



WLPGA Safety Alert – LPG Storage Tank Flaring

The WLPGA Core Safety Group was established in 2021 to create a renewed focus on safety across the LPG industry and to provide advice and transfer experiences. This is another in a series of Safety Alerts and Technical Bulletins that will emanate from the WLPGA Core Safety Group.

Background

Routinely, LPG storage tanks have to be removed from service for maintenance, requalification, relocation or scrapping. There are procedures in place for doing this safely. Sometimes the tank contains residual LPG product which will require additional procedures prior to actual tank removal. This WLPGA Safety Alert refers to these procedures for safely decommissioning the storage tank using flaring.

LPG Storage Tank Flaring

When LPG storage tanks are to be moved, the contents must be removed or minimised first. Two procedures may be required, both of which are safety critical:

- Transfer the remaining LPG liquid into another vessel or tanker
- Flare off the remaining LPG liquid and vapour using a vapour flare



Transferring the product requires specialist equipment (e.g., LPG pump, compressor) and there are well documented procedures for doing this. After using or transferring out as much product as the pump or compressor can handle, the remaining content should be flared off using prescribed procedures, with specialist equipment (burner, pipe, hoses, check valve, regulator, fittings, etc.), and after obtaining authorisation. Flaring a storage tank to remove LPG liquid is a very slow process and should be well planned. The following additional advice is provided here to reduce the risks:

- Examine all options to completely empty the tanks using the existing connected appliances
- Flaring should be carried out until the residual tank pressure is nil or near zero
- Flaring should only become a 'permitted' activity after securing the following:
 - Satisfactory risk assessment, and an authorised permit to work
 - Mandatory material specification, process flow requirements and design compliance
 - Mandatory PPE and firefighting equipment provision
 - Step-by-step checklist and workflow
 - Mandatory presence of a qualified supervisor and a qualified operator(s) during the process, and mainly at the outlet valve, at all times
 - If the qualified personnel must leave the flaring operation for any reason, another qualified personnel should replace him, otherwise the operation should be shut down and the valve(s) on the LPG tank being flared should be closed
 - Adequate separation distance and line of sight between tank valve outlet & flare stack
 - If an accidental fire develops during the flaring operation, immediately close all shutoff valves (including LPG tank service valve)
 - Extinguish the fire only if the LPG supply is fully isolated
- Technicians of company, third party contractors, and service providers should be trained for performing flaring activities and have at least a years' experience in LPG maintenance activities

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