



**Presentation on**

**Critical Safety Issues in  
Marketing Operations  
Striving for Improved Performance**

by

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# Introduction

- ❑ Oil Industry plays a vital role in providing energy security and contributes towards the overall growth of the country.
- ❑ Oil Installations handle highly inflammable hydrocarbon and therefore preservation and safety of these vital National assets are of paramount importance.
- ❑ The Oil Industry Safety Directorate (OISD), PSU Oil Cos. need to be extra vigilant and fully committed for ensuring safety of all installations.

# Hydrocarbon - inherently hazard prone

- ❑ Large inventory of Petroleum products-Highly inflammable
- ❑ Processing at high Pressure, Temperature
- ❑ Using Hazardous chemicals
- ❑ High Complexity & Process Integration
- ❑ Loss of containment results in Fire/Explosion
- ❑ History of Major incidents in India & Abroad

# Marketing Operations- Supply Chain

<b>Sl.</b>	<b>Installations</b>	<b>Nos.</b>
<b>01.</b>	<b>POL Depots &amp; Terminal</b>	<b>319</b>
<b>02.</b>	<b>Bottling Plants</b>	<b>188</b>
<b>03.</b>	<b>Aviation facilities</b>	<b>135</b>
<b>04.</b>	<b>Lube &amp; Grease manufacturing units</b>	<b>25</b>
<b>05.</b>	<b>POL Tank Trucks</b>	<b>90,000 +</b>
<b>06.</b>	<b>LPG tank trucks</b>	<b>13,000 +</b>
<b>07.</b>	<b>Retail outlets</b>	<b>49,077</b>
<b>08.</b>	<b>LPG dealers</b>	<b>12,610</b>
<b>09.</b>	<b>Kerosene / LDO dealers</b>	<b>6,590</b>

# Marketing Operations- Supply Chain

- ❑ **Associated Pipelines (>35,000 kms)/ Rail network**
- ❑ **Invariably, the links of this supply chain passes through the public interface where its system endurance is tested in real-time environment.**
- ❑ **This poses a big challenge to all of us.**

# Role of Marketing operations

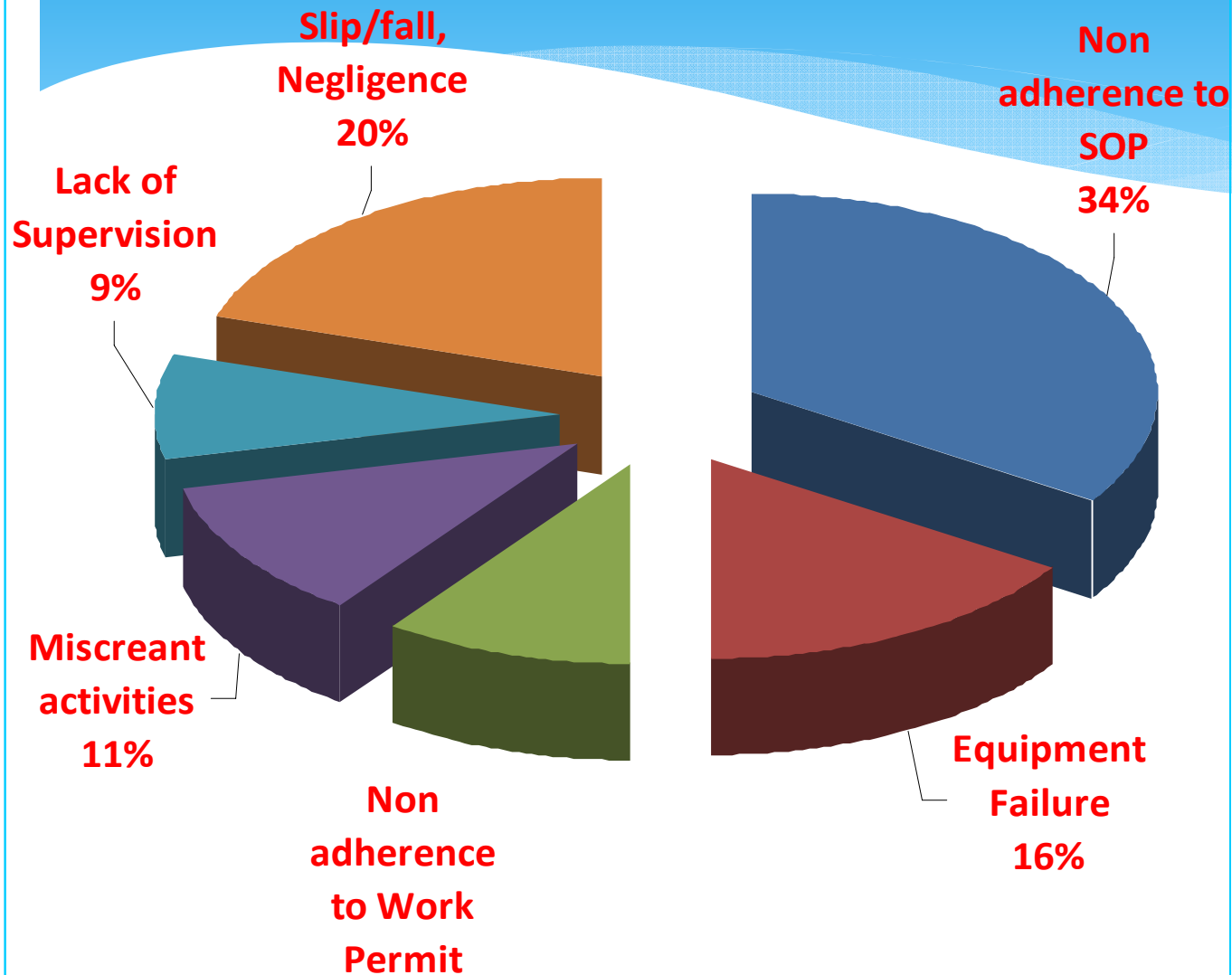
- ❑ Involves Management of Supply Chain for consumption of Petroleum Products @ 160 MMTPA across the length and breadth of the country.
- ❑ Linking the producing refineries thru transport links (Ocean Vessels, Pipelines, Rail & Road) with the consumptions centers by the Marketing Operations locations of the OMCs
- ❑ This is a very long and Complex chain.

# Incidents - Off site / On-site Mktg Operations

Year	Off-site Incidents	Off-site fatality	On site incidents	On-site fatality	Total Fatalities	Total Incidents
2009-10	47	74	16	17	91	63
2010-11	58	78	11	7	85	69
2011-12	97	104	13	10	114	110
2012-13	105	128	21	13	141	126
2013-14*	53	55	9	3	58	62
<b>Total</b>	<b>360</b>	<b>439</b>	<b>70</b>	<b>50</b>	<b>489</b>	<b>430</b>

\* Upto Qtr 2(2013-14)

# Major Incidents : 2012-13 (In plant)



CAUSE	Total Incidents
Non adherence to SOP	24
Equipment Failure	11
Non adherence to Work permit system	7
Miscreant activities	8
Lack of Supervision	6
Slip/fall, Negligence	14
<b>Total</b>	<b>70</b>



## Significant Financial Loss in On-site Incidents

	<b>Date</b>	<b>Location</b>	<b>OMC</b>	<b>Loss</b>	<b>Reason</b>
<b>2009-10</b>	01.10.2009	Panipat Trmnl	IOCL	28 lacs	Overflow of product
	02.10.2009	Karwar Trmnl	IOCL	25 lacs	Pipeline washed away due to flood
	29.10.2009	Sanganer	IOCL	280 crores	Fire
	31.12.2009	Katihar	BPCL	2 lacs	Fire
	21.02.2010	Vasco Trmnl	IOCL	80 lacs	
	17.03.2010	Bakania Depot	BPCL	6 lacs	Pilferage of product
		<b>Total</b>		<b>281.41 Crore</b>	
<b>2010-11</b>	30.09.2010	Cherlappali - Ghatkesar	BPCL	25 lacs	Product loss due to corrosion in pipeline
	19.01.2011	Taloja Lube Plant	IOCL	33 crores	Fire due to loose electrical connection
	22.02.2011	Khapri Depot	IOCL	30,000	Non adherence of SOP
		<b>Total</b>		<b>33.25 Crore</b>	
<b>2011-12</b>	04.11.2011	Loni LPG Plant	IOCL	10 lacs	(17.63 Mts)-Leakage of LPG
		<b>Total</b>		<b>10 lacs</b>	
<b>2012-13</b>	16.04.2012	Vijaywada BP	IOCL	4 lacs	Fire
	10.09.2012	Kochi Bottling Plant	IOCL	15 lacs	Leakage of LPG
	05.01.2013	Hazira Terminal	IOCL	45 crores	Fire
		<b>Total</b>		<b>45.19 Crore</b>	

# Reasons of Safety Breach

- Improper focus on Asset Integrity Management; poor reliability.
- Risks are not identified. Even where HAZOP study has been carried out, mitigation measures not taken.
- Disregard to the extant systems and procedures.
- Inadequate personnel competency.
- Violation of standard operating procedure.
- Knowledge gap and poor supervision.

# Challenges Faced by Hydrocarbon sector in India

- ❑ Ageing assets,
- ❑ Implementation of 'State-of-the-art' technology,
- ❑ Low or nil return on investment cost in Safety
- ❑ Installations in thickly populated areas,
- ❑ Higher risk due to population growth in and around the installation over a period of time
- ❑ Rapid expansion of industry resulting in shortage of skilled man power,
- ❑ Training & retraining of manpower to assimilate the upcoming technology etc.

# Safety performance

Reputation of an Industry Internationally today is measured by Safety performance of the organization:

- Zero tolerance towards any unsafe practice
- Adhering to established Systems and Procedures
- Following the tested procedures to handle emergency preparedness
- Motivating Manpower through Employee Engagement / leadership program.
- Incident Free Man Hours worked

# How?

- ❑ **Updation of facilities as per the best Industry practices from time to time.**
- ❑ **Maintaining the Integrity of the systems thru adherence to Operations and Maintenance procedures.**
- ❑ **Development of well defined work procedures (SOPs) thoroughly disseminated and practiced.**
- ❑ **Skill Enhancement thru various trainings, Tool Box talks etc.**
- ❑ **Sharing the learning from past Industry Experience pertaining to Incidents and their Root Cause.**

# What can we do ?

## Oil companies should aim for:

- Adoption of proactive approach for safety management instead of event based approach.
- Ensuring safe design of the installation.
- Ensuring safe and effective operations through emphasis on process safety and asset integrity.
- Limiting the extent and duration of accident to prevent its Escalation.
- Motivating employees thru appropriate rewards & restricting deviant behavior through appropriate punishment.
- Awareness of job Safety Aspects at all levels including contract laborers working in the installations

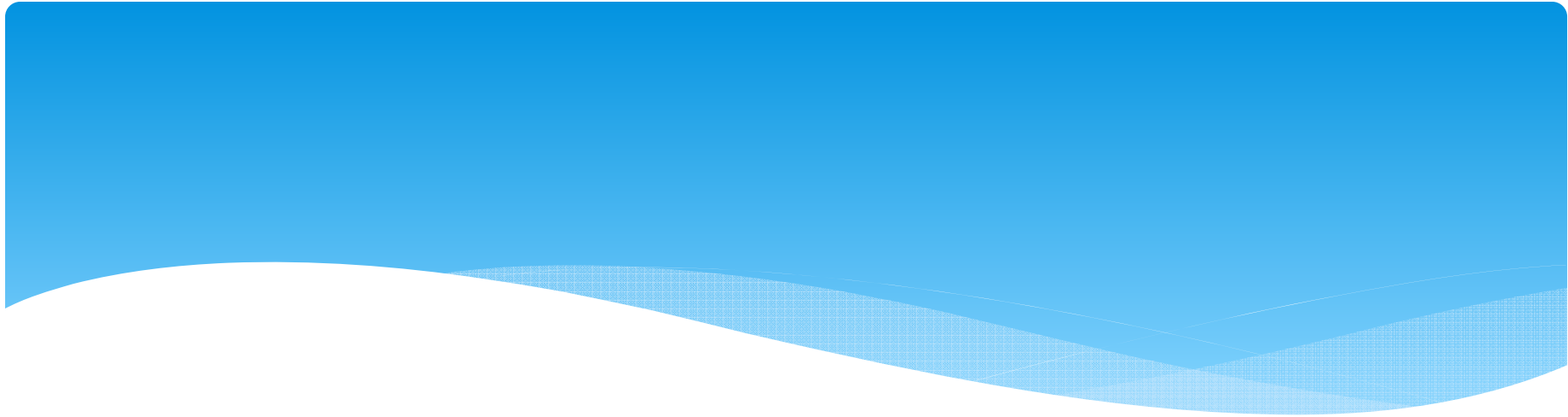
# Conclusion

- ❑ Safety Culture in a Company must have a top down approach.
- ❑ Implement Company's Internal Safety Audit Recommendations in true sprit.
- ❑ Keep your Eye & Ear open: any abnormal situation in an installation should be given highest attention.
- ❑ Implement OISD's Pre-Commissioning and External safety Audit Recommendations in a time bound manner.
- ❑ Implementation of recommendations of Committee constituted by Govt.
- ❑ High level of commitment towards safety.

# Summary

- ❑ This seminar will empower the Operating Managers in all functional areas
- ❑ Sharing the new ideas & innovations will go a long way in enhancing safety in Marketing Operations functions of Petroleum installations
- ❑ Achieve the Goal of Nil incidents in the Oil Industry.





Thanks