**MINNESOTA POLLUTION CONTROL AGENCY**

**New Field-Erected Aboveground Storage Tank and Underground Piping Design Information**

NOTES:

* In the case of multiple tanks or underground piping segments to be constructed, identify which tank or segment is referred to in each section below.
* For underground piping segments, complete sections 1, 4, and 17-19.
* Attach facility layout showing locations of proposed tanks, piping, containment areas, and transfer areas

1. Tank or piping segment number

(For each tank, provide a unique number. For each piping segment, list tank or tanks to which piping is appurtenant and give the other endpoint of the piping run.)

2. Substance

(Identify the substance with as much specificity as possible. For petroleum products, food products, and chemicals, identify grade, type, or solutions. If different substances stored at different times, list all. If the substance is a mixture, a solution, or has identifiable contaminants, list all components of the substance, with percentages. If other substances are anticipated in the future, list these.)

3. Tank capacity

(Design capacity to overflow, in gallons)

4. Materials of construction

(Indicate primary material of construction: carbon steel, stainless steel, fiberglass, concrete, plastic, or other (describe). For double walled piping, indicate material of inner pipe and of outer pipe)

5. Tank construction standard

(API 650 or other standard)

6. Tank roof type

(Fixed, internal floating, external floating, etc)

7. Tank foundation and floor design

(Provide engineering detail drawings of tank floor and tank foundation. Specify whether:

1. Tank will rest on continuous concrete slab or pad, including whether concrete will be coated; or

2. Tank will have an underfloor release prevention barrier with interstitial monitoring, in which case specify synthetic material to be used, thickness in mils, and whether design includes concrete ringwall. Foundation drawing must show interstitial monitoring design)

8. Internal tank floor coating or liner

(If any, specify whether coating or liner will be designed and installed according to API 652; base material (epoxy, HDPE, etc); thin coat (less than or equal to 20 mils) or thick coat (greater than 20 mils); and whether liner is fiberglass reinforced)

9. Cathodic protection system for underside of tank floor

(If any, specify whether system will be designed and operated according to API RP 651; and whether system is sacrificial anode or impressed current type)

10. Transfers into tank

(Identify all methods by which substances may be transferred into the tank, e.g. from tank truck, from rail car, from barge, or by fixed piping from industrial process, from other tanks, or from outside the facility)

11. Transfers out of tank

(Identify all methods by which substances may be transferred out of the tank, e.g. to tank truck, to rail car, to barge, to aircraft, or by fixed piping to industrial process, to other tanks, or off the facility property)

12. Vehicle transfer area design

(For each rail and truck transfer area used to transfer into or out of tank, describe spill containment design at vehicle connection point, including materials of construction and maximum spill volume contained. Provide engineering detail drawings of area. Show location of each transfer area on facility map.)

13. Remote transfers

(State whether or not:

1. Remote transfers into or out of the tank occur which are initiated, monitored, terminated, or otherwise controlled from outside of the facility, i.e. interstate pipelines, and whether remote transfers may occur when the facility is unmanned; and

2. Automated transfers into or out of the tank occur from a continuous industrial process, rather than being manually initiated.

14. Tank overfill prevention system

(Describe the tank’s overfill prevention system, including level set criteria, type of alarm (visual, audible), alarming locations, whether system is physically independent of tank’s gauging system, and whether there is also automatic fill shut-off)

15. Tank secondary containment -- Construction materials

(Identify primary materials used for containment area construction, for example synthetic liner (identify material), concrete block, poured concrete, coated concrete, steel, native soil, engineered clay liner (provide permeability specification expressed as hydraulic conductivity to water in cm/sec), or geotextile--bentonite mat. If dike walls and basin floor are different, describe each. Attach construction specifications and drawings.)

16. Tank secondary containment -- Available volume

(Estimated net available volume of containment in gallons, accounting for contour of land, slope of dike walls, and any tanks, buildings, and other obstructions within the area. Attach calculation figures. **NOTE**: For earthen and synthetically lined diking, a post-construction survey will be required.)

17. Underground piping -- Containment

(For piping other than buried single walled, specify if the piping is double-walled, in a casing, or in a chase or trench. If cased or trenched, describe design and construction material)

18. Underground piping -- Cathodic protection

(If piping is buried single walled unjacketed steel, buried double walled unjacketed steel, or single walled in a steel casing:

1. Is the cathodic protection system sacrificial anode type or impressed current type?

2. Is the system designed in accordance with NACE RP 169 or API RP 1632?)

19. Underground piping – Leak detection

(1. If piping double walled, in a casing, or in a chase or trench, describe how monthly visual monitoring for leaks will take place.

2. If piping is buried single walled, specify the method and vendor listed by the National Workgroup on Leak Detection evaluations to be used for annual third-party leak testing)