EMISSIONS ACTIVITY CATEGORY FORM
STORAGE TANK

This form is to be completed for each storage tank for which a permit is required. State/Federal regulations
which may apply to storage tanks are listed in the instructions. Note that there may be other regulations
which apply to this emissions unit which are not included in this list.

1. Reason this form is being submitted (Check one)
   □ New Permit      □ Renewal or Modification of Air Permit Number(s) (e.g. T001)

2. Type of tank:
   □ Fixed roof tank            □ Variable vapor space tank
   □ External floating roof tank □ Internal floating roof tank

3. Location of tank:
   □ Indoors    □ Outdoors    □ Underground

4. a) Tank capacity: ______________ gallons or ______________ barrels

   b) Working volume, if different from tank capacity: _________ gallons or _________ barrels

   If capacity is provided in barrels, enter the number of gallons per barrel: __________

5. Shape and dimensions:

   □ Cylindrical   □ Spherical   □ Other, specify ________________________________

   □ Horizontal tanks:
       Tank shell length: __________ ft.
       Tank shell diameter or width __________ ft.

   □ Vertical tanks:
       Tank shell height: __________ ft.
       Tank shell diameter or width: __________ ft.

6. Tank shell material:
   □ Steel       □ Aluminum   □ Other, specify ________________________________

7. If this tank is located outdoors and above ground, provide the paint color of the tank's shell and roof
   and indicate the condition of the paint.

   Shell:
   □ Aluminum (specular)   □ Gray (dark)   □ White   □ Red (primer)
   □ Aluminum (diffuse)    □ Gray (light)  □ Other, specify __________________________

   Roof:
   □ Aluminum (specular)   □ Gray (dark)   □ White   □ Red (primer)
☐ Aluminum (diffuse)  ☐ Gray (light)  ☐ Other, specify ________________

Condition of paint:  ☐ Good  ☐ Poor

8. If this tank is a variable vapor space tank or is interconnected to a variable vapor space tank, complete the following:
   a) Capacity of vapor expansion system: _____________ gallons or _____________ barrels
   b) Identify all tanks and other vapor sources interconnected to the vapor expansion system:

9. If this tank is subject to the following federal rules, complete the following:
      a) Date of initial fill with petroleum liquid________________________________________
      b) Was tank out of service for a period of a year or more?  ☐ Yes  ☐ No
         If yes, identify the date of subsequent refilling with petroleum liquid after the most recent out-of-service period of a year or more. ____________________________

   ☐ Maximum Achievable Control Technology (MACT) Standards under 40 CFR 63, Subpart G (HON Tanks)
      a) This tank is defined as a:  ☐ Group 1 storage vessel  ☐ Group 2 storage vessel
      b) At the storage temperature, maximum true vapor pressure of total HAPs:______________

10. Supplemental data, check all that apply:
    ☐ Tank was converted from an external floating roof tank or a fixed roof tank to an internal floating roof tank; provide type and date of conversion: ________________________________
    ☐ Tank is used to store produced crude oil or condensate prior to custody transfer.
    ☐ Tank is insulated; describe: ____________________________________________
    ☐ Tank is heated and indicate temperature (in degrees Fahrenheit): ______________

11. Material stored ______________________ Trade Name ____________________________
    Density: __________ lbs/gal or _____________ °API  Producer _______________________

12. Temperature of stored material: Average __________°F and Maximum __________ °F

13. Vapor pressure of stored material:
a) Actual vapor pressure: __________ psia at average storage temperature
   __________ psia at maximum storage temperature

b) Reid vapor pressure, in psia:
   Average ________
   Minimum ________
   Maximum ________

c) If material stored is a gas or liquified gas, provide the pressure at which it is stored:
   __________ psi gauge at __________oF

14. The vapor molecular weight: ______________ lbs/lb-mole

15. If the material is a liquid other than gasoline, fuel oil, kerosene, crude oil, lubricant or other petroleum liquid, answer the questions below:

   Is it a photochemically reactive material?  ☐ Yes  ☐ No

16. Is the material a hazardous waste?  ☐ Yes  ☐ No
   If yes, identify type (EPA hazardous waste number) ________________________________

17. Type of filling:    ☐ Splash    ☐ Submerged    ☐ Other, specify ________________

18. Indicate the year (or 12-month period) for which throughput is provided in items 19 and 20: __________

19. The maximum daily throughput of material stored: ________ gallons or ________ barrels.

20. Maximum annual throughput of material stored: ________ gallons or ________ barrels.

21. Identify the control equipment associated with this tank.

   a) Type of vapor control system ________________________________

   b) Date tank was equipped with or vented to vapor control system (month/year) __________

22. Complete the table below for any pressure or vacuum relief vent valve.

<table>
<thead>
<tr>
<th>Type of Vent Valve</th>
<th>Pressure Setting</th>
<th>Vacuum Setting</th>
<th>If pressure relief is discharged to a vapor control system, identify the vapor control system</th>
</tr>
</thead>
<tbody>
<tr>
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</table>

If this is a Fixed Roof, Variable Vapor Space or Pressure Tank, complete items 23 through 27:

23. If the tank is vertical, what type of roof does it have?
   ☐ Cone roof  Height: ________ ft  ☐ Dome roof  Height: ________ ft

24. The average height of the liquid material stored within the tank during the year: ________ ft.
25. The maximum height of the liquid material stored within the tank during the year: ________ ft.

26. The average liquid surface temperature: ________________ °F

27. Is this tank bolted or riveted construction? □ Yes  □ No

If this tank is an External Floating Roof Tank, complete items 28 through 34:

28. Is the external floating roof domed? □ Yes  □ No

29. Type of floating roof: □ Double Deck  □ Pontoon  □ Other, specify ________________

30. Type of shell construction: □ Welded  □ Riveted or bolted

31. Are all openings in the external floating roof, except automatic bleeder vents, rim space vents, leg sleeves, main roof drain, emergency roof drains and slotted gauging/sampling wells, equipped with both a cover, seal or lid without visible gaps and a projection into the tank below the liquid surface? □ Yes  □ No

If no, explain: ____________________________

32. Is there a slotted gauging/sampling well? □ Yes  □ No

If yes, is it equipped with an object which floats on the liquid surface within the well and which covers at least 90 percent of the area of the well opening? □ Yes  □ No

33. On the blank lines to the left of the various types of roof fittings shown below, indicate the number, if any, of each fitting.

Access hatch (24-inch diameter well)   Vacuum breaker (10-inch diameter well)
   _____ Bolted cover, gasketed      _____ Weighted mechanical actuation, gasketed
   _____ Unbolted cover, ungasketed  _____ Weighted mechanical actuation, ungasketed
   _____ Unbolted cover, gasketed

Unslotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
   _____ Ungasketed sliding cover   □ With sleeve
   _____ Gasketed sliding cover      □ With sleeve  □ With wiper

Slotted guide-pole/sample well (8-inch diameter unslotted pole, 21-inch diameter well)
   _____ Ungasketed sliding cover, without float  _____ Gasketed sliding cover, without float
   _____ Gasketed sliding cover, with float

Gauge-float well (20-inch diameter)   Gauge-hatch/sample well (8-inch diameter)
   _____ Unbolted cover, ungasketed  _____ Weighted mechanical actuation, gasketed
   _____ Unbolted cover, gasketed  _____ Weighted mechanical actuation, ungasketed
   _____ Bolted cover, gasketed
Roof leg (3-inch diameter)  
___ Adjustable, pontoon area  [ ] Gasketed  [ ] Ungasketed  [ ] Sock  
___ Adjustable, center area  [ ] Gasketed  [ ] Ungasketed  [ ] Sock  
___ Adjustable, double-deck roofs  [ ] Fixed  

Roof drain (3-inch diameter)  
___ Open  
___ 90% closed  

Rim vent (6-inch diameter)  
___ Weighted mechanical actuation, gasketed  
___ Weighted mechanical actuation, ungasketed  

34. The average wind speed at the tank site: ____________________ mph.

If this tank is an Internal Floating Roof Tank, complete items 35 through 41:

35. Type of floating decks:  
[ ] Contact deck  [ ] Noncontact deck  

36. Type of roof above floating decks:  
[ ] Column-supported  [ ] Self-supporting  

37. If roof is column-supported, identify the type of column construction:  
[ ] 9-inch by 7-inch built-up columns  [ ] 8-inch diameter pipe columns  
[ ] Other, specify ______________________________  

38. Floating deck seam construction:  
[ ] Welded  [ ] Bolted  [ ] Other, specify ______________________________  

39. If deck seams are bolted, complete a) or b):  
  a) [ ] Continuous sheet construction; specify width of sheets (e.g., 5 ft, 6 ft, or 7 ft):__________  
      [ ] Panel construction; specify size of panels (e.g., 5 ft x 7.5 ft, or 5 ft x 12 ft):__________  
  b) Total length of bolted deck seams: ____________________________ ft  
     Total area of floating deck: ____________________________ sq ft  

40. On the blank lines to the left of the various types of floating deck fittings shown below, indicate the number, if any, of each fitting.  

Access hatch (usually one)  
___ Bolted cover, gasketed  
___ Unbolted cover, ungasketed  
___ Unbolted cover, gasketed  

Automatic gauge float well (usually one)  
___ Bolted cover, gasketed  
___ Unbolted cover, ungasketed  
___ Unbolted cover, gasketed
Deck supports (roof legs or hanger well)  Ladder well (usually one)  
_____ Adjustable  _____ Sliding cover, gasketed
_____ Fixed  _____ Sliding cover, ungasketed
_____ Stub drains (1-inch diameter; not used on welded contact deck)

Column wells
_____ Pipe column, flexible fabric sleeve seal  _____ Built-up column, gasketed sliding cover
_____ Pipe column, gasketed sliding cover  _____ Built-up column, ungasketed sliding cover
_____ Pipe column, ungasketed sliding cover

Sample pipe or well (usually one)
_____ Slotted pipe, gasketed sliding cover  _____ Sample well, slit fabric seal (10% open area)
_____ Slotted pipe, ungasketed sliding cover

Vacuum breaker (10-inch diameter)
_____ Weighted mechanical actuation, gasketed
_____ Weighted mechanical actuation, ungasketed

41. Are all openings on the floating deck, except stub drains, equipped with a cover, seal or lid which is to be in a closed position at all times except when in actual use for tank gauging or sampling?

☐ Yes  ☐ No

If no, explain:_______________________________________________________________

If this tank is an Internal or External Floating Roof Tank, complete items 42 through 47:

42. Type of seal between floating roof and tank well:

☐ Single seal (primary seal only)  ☐ Dual seals (primary seal with secondary shield mounted above it)
☐ Single seal with weather shield  ☐ (primary seal with weather shield)

43. Primary seal information:

Manufacturer ______________________ Type:  ☐ Liquid-mounted, liquid-filled
Make or model _____________________  ☐ Liquid-mounted, resilient foam-filled
Date installed ______________________  ☐ Vapor-mounted, resilient foam-filled
(month/year)                      ☐ Mechanical shoe (complete item below)
  ☐ Flexible wiper
  ☐ Other, specify __________________

If the primary seal is a mechanical shoe, complete the following:

Vertical length of shoe __________ inches
Vertical length of shoe above stored liquid surface ________ inches
44. Secondary seal information:

Manufacturer ____________________ Type: ☐ Rim-mounted, flexible wiper
Make or model ____________________ ☐ Rim-mounted, resilient foam-filled
Date installed ____________________ ☐ Shoe-mounted
(month/year) ☐ Weather shield
☐ Other, specify __________________

45. Most recent seal inspection for visible holes, tears or other openings in the seal or fabric:

Seal(s) inspected __________________________________________________________
Date of inspection _________________________________________________________
Inspected by (person and company) __________________________________________
Condition of seal(s) ☐ Good condition
☐ Needed repair or replacement, specify type and date of corrective action

46. Most recent seal gap measurements:

<table>
<thead>
<tr>
<th></th>
<th>Primary Seal</th>
<th>Secondary Seal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of measurement</td>
<td>____________________</td>
<td>____________________</td>
</tr>
<tr>
<td>By: (person)</td>
<td>____________________</td>
<td>____________________</td>
</tr>
<tr>
<td>(company)</td>
<td>____________________</td>
<td>____________________</td>
</tr>
<tr>
<td>Width of maximum gap</td>
<td>_________ inch</td>
<td>_________ inch</td>
</tr>
<tr>
<td>Total area of gaps</td>
<td>_________ sq in</td>
<td>_________ sq in</td>
</tr>
<tr>
<td></td>
<td>_________ sq in/ft tank diameter</td>
<td>_________ sq in/ft tank diameter</td>
</tr>
</tbody>
</table>

47. Condition of the interior side of the tank shell:

☐ Little or no rust ☐ Dense rust ☐ Gunite-lining
INSTRUCTIONS FOR COMPLETION
OF THE EMISSIONS ACTIVITY CATEGORY FORM
FOR A STORAGE TANK

GENERAL INSTRUCTIONS:

This form applies to all storage tanks not exempted by OAC rule 3745-31-03(A)(1)(l) which exempts:

(l) Storage tanks for:

(i) Inorganic liquids including water (at standard temperature and pressure) except as described in paragraph (v) of this section;

(ii) Pressurized storage for inorganic compounds or propane, butane, isobutane, and liquid petroleum gases;

(iii) Liquids with a capacity of less than seven hundred gallons;

(iv) Liquids with a capacity of less than or equal to ten thousand gallons equipped with submerged fill and which store organic liquids or mixtures containing organic liquids (excluding pesticides) with each organic liquid component's vapor pressure of less than or equal to 1.5 pounds per square inch absolute at seventy degrees Fahrenheit;

(v) Acids (as defined in the most recent edition of the Chemical Rubber Company (CRC) Handbook of Chemistry and Physics) stored in tanks less than or equal to seven thousand five hundred gallons capacity.

Provide complete responses to all applicable questions. If an item does not apply to the emissions unit, write in “Not Applicable” or “NA.” If the answer is not known, write in “Not Known” or “NK.” If you need assistance in understanding a question after reading the instructions below, contact your Ohio EPA District Office or Local Air Agency for assistance. Submittal of an incomplete application will delay application review and processing. In addition, the application may be returned as incomplete if all applicable questions are not answered appropriately.

APPLICABLE REGULATIONS:

The following State and Federal Regulations may be applicable to a storage tank. Note that there may be other regulations which apply to this emissions unit which are not included in this list.

Federal:

40 CFR Part 60 (NSPS), Subpart A (General Provisions)
40 CFR Part 60, Subpart Kb (Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced After July 23, 1984.)
State: OAC rule 3745-31-02 (Permit to Install)  
OAC rule 3745-35-02 (Permit to Operate)  
OAC rule 3745-21-07 (D) (Storage of Volatile Photochemically Reactive Materials)  
OAC rule 3745-21-09 (L) (Storage of Petroleum Liquids in Fixed Roof Tanks)  
OAC rule 3745-21-09 (Z) (Storage of Petroleum Liquids in External Floating Roof Tanks)

If you would like a copy of these regulations, contact your Ohio EPA District Office or Local Air Agency. State regulations may also be viewed and downloaded from the Ohio EPA website at http://www.epa.state.oh.us/dapc/regs/regs.html. Federal regulations may be viewed and downloaded at http://www.epa.gov/docs/epacfr40/chapt-l.info/subch-C.htm.

CALCULATING EMISSIONS:

Emissions may be calculated using the estimation software for storage tanks (TANKS), available from the following USEPA website: http://www.epa.gov/ttn/chief/software/tanks/index.html.

SPECIFIC INSTRUCTIONS:

1. Indicate whether this is an application for a new permit or an application for permit renewal. If applying for a permit renewal, provide the 4-character OEPA emissions unit identification number.

4. Tank capacity represents the maximum amount of material which can be stored.

9. The cited NSPS rule may be found on the web by clicking the links to 60.110a-60.115a at: http://www.access.gpo.gov/nara/cfr/cfrhtml_00/Title_40/40cfr60_00.html  
The cited MACT rule may be found on the web at: http://www.epa.gov/ttn/atw/hon/honpg.html

10. "Custody transfer" means the transfer of produced crude oil and/or condensate, after processing and/or treating in the production operations, from storage tanks or automatic transfer facilities to pipelines or any other forms of transportation. "Condensate" means hydrocarbon liquid separated from natural gas which condenses due to changes in the temperature or pressures, or both, and remains liquid at standard conditions.

15. "Photochemically reactive material" means any liquid organic material with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified below or which exceeds any of the following individual percentage composition limitations, referred to the total volume of liquid:

   (1) A combination of hydrocarbons, alcohols, aldehydes, esters, ethers or ketones having an olefinic or cyclo-olefinic type of unsaturation: 5 percent;

   (2) A combination of aromatic hydrocarbons with eight or more carbon atoms to the molecule except ethylbenzene: 8 percent;

   (3) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent.
16. If the material stored or to be stored is a waste material, complete the question on whether or not it is a hazardous waste. If additional information is needed regarding hazardous waste, please contact the office below:

Ohio EPA - Division of Hazardous Waste Management
P.O. Box 1049
Columbus, Ohio 43216-1049
(614) 644-2917

17. Submerged filling means the storage tank is equipped with a submerged fill pipe as defined below:

"Submerged fill pipe" means any fill pipe the discharge opening of which is entirely submerged when the liquid level is six inches above the bottom of the tank; or when applied to a tank which is loaded from the side, shall mean any fill pipe the discharge opening of which is entirely submerged when the liquid level is eighteen inches above the bottom of the tank.

22. For type of vent valve, enter “pressure” for a valve designed to allow high pressure inside the tank to be relieved, “vacuum” for a valve designed to allow low pressure inside the tank to be relieved, or “combined” for a valve designed to do both.

34. Enter the average wind speed for the last calendar year, in miles per hour, at the tank site. If actual data is not available, data may be available from a nearby airport or the National Weather Service. If that data is not available, data can be used from the following table:

<table>
<thead>
<tr>
<th>City</th>
<th>Mean Wind Speed (miles per hour)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Akron</td>
<td>9.9</td>
</tr>
<tr>
<td>Cincinnati</td>
<td>9.1</td>
</tr>
<tr>
<td>Cleveland</td>
<td>10.8</td>
</tr>
<tr>
<td>Columbus</td>
<td>8.7</td>
</tr>
<tr>
<td>Dayton</td>
<td>10.2</td>
</tr>
<tr>
<td>Mansfield</td>
<td>11.0</td>
</tr>
<tr>
<td>Toledo</td>
<td>9.5</td>
</tr>
<tr>
<td>Youngstown</td>
<td>10.0</td>
</tr>
</tbody>
</table>

46. The width of a seal gap is the distance between the seal and the tank wall. The total area of gaps is the accumulated area of all gaps which are greater than 0.125 inch in width.