

Innospec Environmental
Presentation to :

UNEP, IPIECA & AFCA

Led Gasoline Phase-out Workshop

August 14th 2008

innospec
environmental

Innospec Environmental Ltd (IEL)

- ▶ A separate division of Innospec Limited
- ▶ Changed name from Octel Environmental
- ▶ Innospec is the World acknowledged expert in Tetraethyl Lead (TEL)
- ▶ Safety is our overriding concern
- ▶ Full compliance with UNEP Guidelines



Hazards of TEL Compound and Sludges

- ▶ TEL is a poison that can kill
- ▶ TEL compound is flammable and explosive
- ▶ TEL sludges are pyrophoric when dry
- ▶ TEL compound is one of the most environmentally damaging materials known
- ▶ Innospec Environmental has more experience than anyone in safely dealing with these hazards.



Health and Environmental Monitoring

- ▶ All personnel receive Lead Awareness Training
- ▶ Pre- and post-project medical checks including lead in blood tests for project personnel
- ▶ Weekly lead in urine tests
- ▶ Lead in air tests conducted throughout the project
- ▶ Samples of decontaminated steel tested prior to transportation.



Typical Project Procedures

Horizontal Tank

Site 'A'

- ▶ Pump off or educt surplus inventory
- ▶ Remove pipework and dismantle blending plant
- ▶ Assess flammability levels
- ▶ If necessary nitrogen inert
- ▶ Introduce water blanket
- ▶ Transfer the tanks to Site 'B'









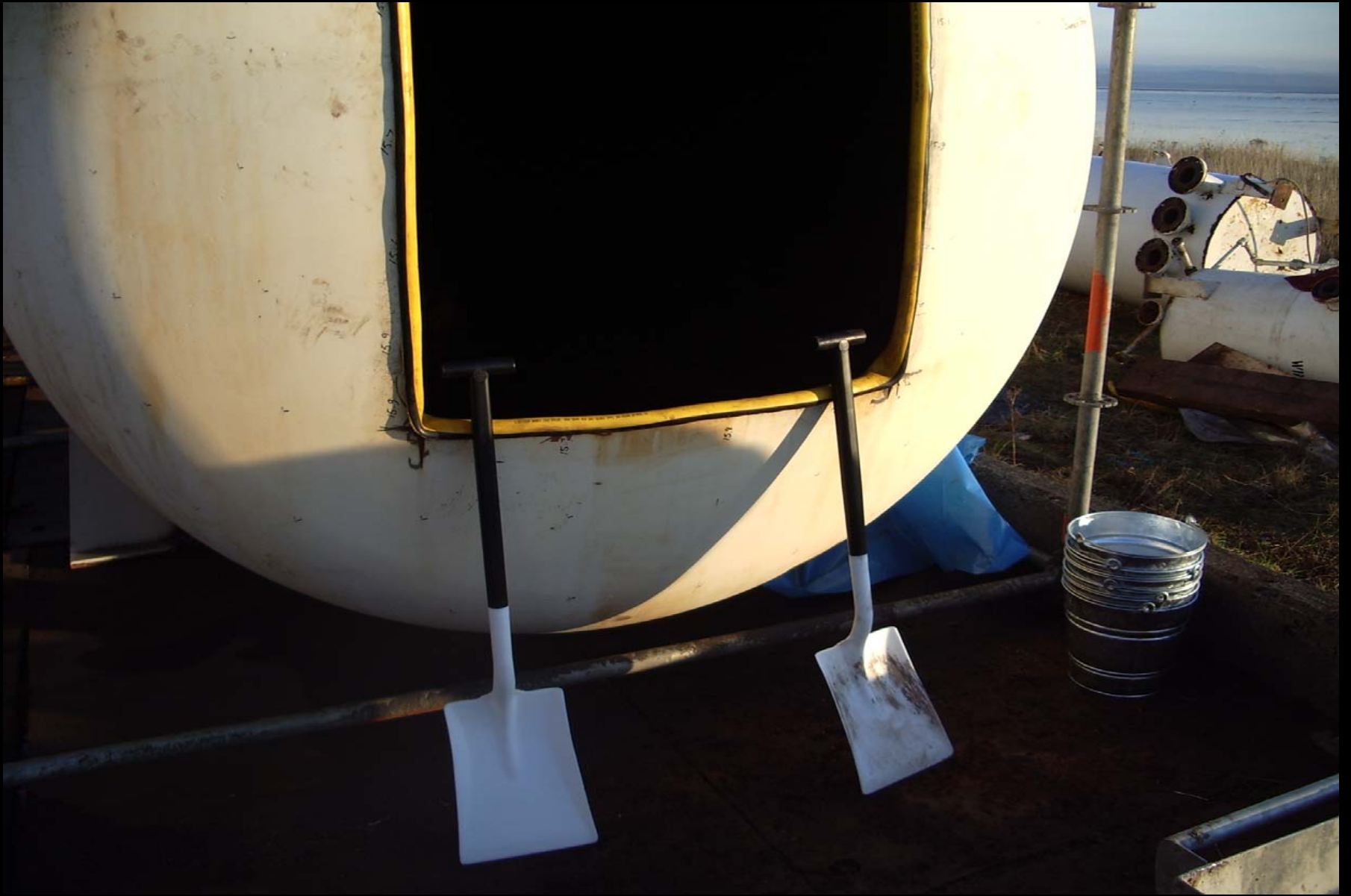
Typical Project Procedures

Horizontal Tank

Site 'B'

- ▶ Gas-free the tanks to at or near 0% LEL.
- ▶ Cold cut door into tank using UHP water cutting if available





Typical Project Procedures

Horizontal Tank

Site 'B'

- ▶ Enter the tanks and dig out the wastes for storage in special waste containers.











Typical Project Procedures

Horizontal Tank

Site 'B'

▶ Descale plate.



Typical Project Procedures

Horizontal Tank

Site 'B'

- Flamewash plate.





Typical Project Procedures

Horizontal Tank

Site 'B'

- ▶ Test steel for lead to show successful decontamination.



Typical Project Procedures

Horizontal Tank

Site 'B'

- ▶ Load treated steel into containers for transportation to a smelting facility.



Typical Project Procedures

Sludge treatment

- All sludge is recycled at IEL's specially designed and licensed processing plant that reprocesses the contaminants back into the manufacturing process.
- The process and transport methods fully comply with all red-listed waste movement regulations (Basel Convention) in consultation with the UK Environment Agency.
- This plant offers the most environmentally friendly option and complies with UNEP Guidelines.

Typical Project Procedures

- ▶ Special waste containers
- ▶ Pressure vessels
- ▶ 8mm thick steel
- ▶ Relief valve



If Your Refinery Has Redundant TEL Tanks

- ▶ Contact IEL (trevor.smart@innospecinc.com)
telephone number +44 (0)151 348 57587
- ▶ Do NOT add any hydrocarbons or other materials to the TEL tanks
- ▶ Provide full details of the TEL installation and contents of TEL tanks to IEL
- ▶ Provide a contact person at the refinery

What IEL Will Do

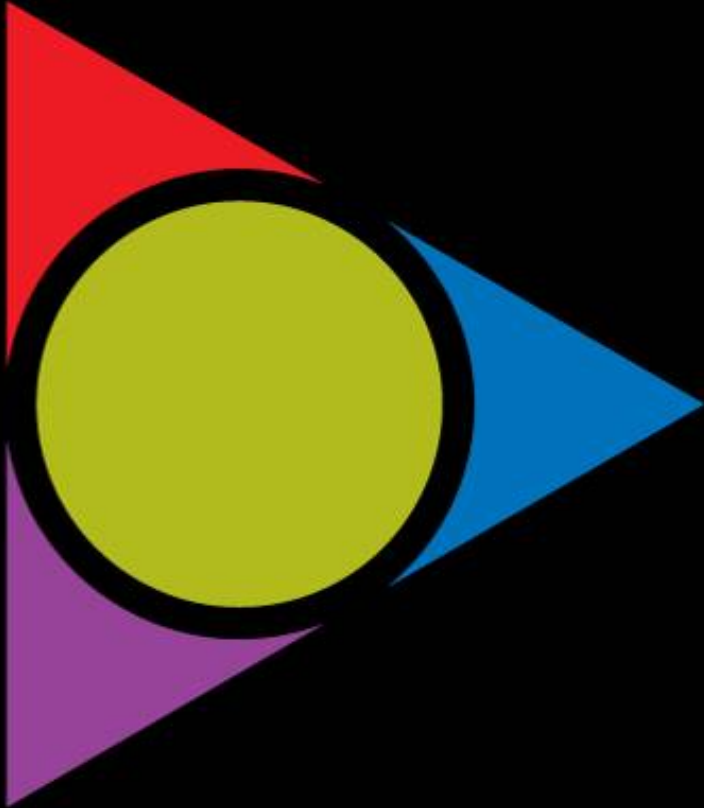
- Based on information provided by the refinery a preliminary proposal will be prepared
- We will then visit the refinery to conduct a site survey and assess the TEL installation
- We will then agree a scope of work with the refinery and submit a firm price quote
- We will then agree a timetable with the refinery for the work to be carried out

Typical Cost and Duration

- ▶ For 1 x horizontal tank typical cost EUR 450k, duration approximately 4 weeks for on-site work
- ▶ For 2 x horizontal tanks typical cost EUR 550k, duration approximately 5 weeks for on-site work
- ▶ Above costs assume partial turnkey with refinery providing non-specialised equipment and resources
- ▶ Waste recycling charges additional depending on the quantity of waste
- ▶ Recovery of any surplus TEL may reduce cost

Summary

- ▶ TEL is highly hazardous and redundant TEL installations pose a serious health, safety and environmental risk
- ▶ Redundant TEL facilities should be remediated as soon as possible after TEL usage has ceased
- ▶ Remediation of redundant TEL facilities should only be done in accordance with UNEP Guidelines using an experienced contractor such as IEL
- ▶ Safety is the most important consideration



Thank You.
Merci.

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