



## International Oil and Petrochemical Forum

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*Developing best industry practice*



## WHAT IS LASTFIRE?

LASTFIRE - which stands for “Large Atmospheric Storage Tank Fires” - is a consortium of international oil companies reviewing the risks associated with fires in storage tanks and developing the best industry practice to mitigate the risks.



### What is the Objective?

To continue its role as the established recognised international oil and petrochemical industry forum on best practices of Fire Hazard Management of Storage Tanks.

Member companies can benefit from

- Membership of and influence within an internationally recognised industry body specifically related to Storage Tank Fires.
- Networking with fellow professionals
- Immediate access to latest incident databases, risk reduction practices and research work
- Benchmarking with other relevant organisations

### Who can join?

Any company operating atmospheric storage tanks can join.

### Who are the current members?

ADCO	PETROPLUS
BP	QATAR PETROLEUM
IDEMITSU	SAUDI ARAMCO
MERO	TAKREER
MOL	TOTAL
NESTE OIL	ZADCO
PETRONAS	

### When did the project start?

The original LASTFIRE project, which was limited to open top floating roof tanks was completed in June 1997. The current study LASTFIRE Update was started in 2003 following the recognition that there had been significant developments in risk reduction options and additional experience in tank fire response.

LASTFIRE has established itself as the recognised industry forum and it is the intention that it will now continue on an ongoing basis with continuous updates of deliverables.

## What are the LASTFIRE Deliverables?

The deliverables of the original study were:-

- **An incident database** establishing, in a rigorous way, incident frequency statistics related to fires in open top floating roof storage tanks.
- **A Risk Reduction Options (RRO) document** which discusses the various options available to an operator to reduce risk. Practical advice based on experience is provided on design, installation and maintenance of risk reduction options. As LASTFIRE adopts a true Fire Hazard Management approach, the RRO document reviews all aspects of risk reduction including tank construction and operation as well as detection and protection systems and incident response strategies.
- **A Risk Workbook** which allows an operator to develop site specific risk based FHM policies. This has now been computerised to facilitate Cost Benefit Analysis of any risk reduction options.



- **A test protocol** for the evaluation of a fire fighting foam and its performance related to the specific requirements of a storage tank fire.



- **A training video**, made by fire fighters for fire fighters, describing the strategies and tactics for responding to rimseal fires in open top floating roof tanks.



- **Scope of work or Update Study**

The Update Study has expanded the original scope to include fixed roof and internal floating roof tanks. As well as updating the database and the RRO options on a regular basis based on experience and developments, experimental work and reviews are also carried out.

## Research Work

The current concentration is boilover studies with an aim to providing responders with better information on time to boilover, boilover consequences and fire fighting foam application strategies. Two member companies have shared theoretical models with the rest of the Group and the experimental data is being used for validation purposes.

Further proposals include research into improved protection methods for internal floating roof tanks and vapour measurements under geodesic domes.

The LASTFIRE Group was requested to comment on the API/EI lightning study related to storage tanks.



## What are Group Member commitments?

- To provide data on their storage tank incidents. This information is provided to the Project Coordinator, Resource Protection International, who adds it to the database on a confidential, anonymous basis.
- To provide experience based input to the RRO.
- To share any incident experience or other issues related to storage tank fires with the Group. All information presented within “closed” sessions is kept confidential within the Group.
- To host meetings in rotation.
- To encourage other companies to join the Group.

## What happens at a LASTFIRE meeting?

LASTFIRE meetings occur twice a year at international locations. They are usually split into two sessions – the first a “closed” meeting for members only, the second being open to invited guests to give technical presentations on any issue directly relevant to storage tank Fire Hazard Management.

Examples of recent presentations include:-

- Commissioning of Major Incident Response Units at various tank farm and industrial complexes.
- Incident response experiences.
- Environmental aspects of foam application.
- New standards in foam application.
- Developments in incident detection systems.
- Geodesic domes and affect on Fire Hazard Management.
- Vapour measurements under internal floating roof tank domes.

All presentations are loaded on to the LASTFIRE website which is accessible to LASTFIRE members through a password system.

### **What is the fee for LASTFIRE?**

Contact the LASTFIRE coordinator for information regarding fees. The fees cover administration work and fund theoretical or experimental work such as the boilover work. Current projects for further work being considered are:-

- Additional boilover work
- Development of a LASTFIRE Tank Workshop including both theoretical and practical sessions
- Measurement of vapour emissions at internal floating roof tanks under different operating conditions
- Experimental work with alternative extinguishing methods for internal floating roof tanks

### **How do you join?**

Contact the Project Coordinator, Resource Protection International, for further information and contract details.

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