Health and Safety at Work (Hazardous Substances—Filling of Below Ground Petrol Tanks by Pumping) Safe Work Instrument 2017

This safe work instrument is approved under section 227 of the Health and Safety at Work Act 2015 by the Minister for Workplace Relations and Safety, being satisfied that appropriate consultation has been carried out under section 227(3) of that Act.

Contents

Safe Work Instrument

1 Title

This is the Health and Safety at Work (Hazardous Substances—Filling of Below Ground Petrol Tanks by Pumping) Safe Work Instrument 2017.

2 Commencement

This safe work instrument comes into force on 1 December 2017.

3 Overview

This safe work instrument specifies, for the purposes of regulation 17.34(1)(c) of the Regulations, requirements relating to the filling of a below ground stationary tank with petrol from a tank wagon.

4 Interpretation

(1) In this safe work instrument, unless the context otherwise requires,—

Act means the Health and Safety at Work Act 2015

Regulations means the Health and Safety at Work (Hazardous Substances) Regulations 2017

tank means a below ground stationary tank to which this safe work instrument applies

(2) Any term or expression that is defined in the Act or the Regulations and used, but not defined in this safe work instrument has the same meaning as in the Act or the Regulations.

5 Requirements for filling of below ground stationary tank by pumping

A below ground stationary tank may be filled with petrol from a tank wagon by pumping if—

(a) the tank—

(i) meets the requirements in clauses 6 to 8; and

(ii) either—

(A) has a containment capacity of no more than 5000 L; or

(B) is to be filled by pumping on a one-off basis for a particular purpose, for example, in order to calibrate the dipstick of the tank; and

(b) the filling is carried out in accordance with the requirements of clauses 9 to 16.

Requirements for tank

6 Fill point and fill pipe

(1) The fill point for the tank must be—

(a) readily accessible; and

(b) protected from accidental damage; and

(c) in the open air at least 3 metres from—

(i) any opening into a building; and

(ii) any ignition source; and

(d) clearly identified as a fill point for a petrol tank.

(2) There must be a gas tight cap or cover for the fill point, which is kept in place except during the filling of the tank.

(3) The tank must have a fill pipe that——

(a) carries the petrol from the fill point to the bottom of the tank; and

(b) has a liquid seal sufficient to ensure the lower end of the pipe is submerged in at least 25 mm of liquid at all times after the initial filling of the tank.

7 Ventilation pipe

(1) The tank must be fitted with a ventilation pipe that—

(a) is of such a size as to prevent unsafe internal pressures developing in the tank; and

(b) is not less than half the diameter of the filling pipe, and has a minimum internal diameter of not less than 32 mm (except as permitted under subclause (2)); and

(c) terminates—

(i) in the open air in such a position that flammable vapours will not accumulate or travel to a potential ignition source; and

(ii) not less than 4 m above the ground; and

(iii) not less than 1.5 m from any opening into a building; and

(iv) not less than 1 m above a building, if placed against a building; and

(v) in such a place that it will be visible to the worker filling the tank; and

(vi) in a manner so as to prevent entry of water and foreign material (for example, through having a return bend or protective fitting); and

(d) is equipped with an antiflash gauze of 500 µm nominal aperture size that is secured in such as manner as to allow removal for inspection and cleaning.

(2) Despite subclause (1)(b), the ventilation pipe on a tank installed prior to 28 June 2013 may have a minimum internal diameter of 25 mm.

8 Contents indicator

(1) Subclause (2) applies if a relevant PCBU complies with regulation 17.35 of the Regulations by means of a dipstick calibrated for the tank being filled, with the maximum permitted filling level marked on the dipstick (a **dipstick indicating system**).

(2) A dipstick indicating system must comply with the following requirements:

(a) the dipstick must be constructed of a non-ferrous material:

(b) the opening for the dipstick must be fitted with a cap, which must be—

(i) gas tight; and

(ii) kept in place at all times, including during filling of the tank (unless the tank has a combined opening for the dipstick and fill point), except when the volume of fuel in the tank is being checked:

(c) if the dipstick measures by contacting the bottom of the tank and the opening for the dipstick is separate from the fill point, a tubular dipstick guide must be provided, which incorporates a pressure equalizer hole that—

(i) connects the upper end of the dipstick guide to the upper tank space; and

(ii) is equipped with an antiflash gauze of not coarser than 500 µm mesh, if the hole is greater than 1.5 mm in diameter:

(d) a durable striker pad must be attached firmly to the bottom of the tank below the opening for the dipstick.

Requirements that apply to filling of below ground stationary tank

9 Separation from ignition sources

Prior to and during filling, a relevant PCBU must ensure that there are no sources of ignition—

(a) within the space from ground level to 1 m above, and 3 m laterally, from any fill pipe or dip pipe opening; and

(b) within the space of a 1.5 m radius in all directions from the vent pipe outlet extending down to ground level.

10 Electrical continuity

(1) A relevant PCBU must ensure that electrical continuity is achieved between the tank wagon and the tank prior to filling, and is maintained during filling.

(2) The continuity required by subclause (1) must be achieved through one or more of the following means:

(a) using a delivery hose that is electrically continuous:

(b) using a bonding cable.

11 Fill connections

(1) A relevant PCBU must ensure that liquid tight and gas tight fill connections between the tank and the tank wagon are maintained during filling.

(2) The connections required by subclause (1) must be one of the following types:

(a) 2” Whitworth threaded:

(b) 2” BSP threaded:

(c) 3” Whitworth threaded:

(d) 3” BSP threaded:

(e) 50 mm camlock.

12 Minimum hose diameter

A relevant PCBU must ensure that the delivery hose has an internal diameter of not less than 32 mm.

13 Flow rate

A relevant PCBU must ensure that the flow rate for petrol being pumped into the tank does not exceed—

(a) 200 L per minute for tanks fitted with a ventilation pipe of not less than 25 mm internal diameter but less than 32 mm internal diameter:

(b) 300 L per minute for tanks fitted with a ventilation pipe of not less than 32 mm internal diameter.

14 Delivery requirements

A worker who is to fill, or is filling, the tank must—

(a) check the volume of petrol in the tank prior to commencing filling; and

(b) calculate the maximum volume of petrol that can be delivered into the tank to reach the safe fill level; and

(c) deliver a quantity of petrol that does not exceed the amount calculated under paragraph (b), as determined by the truck meter; and

(d) check the volume of petrol in the tank after completing the filling to confirm the quantity of petrol delivered.

15 Job safety analysis

Prior to a tank being filled by pumping on a one-off basis, a relevant PCBU must complete, and document the results of, a job safety analysis.

16 Check list

(1) The PCBU who provides the petrol, or the worker who is to fill a tank, must complete a check list in the form set out in the Schedule—

(a) prior to the first filling of the tank; and

(b) prior to a filling, if there has been any material change to a matter set out in the check list.

(2) The PCBU who provides the petrol must retain a copy of the check list for 3 months and make it available to an inspector on request.

(3) A relevant PCBU must ensure that the tank is not filled if the requirements set out in the check list are not met.

Dated at Wellington this [*date*] day of [*month*] [2017].

[*Name*],
Minister for Workplace Relations and Safety

Date of notification in *Gazette*:
This safe work instrument is administered by WorkSafe New Zealand.

Schedule

1.	Suitable liquid tight and vapour tight fill point present for connection to tank wagon?	☐ Yes	☐ No
2.	Vapour/liquid tight cap provided for fill point?	☐ Yes	☐ No
3.	Fill point readily accessible?	☐ Yes	☐ No
4.	Fill point protected from accidental damage?	☐ Yes	☐ No
5.	Fill point in open air and at least 3 m from any opening into a building?	☐ Yes	☐ No
6.	Fill point at least 3 m from any ignition source?	☐ Yes	☐ No
7.	Fill point clearly identified for the tank/contents it relates to?	☐ Yes	☐ No
8.	Is ventilation pipe of sufficient diameter?	☐ Yes	☐ No
9.	Is the ventilation pipe outlet clear and of a design to prevent the ingress of water and foreign material?	☐ Yes	☐ No
10.	Does the ventilation pipe terminate in the open air in such a position that flammable vapours will not accumulate or travel to a potential ignition source:	☐ Yes	☐ No
	☐ ≥ 4 m above the ground? ☐ ≥ 1.5 m from any opening to a building? ☐ ≥ 1 metre above the roof line of a building?		
11.	Does the ventilation pipe terminate in view of the worker filling the tank?	☐ Yes	☐ No
12.	Contents indicator provided?	☐ Yes	☐ No
13.	Dipstick constructed of non-ferrous material (if applicable)?	☐ Yes	☐ No
14.	Is there a fill pipe which extends to the bottom of the tank?	☐ Yes	☐ No
15.	Is there a connection point to enable electrical continuity with the delivery tank wagon?	☐ Yes	☐ No
16.	Allowable maximum fill rate of tank	☐ ≤200 L/Minute	☐ ≥ 300 L/Minute

Tank must not be filled if requirements set out in items 1 to 15 are not met.