Minimum Standards for Flare Tanks during Drilling and Servicing Operations

Guideline PNG039

May 15, 2020

Revision 2.0

Governing Legislation:

Act: *The Oil and Gas Conservation Act*

Regulation: *The Oil and Gas Conservation Regulations, 2012*

Record of Change

Revision	Date	Description
0.0		Initial draft
1.0	January 1, 2002	Approved first version
2.0	May 15, 2020	Approved second version

Contents

1. Introduction

This Guideline sets out the minimum standards for flare tanks and lines used for all classes of wells during drilling and servicing operations. These standards apply to companies that are licensed by the Ministry of Energy and Resources (ER) and operate flare tank systems as required pieces of drilling blow-out prevention equipment.

Questions on Guideline PNG039 can be directed to the ER Service Desk at 1-855-219-9373 or ER.servicedesk@gov.sk.ca.

2. Governing Legislation

These Guidelines are supplemental to:

- *The Oil and Gas Conservation Act* (OGCA)
- *The Oil and Gas Conservation Regulations, 2012* (OGCR)

3. Equipment Standards

In accordance with this Guideline, flare tanks (and lines) shall be used on all surface leases where ordered by ER.

3.1 Flare Tanks

All flare tanks shall:

- have a minimum of 8m^3 capacity;
- remain open to atmosphere;
- be constructed of steel to ensure fluid containment during prolonged exposure to extreme heat. Structural integrity of the flare tank(s) shall be maintained;
- be equipped with a permanent liquid loading line that is connected to the tank for the purpose of removing fluids contained during flare tank use. Liquid load lines shall have the necessary valves in place to ensure that the flare tank(s) is/are isolated and ready for use at all times during any operations conducted by the drilling rig;
- be kept clean, dry and free from debris, liquid and any foreign materials.

3.1.1 Equipment Location

All flare tank equipment shall be:

- adequately grounded;
- used on surface leases with minimal disturbance conditions, where the surface lease is built on sand or within environmentally sensitive locations;
- used in areas where a high water table is encountered; and
- positioned at a minimum distance of 50 meters from the wellbore;

Also, the connection point of the liquid loading line shall be extended at a minimum distance of 9 meters from the flare tank in order to allow for safe removal of fluids during flare tank use.

3.2 Flare Lines

- All flare lines shall be secured by utilizing stakes, weights or interconnecting cable mechanisms in order to prevent whipping or flailing. In addition:
  - Stakes or weights shall be secured at 10 meter intervals;
  - Stakes shall not be used in sandy or loose soil conditions;
  - Interconnecting cable mechanisms shall adequately secure the entirety of the flare line(s), including both end connections;
  - Be secured to the flare tank(s) with proper connections (i.e. flanged, threaded, hammer unions);
- Flare lines and connections shall be maintained so that their operations may not be impaired by low temperatures (i.e. heated with steam and/or filled with an anti-freeze agent);
- If flare lines and connections are not heated, they should be sloped to ensure that there are no fluid traps and that restrictions do not occur;
- Flare lines should not contain valves in the line between the manifold and flare tank;
- Flexible hose that is suited for service can be used for ease of line connection to the flare tank provided that its original shape is maintained and that it is placed no closer than 9 meters from the flare tank;
- Approved fireproof flexible hoses shall be used;
- Supports and anchoring devices should not be allowed to produce localized bends in hoses to the flare tank. In addition:
  - Any bends should occur at a point that is remote from end fittings and should contain bend radius safely in excess of the hose manufacturer's specified minimum.
  - Bends with a radius of 1.5 times greater than the manufacturer's specified minimum are preferred.

3.3 Additional Standards

- All directional changes in the bleed-off system (including flare lines) shall be constructed of right-angle connections utilizing proper fluid turns;
- The flare tank surface that is directly opposite the flare line endpoint (within the flare tank) shall include an impingement plate to resist erosion from high velocity gas, liquids and solids;
- The flare line may run into a Poorboy degasser and flare stack inside the flare tank;
- If a degasser is used in the mud tanks, the vent lines shall be kept separated from the liquid in the flare tank (to prevent backup), and sloped into the flare tank to ensure no fluid traps occur. In addition:
  - The vent line may be laid on the ground next to the flare tank as long as no fire hazard exists.

4. Changes and Approvals

Any changes or deviation from these guidelines shall be approved by the appropriate ER Field Office.