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To: All refineries, petrochemical and chemical plants handling, processing and/or manufacturing flammable substances

Circular on Vacuum/Gully Sucker Trucks in Petroleum Service

Vacuum/gully sucker trucks (herein referred to as 'trucks') are used in various applications in the petroleum and petrochemical industry. They are often used in connection with the removal of flammable or combustible liquids from tanks, equipment and the cleaning up of liquid spillage.

2 As vacuum/gully sucker trucks could be a possible ignition source, truck owners and operators, together with the facility owners, have to be aware of the numerous potential hazards associated with the use of such trucks.

3 Risk assessment of the intended activity must be conducted to ensure that the use of such trucks and their safety provisions¹ are appropriate and safe, and safe work procedures have been established. Companies should also take note of the following points before considering the use of the trucks:

Atmospheric Testing

- Before any operation, atmospheric testing is to be conducted at the area where the truck(s) would be operating in to ensure that the area is free of hydrocarbon vapours in the flammable range.
- In areas where the concentration of the hydrocarbon vapours are likely to exceed the lower flammability limit, truck operations are not allowed in these areas.

¹ Examples include diesel engine cut-off devices, spark arrestors, truck-mounted gas detectors etc.

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- Atmospheric testing shall be performed by a competent person² using properly calibrated flammable gas detectors. Gas detectors should also be deployed at the area, where the truck is used, to continuously monitor the atmospheric conditions

Regular Maintenance

- Regular preventive maintenance and inspection of trucks are required to ensure safe and fit for use. Maintenance and inspection should include (but not limited to) the truck's electrical system, grounding system, spark-arresting exhaust system(s), cargo tank, pump(s), hoses, nozzles, fittings and connections.

Bonding and Grounding

- Removal or transfer operations of flammable hydrocarbon liquids involving trucks require proper bonding and grounding to help eliminate static electricity and prevent accumulation of electrostatic charges³.

4 When using such trucks, reference should be made to the API Recommended Practice 2219 "Safe Operation of Vacuum Trucks in Petroleum Service". The recommended practices outlined in the API Recommended Practice 2219 should be implemented and adhered to when such vehicles are used.

5 For clarifications, please contact Jaime Lim at Jaime_Lim@mom.gov.sg.



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Commissioner for Workplace Safety and Health

² A competent person is one who understands the hazards of flammable materials, trained in the use of flammable gas detectors and is able to interpret atmospheric test results.

³ API RP 2219 "Safe Operation of Vacuum Trucks in Petroleum Service" and API RP 2003 "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" provide recommended practices on static electricity, bonding and grounding.