



State of Ohio Environmental Protection Agency

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Lazarus Gov. Center
P.O. Box 1049

CERTIFIED MAIL

RE: PERMIT TO INSTALL *CORRECTED COPY 6/3/2008***
LUCAS COUNTY
Application No:04-01496**

DATE: 6/3/2008

BP Products North America Inc
Allen Ellett
696
Toledo, OH 436970696

Attached please find a corrected copy of PTI 04-01496 issued [**Most Recent Issue Date**]. This corrected copy is being sent due to administrative processing errors and does not affect the enforceability or effective date of the Directors final action. Please note, the appearance of the corrected document may have changed due to changing software or printers (e.g., total number of pages, margins, etc.). Areas of the permit that have been substantively affected by the correction(s) are highlighted in the enclosed "Corrected Copy". I urge you to review these areas in relation to the issued permit document. Please replace the copy provided to you on [**most recent issue date**] with the attached corrected Permit To Install document. *Please note:* No payment is required for processing this corrected copy.

Very truly yours,

Michael W. Ahern, Supervisor
Field Operations and Permit Section
Division of Air Pollution Control

cc: XXXX

Ohio EPA Permit to Install Information Form

Please describe below any documentation which is being submitted with this recommendation (must be sent the same day). Electronic items should be submitted with the e-mail transmitting the PTI terms, and in software that CO can utilize. If mailing any hard copy, this section must be printed as a cover page. All items must be clearly labeled indicating the PTI name and number. Submit hard copy items to **Permitting**, DAPC, Central Office, and electronic files to airpti@epa.state.oh.us

<u>Please fill out the following. If the checkbox does not work, replace it with an 'X'</u>	<u>Electronic</u>	<u>Additional information File Name Convention (your PTI # plus this letter)</u>	<u>Hard Copy</u>	<u>None</u>
<u>Calculations (required)</u>	<input type="checkbox"/>	0000000c.wpd	<input type="checkbox"/>	
<u>Modeling form/results</u>	<input type="checkbox"/>	0000000s.wpd	<input type="checkbox"/>	<input type="checkbox"/>
<u>PTI Application (complete or partial)*</u>	<input type="checkbox"/>	0000000a.wpd	<input type="checkbox"/>	<input type="checkbox"/>
<u>BAT Study</u>	<input type="checkbox"/>	0000000b.wpd	<input type="checkbox"/>	<input type="checkbox"/>
<u>Other/misc.</u>	<input type="checkbox"/>	0000000t.wpd	<input type="checkbox"/>	<input type="checkbox"/>

* Mandatory for netting, PSD, nonattainment NSR, 112(g), 21-07(G)(9)(g) and 21-09(U)(2)(f) - 2 complete copies.

Please complete (see comment bubble to the left for additional instructions):

NSR Discussion

NONE

Please complete for these type permits (For PSD/NSR Permit, place mouse over this text):

Synthetic Minor Determination and/or **Netting Determination**

Permit To Install: "04-01496"

- A. Source Description
- B. Facility Emissions and Attainment Status
- C. Source Emissions
- D. Conclusion

PLEASE PROVIDE ADDITIONAL NOTES OR COMMENTS AS NECESSARY:

I. DESCRIPTION OF SOURCE

This PTI is for the installation of a new internal floating roof storage tank (PR-500408) to be located at the BP Toledo refinery's marine dock. This tank will be constructed to provide storage of line wash at the marine dock. It will be constructed at the site where Tank T099 was formerly located. Tank T099 has been demolished to make room for this new tank.

II. BEST AVAILABLE TECHNOLOGY

Best available technology is use of an internal floating roof meeting the requirements of NSPS Kb.

III. APPLICABLE REGULATIONS

OAC 3745-31-05(C)	Voluntary restrictions to avoid BAT requirements
OAC 3745-21-09(L)	Internal Floating Roof Storage Tanks
NSPS Subpart Kb	New Source Performance Standards for Petroleum Liquid Storage Vessels
40 CFR Part 63 subpart CC	Maximum Achievable Control Technology for Petroleum Refineries

IV. EMISSIONS

The emissions were estimated using AP-42 Section 7 methodology.

The following data was used to determine the allowable emissions:

Tank Content: Gasoline Slop
Annual Net Throughput: 6,257,143 bbl/yr
Tank Diameter: 50 ft
Paint Color: White
Mol Wt. of Vapor: 62 lb/lb-mole
Vapor Pressure: 11.1 psia
Density of Liquid: 6.33 lb/gal
Number of Columns: 1
Effective Column Diameter: 0.7
Shell Clingage Factor: 0.0015 lb/1000ft²
Paint Solar Absorptance: 0.17
Rim Seal Loss Factors: Kra: 6.7 lb-mol/ft-yr
Product Factor: Kc: 1
Deck Fitting Factor: Ff: 219.1 lb-mole/yr
Liquid Bulk temperature: Tb: 48.46
Daily Avg. Liq. Surface Temp.: Tla: 50.10
Vapor Pressure Function: P^{*}: 0.3687
Rim Seal Loss: Lr: 7,657.4 lb/yr
Withdrawal Loss: Lwd: 1,136.2 lb/yr
Deck Fitting Loss: Lf: 5,008.2
Total Loss: 13,802 lb/yr, 6.9 tons/yr

Please complete:

SUMMARY (for informational purposes only)	
TOTAL PERMIT TO INSTALL ALLOWABLE EMISSIONS	
<u>Pollutant</u>	<u>Tons Per Year</u>
VOC	6.9

Part II - FACILITY SPECIFIC TERMS AND CONDITIONS

A. State and Federally Enforceable Permit To Install Facility Specific Terms and Conditions

None

B. State Only Enforceable Permit To Install Facility Specific Terms and Conditions

None

Part III - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)

A. State and Federally Enforceable Section

I. Applicable Emissions Limitations and/or Control Requirements

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Add rows as necessary

Operations, Property, and/or Equipment - (T188) - 14,037 bbl internal floating roof storage tank identified as PR-500408 located at the refinery's marine dock

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
3745-21-09(L)	See A.1.2.a
OAC rule 3745-31-05(C)	6.9 tons/yr VOC
	See A.1.2.c
40 CFR 60 Subpart Kb	See A.1.2.b
40 CFR 63 Subpart CC	See A.1.2.d

2. Additional Terms and Conditions

- 2.a The emission limitation specified by this rule is less stringent than the emission limitation established pursuant to OAC rule 3745-31-05(C).
- 2.b The permittee shall equip the storage vessel with a fixed roof in combination with an internal floating roof meeting the following specifications:
 - 2.b.i The internal floating roof shall rest or float on the liquid surface (but not necessarily in complete contact with it) inside a storage vessel that has a fixed roof. The internal floating roof shall be floating on the liquid surface at all times, except during initial fill and during those intervals when the storage vessel is completely emptied or subsequently emptied and refilled. When the roof is resting on the leg supports, the process of filling, emptying, or refilling shall be continuous and shall be accomplished as rapidly as possible.
 - 2.b.ii Each internal floating roof shall be equipped with one of the following closure devices between the wall of the storage vessel and the edge of the internal floating roof:
 - 2.b.ii(a) A foam or liquid-filled seal mounted in contact with the liquid (liquid-mounted seal). A liquid-mounted seal means a foam or liquid-filled seal mounted in contact with the liquid between the wall of the storage vessel and the floating roof continuously around the circumference of the tank.

- 2.b.ii.(b) Two seals mounted one above the other so that each forms a continuous closure that completely covers the space between the wall of the storage vessel and the edge of the internal floating roof. The lower seal may be vapor-mounted, but both must be continuous.
- 2.b.ii.(c) A mechanical shoe seal. A mechanical shoe seal is a metal sheet held vertically against the wall of the storage vessel by springs or weighted levers and is connected by braces to the floating roof. A flexible coated fabric (envelope) spans the annular space between the metal sheet and the floating roof.
- 2.b.iii Each opening in a noncontact internal floating roof except for automatic bleeder vents (vacuum breaker vents) and the rim space vents is to provide a projection below the liquid surface.
- 2.b.iv Each opening in the internal floating roof except for leg sleeves, automatic bleeder vents, rim space vents, column wells, ladder wells, sample wells, and stub drains is to be equipped with a cover or lid which is to be maintained in a closed position at all times (i.e., no visible gap) except when the device is in actual use. The cover or lid shall be equipped with a gasket. Covers on each access hatch and automatic gauge float well shall be bolted except when they are in use.
- 2.b.v Automatic bleeder vents shall be equipped with a gasket and are to be closed at all times when the roof is floating except when the roof is being floated off or is being landed on the roof leg supports.
- 2.b.vi Rim space vents shall be equipped with a gasket and are to be set to open only when the internal floating roof is not floating or at the manufacturer's recommended setting.
- 2.b.vii Each penetration of the internal floating roof for the purpose of sampling shall be a sample well. The sample well shall have a slit fabric cover that covers at least 90 percent of the opening.
- 2.b.viii Each penetration of the internal floating roof that allows for passage of a column supporting the fixed roof shall have a flexible fabric sleeve seal or a gasketed sliding cover.
- 2.b.ix Each penetration of the internal floating roof that allows for passage of a ladder shall have a gasketed sliding cover.
- 2.c Permit to Install 04-01496 for this air contaminant source takes into account the following voluntary restrictions including the use of any applicable air pollution control equipment as proposed by the permittee for the purpose of avoiding Best Available Technology (BAT) requirements under OAC rule 3745-31-05(A)(3):

- i. a fixed roof in combination with an internal floating roof;
 - ii. maximum annual average vapor pressure of 11.1 psia; and
 - iii. maximum annual throughput of 6,257,143 barrels per year.
- 2.d As specified under 40 CFR 63.640(n)(1), a Group 1 or Group 2 storage vessel that is subject to the provisions of 40 CFR part 60 subpart Kb, is required to comply only with the requirements of 40 CFR part 60 subpart Kb, except as provided in 40 CFR 63.640(n)(8).

II. Operational Restrictions

1. The maximum annual throughput for this emissions unit shall not exceed 6,257,143 barrels as a rolling, 12-month summation.

To ensure enforceability during the first 12 calendar months of operation following the issuance of this permit, the permittee shall not exceed the throughput levels specified in the following table:

<u>Month</u>	<u>Maximum Allowable Throughput</u>
1	521,429
1-2	1042858
1-3	1564287
1-4	2085716
1-5	2607145
1-6	3128574
1-7	3650003
1-8	4171432
1-9	4692861
1-10	5214290
1-11	5735719
1-12	6257143

After the first 12 calendar months of operation following the issuance of this permit, compliance with the annual throughput limitation shall be based upon a rolling, 12-month summation of the monthly throughput.

III. Monitoring and/or Recordkeeping Requirements

1. The permittee shall:

- 1.a Visually inspect the internal floating roof, the primary seal, and the secondary seal (if one is in service), prior to filling the storage vessel with volatile organic liquid (VOL). If there are holes, tears, or other openings in the primary seal, the secondary seal, or the seal fabric or defects in the internal floating roof, or both, the permittee shall repair the items before filling the storage vessel.
- 1.b For Vessels equipped with a liquid-mounted or mechanical shoe primary seal, visually inspect the internal floating roof and the primary seal or the secondary seal (if one is in service) through manholes and roof hatches on the fixed roof at least once every 12 months after initial fill. If the internal floating roof is not resting on the surface of the VOL inside the storage vessel, or there is liquid accumulated on the roof, or the seal is detached, or there are holes or tears in the seal fabric, the permittee shall repair the items or empty and remove the storage vessel from service within 45 days. If a failure that is detected during inspections required in this paragraph cannot be repaired within 45 days and if the vessel cannot be emptied within 45 days, a 30-day extension may be requested from the Toledo Division of Environmental Services in the inspection report required in 40 CFR 60.115b(a)(3). Such a request for an extension must document that alternate storage capacity is unavailable and specify a schedule of actions the company will take that will assure that the control equipment will be repaired or the vessel will be emptied as soon as possible.
2. The permittee shall:
 - 2.a Keep a record of each inspection performed as required by A.III.1.a and 1.b above. Each record shall identify the storage vessel on which the inspection was performed and shall contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).
3. The permittee shall keep readily accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept for the life of the source.
4. The permittee shall maintain a record of the VOL stored, the period of storage, and the maximum true vapor pressure of that VOL during the respective storage period.
5. The permittee shall maintain monthly records of the following information:
 - a. The throughput for each month.
 - b. Beginning after the first 12 calendar months of operation following the issuance of this permit, the rolling, 12-month summation of the throughputs.

Also, during the first 12 calendar months of operation following the issuance of this permit, the permittee shall record the cumulative throughput for each calendar month.

IV. Reporting Requirements

1. The permittee shall meet the following requirements:
 - 1.a Furnish the Toledo Division of Environmental Services with a report that describes the control equipment and certifies that the control equipment meets the specifications of 40 CFR 60.112b(a)(1) and 40 CFR 60.113b(a)(1). This report shall be an attachment to the notification required by 40 CFR 60.7(a)(3).
 - 1.b If any of the conditions described in 40 CFR 60.113b(a)(2) are detected during the annual visual inspection required by 40 CFR 60.113b(a)(2), a report shall be furnished to the Toledo Division of Environmental Services within 30 days of the inspection. Each report shall identify the storage vessel, the nature of the defects, and the date the storage vessel was emptied or the nature of and date the repair was made.
2. Notify the Toledo Division of Environmental Services in writing at least 30 days prior to the filling or refilling of each storage vessel for which an inspection is required by paragraphs A.III.1.a to afford the Toledo Division of Environmental Services the opportunity to have an observer present.
3. The permittee shall submit semi-annual deviation (excursion) reports to the Toledo Division of Environmental Services that identify all exceedances of the rolling, 12-month throughput limitation and, for the first 12 calendar months of operation following the issuance of this permit, all exceedances of the maximum allowable cumulative production levels. These reports are due by January 30 and June 30 of each year and shall cover the previous six calendar months.
4. This emissions unit is subject to the applicable provisions of Subpart Kb of the New Source Performance Standards (NSPS) as promulgated by the United States Environmental Protection Agency, 40 CFR Part 60. The application and enforcement of these standards are delegated to the Ohio EPA. The requirements of 40 CFR Part 60 are also federally enforceable.

Pursuant to the 40 CFR Part 60.7, the permittee is hereby advised of the requirement to report the following at the appropriate times:

- a. Construction date (no later than 30 days after such date);
- b. Anticipated start-up date (not more than 60 days or less than 30 days prior to such date);
- c. Actual start-up date (within 15 days after such date); and

- d. Date of performance testing (if required, at least 30 days prior to testing).

Reports are to be sent to:

Ohio Environmental Protection Agency
DAPC - Permit Management Unit
P. O. Box 1049
Columbus, Ohio 43216-1049

and

Toledo Division of Environmental Services
348 South Erie Street
Toledo, Ohio 43604

V. Testing Requirements

Compliance with the emission limitation(s) in Section A.I. of these terms and conditions shall be determined in accordance with the following method(s):

Emission Limitation

6.9 tons per year OC

Applicable Compliance Method

Compliance shall be determined by estimating emissions using the most recent version of EPA's Tanks computer software or the most recent emission factors contained in AP-42 Chapter 7.

VI. Miscellaneous Requirements

1. Available data on the storage temperature may be used to determine the maximum true vapor pressure as determined below.
 - 1.a For vessels operated above or below ambient temperatures, the maximum true vapor pressure is calculated based upon the highest expected calendar-month average of the storage temperature. For vessels operated at ambient temperatures, the maximum true vapor pressure is calculated based upon the maximum local monthly average ambient temperature as reported by the National Weather Service.
 - 1.b The vapor pressure may be obtained by the following:
 - 1.b.i Available data on the Reid vapor pressure and the maximum expected storage temperature based on the highest expected calendar-month average temperature of the

stored product may be used to determine the maximum true vapor pressure from nomographs contained in API Bulletin 2517 (incorporated by reference—see 40 CFR 60.17), unless the Administrator specifically requests that the liquid be sampled, the actual storage temperature determined, and the Reid vapor pressure determined from the sample(s).

- 1.b.ii The true vapor pressure of each type of crude oil with a Reid vapor pressure less than 13.8 kPa or with physical properties that preclude determination by the recommended method is to be determined from available data and recorded if the estimated maximum true vapor pressure is greater than 3.5 kPa.
- 1.c For other liquids, the vapor pressure:
 - 1.c.i May be obtained from standard reference texts; or
 - 1.c.ii Determined by ASTM D2879-83, 96, or 97 (incorporated by reference—see 40 CFR 60.17); or
 - 1.c.iii Measured by an appropriate method approved by the Administrator; or
 - 1.c.iv Calculated by an appropriate method approved by the Administrator.

B. State Only Enforceable Section**I. Applicable Emissions Limitations and/or Control Requirements**

1. The specific operations(s), property, and/or equipment which constitute this emissions unit are listed in the following table along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures. Emissions from this unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

Add rows as necessary

Operations, Property, and/or Equipment - (T188) - 14,037 bbl internal floating roof storage tank

Applicable Rules/Requirements	Applicable Emissions Limitations/Control Measures
None	None

2. Additional Terms and Conditions

2.a None

II. Operational Restrictions

None

III. Monitoring and/or Recordkeeping Requirements

None

IV. Reporting Requirements

None

V. Testing Requirements

None

VI. Miscellaneous Requirements

None

NEW SOURCE REVIEW FORM B

PTI Number: 04-01496 Facility ID: 0448020007

FACILITY NAME BP Products North America Inc

FACILITY DESCRIPTION Petroleum Refinery CITY/TWP Oregon

SIC CODE 2911 SCC CODE 40301110 EMISSIONS UNIT ID T188

EMISSIONS UNIT DESCRIPTION 14,037 bbl internal floating roof storage tank

DATE INSTALLED

EMISSIONS: (Click on bubble help for Air Quality Descriptions)

Pollutants	Air Quality Description	Actual Emissions Rate		PTI Allowable	
		Short Term Rate	Tons Per Year	Short Term Rate	Tons Per Year
Particulate Matter					
PM ₁₀					
Sulfur Dioxide					
Organic Compounds	attainment	na	6.9	na	6.9
Nitrogen Oxides					
Carbon Monoxide					
Lead					
Other: Air Toxics					

APPLICABLE FEDERAL RULES:

NSPS? Kb

NESHAP? MACT CC

PSD? na

OFFSET POLICY? na

WHAT IS THE BAT DETERMINATION, AND WHAT IS THE BASIS FOR THE DETERMINATION?

Compliance with NSPS subpart Kb

IS THIS SOURCE SUBJECT TO THE AIR TOXICS POLICY? No

OPTIONAL: WHAT IS THE CAPITAL COST OF CONTROL EQUIPMENT?

\$

TOXIC AIR CONTAMINANTS

Ohio EPA's air toxics policy applies to contaminants for which the American Conference of Governmental Industrial Hygienists (ACGIH) has a listed threshold limit value.

AIR TOXICS MODELING PERFORMED*?

YES

X NO

IDENTIFY THE AIR CONTAMINANTS: