC;** 500,000 bbl @ 15C (80,540 m3) of WTI Midland crude oil with discharge plan as follows:

### PTTGC-CRUDE

- Commence to discharge **23,210 m3** ( aim discharge over line flush **23,130 m3 + 80 m3**) of PTTGC- WTI Midland crude to push SPRC- Murban (PTTGC sale to SPRC) crude **23,130 m3** from SPM line via vessel "M/T LONDON VOYAGER" to SPRC: **60D101. STOP for switch refinery total 23,210 M3**
- Next to discharge all of PTTGC- WTI Midland crude to PTTGC: **T5203** (approx. **57,330 m3**)(Ship notice **30,15,5, mins to complete discharge, Total 80,540m3**)
- Finally, **23,130 m3** of PTTGC- WTI Midland crude remained in SPM line is belong to PTTGC

### Note:

- For surveyor : Please take sample of crude for 2 bottom/grade and keep at surveyor office for shipping.
- For surveyor : Please take sample of crude for 2 sets/grade and provide to GC 6 Laboratory.
- Crude discharge at SPM will allow to do COW for min MARPOL at 25%

Yours sincerely,

Praphat Thanongkongsawad

Operation Planner

M-ES-SC

1424 All Fast

Revision No.: .1

HC-FO-PD-6026

Date: 22 August 2018

Page 1 of 1

Company Confidential, Internal Use Only – Uncontrolled after 7 days of printing 05 December, 2025

## Yuthapoom Deejing

**From:** Yuthapoom Deejing  
**Sent:** Tuesday, December 2, 2025 19:39  
**To:** Alliance Shipping Services Co.,Ltd.; Pongsook Kluakaew  
**Cc:** #Spm\_team  
**Subject:** Pre-arrival information and Pre-berthing information Terminal to Tanker  
**Attachments:** ISGOTT-6\_SPM Pre-Berthing information Terminal to Tanker-01 New.docx; ISGOTT-6\_SPM Pre-Arrival information Terminal to Tanker-01 New.docx

Dear Agent,

Please pass message to The MASTER of **MT. Eagle Ventura**  
Please find related information from SPRC Terminal as per below:

- Pre-arrival information Terminal to Tanker
- Pre-berthing information Terminal to Tanker

Remark, Water depths 25.0 M.(LLW)

Please pass the following information to the Master of **MT. Eagle Ventura** to COW &  
ISPS :

COW :

For sludge control purpose with ship trading pattern, terminal allow to do COW only as MINIMUM as MARPOL requirement.

ISPS Shore's representative who will be onboard until complete operation.

1. Capt. Pissanu Sr. (Pilot ,Mooring Master, DPFSO)
2. Capt. Pongsook K. (Mooring Master)
3. Capt. Yuthapoom D. (Assistant Mooring Master)
4. Four (4) Foremen to supervise for hose connection.
5. Two (2) Surveyors.
6. One (1) agent's checker.

No. 1 – No. 6 Total 9 Persons. Stay on board.

We request cabins for shore representatives as details as below.

- 3 separated cabins for 3 Mooring Masters
- 1 separated cabin for Surveyor and Agent
- 1 Suez cabin for Riggers & hose connection team (4 persons)

Best regards,  
Yuthapoom Deejing  
Assistant Mooring Master

## ภาคผนวก ข.30

ขั้นตอนการทำงานเกี่ยวกับการรับจ่ายน้ำมันที่ท่ากลางทะเล



Movement/Dispatches	
<div style="display: flex; align-items: center;"> <div> <h2 style="margin: 0;">Plant 65 SPM Terminal Operating Procedure</h2> </div> </div> <div style="display: flex; justify-content: space-between; margin-top: 10px;"> <div> <p>Prepared by: Watthana Phaengsree</p> <p>Approved by: Suranun Silasuwanwit</p> </div> <div> <p>Number: HC-WI-PD-6084</p> <p>Revision: 3.3</p> </div> </div> <p style="text-align: center; margin-top: 10px;">This document must be printed and used "In Hand"</p>	
Low	Medium
High	

### Table of Contents

<b>Purpose .....</b>	<b>3</b>
<b>System Information .....</b>	<b>3</b>
Summary.....	3
Roles and Responsibility.....	3
Precautions.....	5
Prerequisites .....	5
<b>Detailed Activities .....</b>	<b>6</b>
1. DESCRIPTION AND LOCATION OF TERMINAL .....	6
1.1 Terminal Location .....	6
1.2 Principle Particulars .....	6
1.3 Operating Conditions .....	7
1.4 Survival Conditions .....	7
1.5 Mooring Hawsers .....	7
1.6 Sub-sea Hose Configuration .....	7
1.7 Surface Hose Strings .....	8
1.8 Navigation Aids .....	8
2. BERTHING PROCEDURES.....	8
2.1 Mooring and Assistant Mooring Masters .....	8
2.2 Vessel acceptance .....	9
2.3 Vessel Pre - Berthing Check List .....	10
2.4 SPM Pre - Berthing Check List .....	10
2.5 Drug and Alcohol Policy .....	10
3. MOORING AND UNMOORING.....	12
3.1 Mooring Master Boarding .....	12
3.2 Under Pilotage and at Berth .....	13
3.3 Preparation for Mooring .....	13
3.4 Mooring .....	14
3.5 Moored to Berth.....	15
3.6 Unmooring.....	16
3.7 SPM Equipment Defect List Report.....	17
4. HOSE CONNECTING PROCEDURES .....	17
4.1 Connecting Procedure.....	17



4.2 Figure 2.....	20
4.3 Figure 3.....	21
5. HOSE DISCONNECTING PROCEDURE .....	22
5.1 Disconnecting Procedure.....	22
6. DISCHARGE PROCEDURES.....	24
6.1 Cargo Discharge.....	24
6.2 Crude Oil Washing.....	27
6.3 Ballasting Operations.....	27
6.4 Cargo Outturn.....	28
7. Operations of tanker in berth .....	28
8. TERMINAL SERVICES CONTRACT .....	30
8.1 Contractor .....	30
8.2 Contractor Vessel .....	30
8.3 Maintenance Support Personnel .....	30
8.4 Supervision .....	31
9. DIVING SERVICES AGREEMENT .....	32
9.1 Contractor .....	32
10. POLLUTION .....	32
10.1 Prevention .....	32
10.2 Reporting .....	32
10.3 Response.....	33
<b>Appendix .....</b>	<b>34</b>
1. Mooring Master Check List .....	34
2. Discharging Information .....	34
3. SPM Preberth Inspection.....	35
4. SPM Defect List.....	36
<b>Definitions .....</b>	<b>37</b>
<b>References.....</b>	<b>38</b>

## 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.

Revision No.: 3.3

HC-WI-PD-6084

Date: 01 December 2023

Page 3 of 39

This is a controlled document and must be used within 7 days of printing 25 January, 2024

- 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)

Revision No.: 3.3

HC-WI-PD-6084

Date: 01 December 2023

Page 4 of 39

This is a controlled document and must be used within 7 days of printing 25 January, 2024



- 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><th>Description</th><th>Unit</th><th>Value</th></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.																	
	NOTE	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.																
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><th>Description</th><th>unit</th><th>value</th></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																		
	<ul style="list-style-type: none"><li>Number of Hawsers</li><li>Type</li><li>Material</li><li>Circumference</li><li>Length</li><li>Breaking Load NBDS</li><li>Maximum allowable mooring loads</li><li>Chafe Chain mm.</li></ul>	<div>2</div> <div>Single - leg</div> <div>Nylon</div> <div>16 inch</div> <div>50 meters</div> <div>395 Ton</div> <div>220 Ton</div> <div>76</div>																
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
1.7 Surface Hose Strings			
	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.		
1.8 Navigation Aids			
	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.		
END OF TASK			

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>CAUTION</div> 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.		



Who	Step	Action	Initial/Date/Time
		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.	
		The MM should not hesitate to contact SPRC Management at any time he feels their assistance or advice is required.	
		The Assistant Mooring Master (AMM) will work under the directions and leadership of the MM.	
<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>			
		1. Name of Vessel 2. Name of Master 3. Summer Dead weight 4. Arrival Draft 5. Net Registered Tonnage 6. Last Port of Call 7. Owner's name and Address 8. Bill of Lading Figures 9. Nationality of Officers and Crew 10. Number and Size of Chain Stoppers for SPM Mooring 11. Can Vessel maintain 30 percent of Summer DWT while in Berth 12. IGS Operational and all cargo tanks conditions as required by SOLAS 13. Adequate Stability at all stages of Cargo / Ballast operations. 14. Number and size of Manifolds. 15. S.W.L. of Derrick or Crane.	
		This information may be obtained from the vessel's Master by VHF or E-Mail through his agent.	
		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.	
<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				
<b>3. MOORING AND UNMOORING</b>							
<b>3.1 Mooring Master Boarding</b>							
	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 border="1"><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> <b>NOTE</b></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.	
		<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>	
		<p><b>NOTE</b></p>	
	3.2	Under Pilotage and at Berth	
		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.	
		In addition, the vessel's VHF Radio should be available on the bridge and in the cargo control room for back up communications.	
	3.3	Preparation for Mooring	
		<b>WARNING</b> Verify all Deck valve on SPM has been opened.	
		<b>WARNING</b> 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
		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>	
		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.	
		The following vessel's equipment should be ready on the forecastle :	
		<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>	
	3.4	Mooring	
		<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	
		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> .	
		<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>	
		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.	
		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.	
		<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
		Whenever possible, self spooling drums should be used to heave the messenger rope onboard.	
		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.	
		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.	
		The operation will then be repeated to secure the starboard mooring hawser.	
		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.	
<b>3.5 Moored to Berth</b>			
		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.	
		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.	
		If the warning light goes out and stays out, it will be the Mooring Master decision whether to resume cargo operations.	
		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.	
		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.	
		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.	
		When weather conditions improve the tanker can be re-berthed.	

Who	Step	Action	Initial/Date/Time
<b>3.6 Unmooring</b>			
		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.	
		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.	
		At once both of the hawser messengers are cleared from the ship heaving drum, the vessel moved astern clear of the berth.	
		<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	<b>Role of Mooring Master (1) – Pilotage</b> 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.	



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>			








Senior Operator

Initial

Time

Date

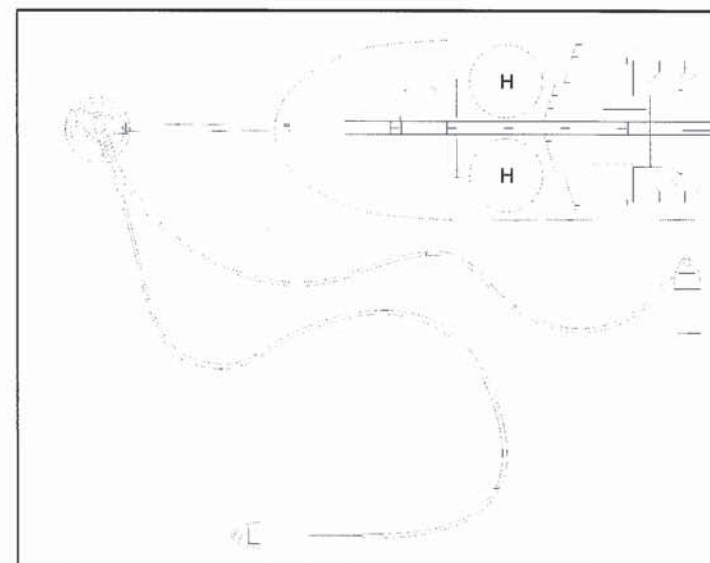
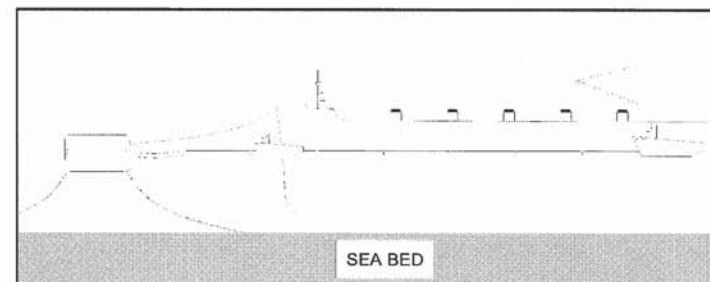
Who	Step	Action	Initial/Date/Time
<b>4. HOSE CONNECTING PROCEDURES</b>			
<b>4.1 Connecting Procedure</b>			
		Tanker manifold arrangements must comply with the latest OCIMF publication "Recommendations for Oil Tanker Manifolds and Associated Equipment"	

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	<table><tr><th>WHEN</th><th>THEN</th></tr><tr><td>The vessel has been securely moored</td><td><b>Move</b> the SPM starboard floating cargo hose string alongside at port side tanker manifold area.</td></tr></table>	WHEN	THEN	The vessel has been securely moored	<b>Move</b> the SPM starboard floating cargo hose string alongside at port side tanker manifold area.	
WHEN	THEN						
The vessel has been securely moored	<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 snubbling 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</b> <b>Aware of oil spillage when open the blind flange .</b>							
MM RIG	4.1.14	<table><tr><th>WHEN</th><th>THEN</th></tr><tr><td>Verify for safely opening the blind flange.</td><td><b>Open</b> the blind flange.</td></tr></table>	WHEN	THEN	Verify for safely opening the blind flange.	<b>Open</b> the blind flange.	_____
WHEN	THEN						
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	<table><tr><th>WHEN</th><th>THEN</th></tr><tr><td>Insert new gasket completed.</td><td><b>Tighten</b> bolt the flange.</td></tr></table>	WHEN	THEN	Insert new gasket completed.	<b>Tighten</b> bolt the flange.	_____
WHEN	THEN						
Insert new gasket completed.	<b>Tighten</b> bolt the flange.						
MM RIG	4.1.18	<table><tr><th>WHEN</th><th>THEN</th></tr><tr><td><b>Open</b> the hose end butterfly valve.</td><td><b>Secure</b> the hose end butterfly valve.</td></tr></table>	WHEN	THEN	<b>Open</b> the hose end butterfly valve.	<b>Secure</b> the hose end butterfly valve.	_____
WHEN	THEN						
<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.	_____

**4.2 Figure 2****Hose connection****HOSE CONNECTION**



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

Senior Operator



Initial

Time

Date

Who	Step	Action	Initial/Date/Time				
<b>5. HOSE DISCONNECTING PROCEDURE</b>							
<b>5.1 Disconnecting Procedure</b>							
<p>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 .</p>							
<div> <b>CAUTION</b></div> <p>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.</p>							
<div> <b>NOTE</b></div> <p>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.</p>							
RIG	5.1.1	<b>Close</b> Tanker manifold valve.					
RIG	5.1.2	<table><tr><th>WHEN</th><th>THEN</th></tr><tr><td><b>Close</b> hose end butterfly valve on completion of discharging.</td><td><b>Secure</b> hose end butterfly valve.</td></tr></table>	WHEN	THEN	<b>Close</b> hose end butterfly valve on completion of discharging.	<b>Secure</b> hose end butterfly valve.	
WHEN	THEN						
<b>Close</b> hose end butterfly valve on completion of discharging.	<b>Secure</b> hose end butterfly valve.						
SHP	5.1.3	<b>Drain</b> manifolds to Tanker storage tank.					
SHP RIG	5.1.4	<b>Remove</b> nylon bands.					
SHP MM RIG	5.1.5	<b>Station</b> crane hook waiting for disconnect the hose.					
SHP MM RIG	5.1.6	<table><tr><th>WHEN</th><th>THEN</th></tr><tr><td><b>Attach</b> lifting wire to the quick release hook completed.</td><td>Connected with crane hook.</td></tr></table>	WHEN	THEN	<b>Attach</b> lifting wire to the quick release hook completed.	Connected with crane hook.	
WHEN	THEN						
<b>Attach</b> 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><b>Heave up</b> lifting wire until take a weight.</td><td><b>Disconnect</b> the aft hose.</td></tr></table>	WHEN	THEN	<b>Heave up</b> lifting wire until take a weight.	<b>Disconnect</b> the aft hose.	
WHEN	THEN						
<b>Heave up</b> lifting wire until take a weight.	<b>Disconnect</b> the aft hose.						



Who	Step	Action		Initial/Date/Time
MM RIG	5.1.8	WHEN	THEN	
		Replace the blind flange gasket with using a new gasket.	Tighten bolt the flange.	
SHP MM	5.1.9	Heave up the hose until the weight is off the snubbing chain/wire.		
RIG	5.1.10	Release the snubbing chain/wire.		
SHP MM	5.1.11	Lower the hose until the flange is level with the tanker rail.		
RIG	5.1.12	IF	THEN	
		Connect shackle snubbing chain/wire.	Secure shackle with the safety pin.	
 CAUTION Lower hose to the water as directed by the Mooring Master.				
SHP MM RIG	5.1.13	Lower hose to the water.		
SHP MM RIG	5.1.14	Repeat step 5.1.1 to 5.1.14 for the forward hose.		
 NOTE Care must be taken when lowering the forward hose to prevent hose damaged due to scratch / sharp edge /entanglement of the hoses . 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.				
END OF TASK				

Senior Operator

Initial

Time

Date

Who	Step	Action	Initial/Date/Time
<b>6. DISCHARGE PROCEDURES</b>			
<b>6.1 Cargo Discharge</b>			
<p>"Mooring Master must inform ship's officer to activate cargo emergency stop when any emergency situation occur and action as follow to be taken,</p> <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 , PTTGC 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 .	
<div> <div>CAUTION</div> <div>The maximum discharge pressure allowed at the Ship's Manifolds is 10.5 kg/cm2 or 10.3 bar ( 150 psi )</div> </div>			
	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>			
<div> <div>NOTE</div> <div>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</b>" (ISGOTT) have been met in full.</div> </div>			
		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>			
<div> <div>WARNING</div> <div>Extreme caution must be taken when ballasting operations are undertaken, to ensure no oil escapes through the vessel's sea valves.</div> </div>			

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>	
		<p><b>CAUTION</b> 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/DMM/Shore Foreman staying onboard:		
	Capt. ( Pilot )	Cabin	Tel. Watch Time
	Capt. ( DMM )	Cabin	Tel. Watch Time
	Capt. ( MDM )	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 "MCR" and Ship CALL SIGN "SPM"		
	- Means VHF CH.67 (Primary) UHF 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