



# ARD-4 FORM INFORMATION REQUIRED FOR PERMITS FOR STORAGE TANKS CONTAINING FUEL OR VOLATILE ORGANIC COMPOUNDS



Air Resources Division/Permitting and Environmental Health Bureau

RSA/Rule: RSA 125-C:12 and Env-A 1700

## I. EQUIPMENT INFORMATION – *Complete a separate form for each tank.*

Tank Description: \_\_\_\_\_

Date Construction Commenced<sup>1</sup>: \_\_\_\_\_ Initial Fill Date<sup>1</sup>: \_\_\_\_\_

Location:  Underground  Aboveground

### A. Tank Type

#### 1. Fixed Roof Tanks:

- Floating Roof Covered Type
- Floating Roof Open Type:
  - Pan
  - Pontoon
  - Double Deck

#### 2. Variable Vapor Space Tanks:

- Lifter Roof
  - Flexible Diaphragm
- Seal Type:
- Single
  - Double
  - Welded

#### 3. Pressure Tanks:

- Spheroid
- Horizontal Cylinder
- Vertical Cylinder

Internal Pressure: \_\_\_\_\_ @ \_\_\_\_\_ °F

Connected to Other Tanks?  Yes  No

Specify Other Tanks: \_\_\_\_\_

4. Other Tank Type (specify): \_\_\_\_\_

### B. Tank Information

\_\_\_\_\_ Height (feet)      \_\_\_\_\_ Inside Diameter (feet)      \_\_\_\_\_ Roof Slope (inches/ft)

\_\_\_\_\_ Roof Color      \_\_\_\_\_ Side Color

\_\_\_\_\_ Tank Fill Capacity (gallons)      \_\_\_\_\_ Annual Throughput (gallons/year)

	Yes	No	If Yes:	
Insulated?	<input type="checkbox"/>	<input type="checkbox"/>	Material Type:	_____
Heated?	<input type="checkbox"/>	<input type="checkbox"/>	Temperature (°F):	_____
Lined?	<input type="checkbox"/>	<input type="checkbox"/>	Liner Type:	_____

For variable vapor space systems:

Actual Annual Number of Shipments into Tank: \_\_\_\_\_

Actual volume per shipment (gallons): \_\_\_\_\_

Potential volume expansion capability of variable vapor space (gallons): \_\_\_\_\_

Pressure Setting (lb/in<sup>2</sup>): \_\_\_\_\_ Vacuum Setting (lb/in<sup>2</sup>): \_\_\_\_\_

**C. Liquid Information**

\_\_\_\_\_  
Liquid Type

\_\_\_\_\_  
Molecular Weight

\_\_\_\_\_  
Average Bulk Liquid Temperature (°F)

\_\_\_\_\_  
True vapor pressure (psia) at average bulk liquid temperature (60°F)

\_\_\_\_\_  
Average density at bulk liquid conditions (lbs/gal)

**D. Stack Information**

Is emission unit equipped with multiple stacks?  Yes  No *(If yes, provide data for each stack)*

Are multiple units connected to this stack?  Yes  No

*(If yes, identify other devices on this stack:)* \_\_\_\_\_

Stack #	Discharge Height Above Ground Level (ft)	Inside Diameter (ft) or Area (ft <sup>2</sup> ) at Stack Exit <sup>2</sup>	Exhaust Temperature (°F)	Exhaust Flow (acfm)	Stack Capped or Otherwise Restricted <sup>3</sup> (Yes - Type/No)	Exhaust Orientation <sup>4</sup>	Stack Monitor (Yes/No) and Description
#5 <i>(Ex)</i>	65 ft <i>(Example)</i>	4 ft <i>(Example)</i>	70 °F <i>(Example)</i>	1500 acfm <i>(Example)</i>	Yes - Rain Cap <i>(Example)</i>	Vertical <i>(Example)</i>	No <i>(Example)</i>

**II. UNCONTROLLED AIR POLLUTANT EMISSIONS (list emissions prior to add on controls – use additional sheets if necessary)**

Pollutant	Emission Factor	Units	Emission Factor Source <sup>5</sup>	Actual (lb/hr)	Potential (lb/hr)	Actual (tpy)	Potential (tpy)

Provide an example of the calculations used to determine uncontrolled air pollutant emissions, if applicable:

**III. POLLUTION CONTROL EQUIPMENT**

**Not Applicable**

Note: If the emission unit utilizes more than one type of pollution control equipment, provide data for each type of equipment.

**A. Type of Equipment:** \_\_\_\_\_

**B. For each control device, include an Air Pollution Control Equipment Monitoring Plan pursuant to Env-A 810.**

**C. Controlled Air Pollution Emissions (list emissions after all add on controls – use additional sheets if necessary)**

Pollutant	Controlled Emission Factor	Units	Emission Factor Source <sup>5</sup>	Actual (lb/hr)	Potential (lb/hr)	Actual (tpy)	Potential (tpy)

Provide an example of the calculations used to determine controlled air pollutant emissions, if applicable:

### ARD-4 FORM INFORMATION INSTRUCTIONS

- 1 If exact date is unknown for Date Construction Commenced or Initial Fill Date, you may use 01/01/year. Date Construction Commenced refers to the date the owner or operator has entered into a contractual obligation to undertake and complete a continuous program of construction, reconstruction, or modification of the tank. Initial Fill Date refers to the date the tank is first filled at the facility; also when operation commenced.
- 2 Examples of Inside Diameter or Area at Stack Exit: Diameter at discharge point of convergence cone, if applicable
- 3 Flapper valves and other devices which do not restrict the vertical exhaust flow while the emission unit is operating are not considered obstructions or restrictions.
- 4 Examples of Exhaust Orientation: Vertical, Horizontal, Downward  
**Note:** for a stack to be considered vertical and unobstructed, there shall be no impediment to vertical flow, and the exhaust stack extends 2 feet higher than any roofline within 10 horizontal feet of the exhaust stack
- 5 Emission factor sources may include:
  - Continuous Emissions Monitor (CEM)
  - Stack Test (Provide Date)
  - Vendor Guaranteed Rates (Provide Documentation)
  - AP-42 Emission Factors
  - Material Balance (Provide Sample Calculation)
  - Engineering Estimate