



# THAI OIL PRELIMINARY INHOUSE STUDY

## GAS DISOERSION STUDY REPORT for

### HYDROCARBON & TOXIC DISPERSION FROM TOC-3 FLARE FLAME OUT INCIDENT

0		APT	Issued for Approval	QMTS
A		APT	Issued for Review	QMTS
REV.	DATE	BY	DESCRIPTION	APPR.
				ENGINEERING APPROVAL
	19 Apr 2024	Kuluwat (Dev)		
REVISION CODE : A = Issued for Review and Approval - 0 = Issued for Final				

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วัตถุประสงค์การศึกษาและขอบเขตงาน (Study Objective and Work Scope)

รายชื่อผู้เข้าร่วม (Attendee list)							
No.	Name	Company	Date of attendance				
			18 Mar 2024				
1	Adisorn Boonyarungsee		X				
2	Max-Cabral AGOUNDOU KOYAGUENGOU		X				

Technical Authority Level 2 (TA 2)		
No.	Name	Status

เอกสารอ้างอิง (Drawing & Reference)				
No.	Document Name	Drawing No	Document File	Comment
1	x	xxxx	TOP EOSL ETL - Weekly Status Update 20240215.pdf	

Task List (PID / PFD <small>UAC</small> Task Marked)							
No.	List	Design Intent	Design Conditions	Operating Conditions	List Boundary	Drawing No	Drawing Page (From-To)
1	xx	xx			xx	xxxx	All

RECCOMENDATION STATUS TRACKING TABLE					
REF.	Task	RR	Recommendation	Status	Action By (Response & Signature)
1	xx		r1re	Open	Adul Weruwanarak

WHAT IF STUDY WORKSHEET



Project:	what -05	List	
Design Intent :	xx	System	
Design Conditions:		List Boundary	
Operating Conditions:			
PFD, PID No. :		Date	

List System	List Sub System	What If (Cause)	Consequences	CAT	Risk Assessment Matrix			Residual Risk Matrix			Action No	Recommendations	Action by
				(P/A/E/R/Q)	S	L	IR	S	L	RR			
Z	Z	c	e	A								1	r1re

Remark: P=People/ A=Asset / E=Environment/ R=Reputation/ Q=Quality

S = Severity Level / L = Likely hood / IR = Initial Risk / RR = Residual Risk

ผู้จัดทำ (Attendees)	Name (ชื่อ-นามสกุล)	Title (ตำแหน่ง)	Name (ชื่อ-นามสกุล)	วันที่ (Date)
1				
2				
3				
4				
5				
ผู้เชี่ยวชาญเฉพาะด้าน (ถ้ามี):			Name (ชื่อ-นามสกุล)	วันที่ (Date)
1				
2				

Note:



ภาคผนวก ก  
ข้อมูลและตารางอ้างอิงสำหรับการประเมินความเสี่ย  
ง  
**APPENDIX A**  
**PHA -WORKSHEETS**

## ตารางการประเมินความเสี่ยง ( Risk Assessment Matrix (RAM) )

Severity	Consequences					Increasing Likelihood					Opportunity	
	People	Assets	Environment	Reputation	Product Quality	A	B	C	D	E	Positive consequence	Opportunity
						Improbable	Unlikely	Possible	Likely	High		
						Never heard of in Petrochemical/Refinery Industry	Heard of in Petrochemical/Refinery Industry	Incident has occurred in Thailand/Asia	Happens several times per year in Thailand/Asia	Happens several times per year in Thailand		
						> 50.0 y	20.0-50.0 y	5.0-20.0y	1.0-5.0y	0.0-1.0y		
5	Multiple fatalities	Extensive damage > 10 MUSD	Massive effect, persistent severe damage	International impact	Massive effect	5 M (Priority 2)	10 M (Priority 2)	15 H (Priority 1)	20 H (Priority 1)	25 H (Priority 1)	Exceptional Profit increase or cost reduce > 10%	5
4	Permanent Total Disability or 1 to 3 fatalities	Major damage 1-10 MUSD	Major effect, extended breach or wide spread nuisance	National impact	Major effect	4 L (Priority 3)	8 M (Priority 2)	12 M (Priority 2)	16 H (Priority 1)	20 H (Priority 1)	Major Profit increase or cost reduce 5% - 10%	4
3	Major health effect/injury (LWC)	Localised damage 0.1-1 MUSD	Localised effect, repeated breaches or many complaints	Considerable impact, Regional media	Considerable effect	3 L (Priority 3)	6 L (Priority 3)	9 M (Priority 2)	12 M (Priority 2)	15 H (Priority 1)	Significant Profit increase or cost reduce 2.5% - 5%	3
2	Minor health effect/injury (MTC)	Minor damage 10-100 KUSD	Minor effect, single breach or complaint	Limited impact, Local Media	Limited effect	2 L (Priority 3)	4 L (Priority 3)	6 L (Priority 3)	8 M (Priority 2)	10 M (Priority 2)	Minor Profit increase or cost reduce 1% - 2.5%	2
1	Slight health effect/injury (FAC)	Slight damage ≤ 10 KUSD	Slight effect, within fence	Slight impact	Slight effect	1 L/N (Priority 4)	2 L/N (Priority 4)	3 L (Priority 3)	4 L (Priority 3)	5 L (Priority 3)	Insignificant Profit increase or cost reduce < 1%	1
0	No health effect/injury	No damage	No effect	No impact	No effect	L/N (Priority 4)	L/N (Priority 4)	L/N (Priority 4)	L/N (Priority 4)	L/N (Priority 4)	-	0

Risk Assessment Matrix : 5X5

WHAT IF RECOMMENDATION RESPONSE SHEET			
Project Title:what -05			
Project No:WHATIF-2024-0000024			
List:			
Action By:	Adul Weruwanarak	Response By:	Adul Weruwanarak
Action No.	1		
Drawing and Documents	xxxx (TOP EOSL ETL - Weekly Status Update 20240215.pdf)		
Action Description			
List System:	z		
List Sub System:	z		
What If (Cause):	c		
Consequences:	e		
Safeguard / Mitigation :			
Recommendation:	r1re		
Action Response:			
Action Close-out Details	By whom	Signature	Date
Response			
Ownner Approval			

## ภาคผนวก - PIDs / PFDs