

**TECHNICAL REVIEW AND EVALUATION
FOR
AIR QUALITY PERMIT NO. 47500
LIQUIDTITAN LLC**

I. INTRODUCTION

This Class II synthetic minor renewal permit is proposed to be issued to LiquidTitan, LLC for the continued operation of the transmix processing facility located at Parker, Arizona. This permit renews and supersedes Permit No. 1001222.

A. Company Information

Facility Name: LiquidTitan, LLC

Mailing Address: 31645 Industrial Lane
Parker, AZ 85334

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Parker, AZ 85334

B. Attainment Classification

The transmix processing facility of LiquidTitan, LLC is located in an area which is attainment or unclassified for criteria pollutants.

C. Learning Sites Evaluation

In accordance with ADEQ's Environmental Permits and Approvals Near Learning Sites Policy, the Department conducted an evaluation to determine if any nearby learning sites would be adversely impacted by the facility. Learning sites consist of all existing public schools, charter schools and private schools the K-12 level, and all planned sites for schools approved by the Arizona School Facilities Board. The learning sites policy was established to ensure that the protection of children at learning sites is considered before a permit approval is issued by ADEQ.

There are no learning sites within 2 miles of the facility.

II. BACKGROUND INFORMATION

The facility was issued a Class II permit No.1001222 on November 21, 2003, for the operation of a transmix processing facility. Subsequently, the following permit revisions have been issued to the facility:

- A. A minor permit revision (Permit No. 40965) was issued on January 12, 2007, authorizing the increase in the capacity of the reboiler and used oil heaters, addition of a new cooling tower, and the operation of a used oil processing system.
- B. A significant permit revision (Permit No. 42759) was issued on June 13, 2007, for increasing the processing limit from 28,140,000 gallons of transmix to 56,280,000 gallons per year.
- C. A minor permit revision (Permit No. 45014) was issued on February 25, 2008, for the operation of a 347 kW emergency diesel generator.

- D. A minor permit revision (Permit No. 47817) was issued on September 11, 2008, for addition of a liquid trap in the line going to flare to avoid any liquid carry over to the flare during loading of gasoline and diesel; addition of a 10,000 gallon diesel tank for fueling plant vehicles; changing the service of tank nos. 21 and 22 from oil contaminated water to diesel, and, using tank nos. W-4 and W-5 (previously used for water) for storing contaminated water in the used oil system; and the installation of a 875,000 Btu/Hr propane-fired truck washer.

III. FACILITY DESCRIPTION

A. Process Description

The facility receives transmix (a mixture of gasoline and diesel fuel) by tanker truck or rail car from pipeline terminals. The transmix is unloaded through an unloading rack into storage vessels, and is separated into gasoline and diesel fuels by simple distillation.

In the used oil processing system, various used oils are brought and unloaded to the storage tanks. The oil is pre-filtered and transferred to a process tank where it is circulated via a used oil heater for 24 hours and allowed to settle down. Water and impurities are drained to contaminated water tanks. Oil is tested for quality and transferred to product storage tank.

B. Air Pollution Control Equipment Description

Emissions from the transmix storage tanks are controlled by the use of internal floating roof tanks and submerged filling.

A flare is utilized to destroy VOC emissions from the distillation process, gasoline storage tanks and gasoline loading racks.

IV. EMISSIONS

The potential emission rates of the criteria pollutants with the new capacity are not greater than major source thresholds. Details of emissions for criteria pollutants are provided in Table 1 below.

Table 1: Facility-Wide Emissions

Pollutant	Total Emissions
	Tons per year
CO	6.35
NO _x	26.65
SO ₂	62.07
PM	4.97
PM ₁₀	4.21
VOC	16.69
HAPs	6.32

V. COMPLIANCE HISTORY

Liquid Titan LLC has been issued five notices of violations in the past few years. A brief description of the Notices of Violations (NOVs) is provided below:

- A. Notice of Violation (Case #32530; issued on October 14, 2004) cited 9 violations of permit conditions. This was based on inspection conducted on September 1, 2004. ADEQ had given a deadline of January 11, 2005, to achieve compliance for all these violations.

1. Failure to notify ADEQ of any process or equipment changes.
2. Failure to provide records of monthly leak inspection for gasoline loading racks.
3. Failure to submit compliance certification.
4. Failure to provide records of quarterly survey of visible emissions from the flare.
5. Failure to record daily and 365-day rolling total of transmix processed.
6. Failure to maintain records of daily checks for ensuring flare pilot flame.
7. Failure to conduct quarterly survey of visible emissions.
8. Failure to provide floating roof tanks inspection report.
9. Failure to provide certification for "on-specification" used oil.

Compliance for all these violations was achieved on July 2, 2007.

- B. Notice of Violation (Case #36170; issued on September 6, 2005) cited 4 repeat violations. This was based on inspection conducted on August 11, 2005. ADEQ had given a deadline of November 23, 2005, to achieve compliance for all these violations..

1. Failure to notify ADEQ of any process or equipment changes. (2 violations)
2. Failure to submit compliance certification.
3. Failure to provide records of quarterly survey of visible emissions from the flare.

Compliance for all these violations was achieved on January 17, 2007.

- C. Notice of Violation (Case #39981; issued on May 15, 2006) cited 4 repeat violations of permit conditions. This was based on inspection conducted on April 12, 2006. ADEQ had given a deadline of June 17, 2006, to achieve compliance for all these violations.

1. Failure to submit compliance certification.
2. Failure to obtain permit revision from ADEQ before making a modification. (2 Violations)
3. Failure to notify ADEQ of any process or equipment changes.

Compliance for all these violations was achieved on August 29, 2006.

- D. Notice of Violation (Case #79073; issued on March 5, 2007) cited 2 violations of permit conditions. This was based on the performance test conducted on November 14, 2006. ADEQ had given a deadline of April 11, 2007, to achieve compliance for all these violations.

1. Failure to operate flare at all times when distillation tower and loading terminals are in operation.
2. Failure to maintain 95% destruction efficiency for the flare system.

Compliance for all these violations was achieved on May 2, 2007.

- E. Notice of Violation (Case #80623; issued on April 3, 2007) cited 6 violations of permit conditions. 4 of these were repeat violations. This was based on inspection conducted on March 20, 2007. ADEQ had given deadlines of April 23, 2007, to achieve compliance for 2 violations, and May 9, 2007, to achieve compliance for 4 violations.

1. Failure to operate and maintain monitoring device to detect presence of flare pilot flame.
2. Failure to maintain records of plant and flare shutdown/start-up and mal-function occurrences.
3. Failure to provide records of monthly leak inspection for gasoline loading racks.
4. Failure to provide record of inspections of tank control equipment.
5. Failure to label the storage tanks with proper identification numbers.
6. Failure to operate and maintain a pressure measurement device in the vapor collection system.

Compliance for all these violations was achieved on April 27, 2007.

VI. APPLICABLE REGULATIONS

The following table summarizes the findings of the Department with respect to the regulations that are applicable to each emissions unit.

Table 2

Unit ID	Control Equipment	Applicable Regulations	Verification
Reboiler Heater, Used Oil Heater, truck washer	None	A.A.C. R18-2-724	These fossil fuel fired equipment are subject to A.A.C. R18-2-724 standards.
Distillation tower, cooling tower, oily water separator, diesel storage tanks (greater than 40000 gallons), used oil tanks, propane tank	Relief valves on distillation tower and propane tank are routed to flare	A.A.C. R18-2-702, A.A.C. R18-2-730	These operations are subject to Standards for Performance for Unclassified Sources A.A.C. R18-2-730.
Diesel generator and fire pump	None	A.A.C. R18-2-719	Stationary Rotating Machinery subject to A.A.C. R18-2-719.
Non-NSPS Storage tanks (Tanks 10, 11, 12, 13, 14, 15 and 16)	Submerged filling, venting to control flare	A.A.C. R18-2-710 40 CFR 63 Subpart BBBBBB	These storage vessels are subject to A.A.C. R18-2-710. Effective January 10, 2011, gasoline storage tanks (Tank Nos. 10 to 15) shall also be subject to the requirements under 40 CFR 63 Subpart BBBBBB – National Emission Standards for Hazardous Air Pollutants for Gasoline Distribution Bulk Terminals, Bulk Plants and Pipeline Facilities.

Unit ID	Control Equipment	Applicable Regulations	Verification
NSPS Storage tanks (Tanks 4, 5, 6 and 9)	Internal floating roof, submerged filling and relief valves venting to control flare	A.A.C. R18-2-905.1 A.A.C. R18-2-905.3 40 CFR 60 Subpart Kb	Storage Vessels subject to New Source Performance Standards- Standards of Performance for Volatile Organic Liquid Storage Vessels constructed after July 23, 1984, 40 CFR 60 Subpart Kb.
Gasoline/Diesel Loading Terminal	Vapor collection system which vents to control flare	40 CFR 63 Subpart BBBBBB	Effective January 10, 2011, gasoline loading racks shall be subject to NESHAP requirements under 40 CFR 63 Subpart BBBBBB.
Fugitive dust sources	Water and other reasonable precautions	A.A.C. R18-2, Article 6 A.A.C. R18-2-702	These are applicable to fugitive dust sources at the facility.
Mobile sources	Water Sprays/Water Truck for dust control	A.A.C. R18-2, Article 8	This Article is applicable to off-road mobile sources, which either move while emitting air pollutants or are frequently moved during the course of their utilization.
Other periodic activities	Various	A.A.C. R18-2-730 A.A.C. R18-2-1101.A.8	This section deals with activities such as sandblasting, asbestos demolition and spray painting.

VII. PREVIOUS PERMITS AND PERMIT CONDITIONS

PREVIOUS PERMITS

Table 3: PREVIOUS PERMITS

Permit #	Issue Date	Application Basis
1001222	November 21, 2003	Class II Operating Permit
40965	January 12, 2007	Minor Permit Revision
42759	June 13, 2007	Significant Permit Revision
45014	February 25, 2008	Minor Permit Revision
47817	September 11, 2008	Minor Permit Revision

B. PREVIOUS PERMIT CONDITIONS

Table below compares the conditions in Permit No. 1001222 and subsequent permit revisions with the conditions in this permit and cross-references the previous permit conditions to their location in the new permit.

1. Operating Permit No. 1001222

Table-4

Condition # in permit nos. 1001222	Determination				Comments
	Delete	Kept	Revise	Streamline	
Attachment A			x		This Attachment has been revised and most recent Attachment “A” is used for this permit.
Attachment B					
Condition I.A.1		x			This requirement is retained.
Condition I.A.2		x			This requirement for compliance certification is relocated as Condition I.B.2.
Condition I.A.3		x			This recordkeeping requirement for maintenance activities is relocated as Condition I.B.3.
Conditions 1.A.4 and 5		x			These requirements for stack heights are relocated as Conditions III.B.1 and 2.
Condition I.B		x			The requirements for flare system are retained, and are relocated under Section V of Attachment “B”.
Condition II.B		x			The requirements for operation limitations are retained.
Condition II.C.1.a			x		The opacity limitation is revised from 40% to 20% as required in A.A.C. R-18-2-702.B. This Condition is relocated as Condition II.C.1.c.
Conditions II.C.1.b, c and d.		x			These requirements for particulate matter emission standards are relocated under Condition II.C.1.a and b.
Condition II.C.2		x			These requirements for opacity monitoring are retained.
Conditions II.D and E	x				These requirements for SO ₂ and NO _x are not relevant to any of the sources under this Section, and hence deleted.
Condition II.F		x			These requirements for volatile organic compounds are relocated as Condition II.D.

Condition # in permit nos. 1001222	Determination				Comments
	Delete	Kept	Revise	Streamline	
Condition III.B		x			The requirements for fuel limitations for heaters are relocated under Condition III.C.
Condition III.C.1		x			These requirements for particulate matter emission standards for heaters are relocated under Condition III.D.1.
Condition III.C.2		x			These requirements for opacity monitoring for heaters are relocated as Condition III.D.2.b.
Condition III.D.1			x		This requirement for SO ₂ emission standard is revised to reflect language in A.A.C. R-18-2-724.E, and is relocated as Condition III.E.1.
Condition III.D.2		x			These requirements for SO ₂ monitoring for heaters are relocated as Condition III.E.2.
Section IV		x			This Section for emergency diesel generator and fire water pump is retained and relocated as Section VIII.
Section V				x	This Section for gasoline/transmix storage tanks is streamlined and re-written as Section IV.
Section VI			x		This Section is re-written as the requirements under 40 CFR 60.501 are not applicable to the loading racks at this facility, and hence deleted.
Section VII	x				This Section for oily water separator is deleted as the requirements for all unclassified sources are covered under Section II.
Section VIII				x	This Section is replaced with the revised standard language for fugitive dust sources.
Section IX				x	This Section is replaced with the revised standard language for other periodic activities
Section X	x				The requirements for cooling tower are now covered under requirements for unclassified sources in Section II.

2. Minor Permit Revision No. 40965

Condition # in permit nos. 1001222	Determination				Comments
	Delete	Kept	Revise	Streamline	
Attachment B, Section III.A			x		The applicability of this Section is revised. This section will now be applicable to used oil heater as well.

Condition # in permit nos. 1001222	Determination				Comments
	Delete	Kept	Revise	Streamline	
Section V			x		The Condition V.B.3, V.B.5 and V.C shall applicable to used oil tanks and fuel oil tanks also.

3. Significant Permit Revision No. 42759

Condition # in permit nos. 1001222	Determination				Comments
	Delete	Kept	Revise	Streamline	
Attachment "B" Condition I.A			x		This Condition is revised to include stack limitations for reboiler and used oil heater as Conditions I.A.4 and I.A.5.
Condition I.C.2			x		This Condition is revised to include Condition I.C.2.c for monthly check of flare burner.
Condition I.D.1			x		The Condition for performance testing of flare is revised to increase the test frequency.
Condition II.B.1			x		This Condition is revised to increase the capacity of distillation tower.
Section IV			x		Section IV for diesel fire pump is revised and rewritten to delete requirements for diesel generator, and to include operating hours limitation for fire pump.
Attachment "C"			x		The equipment list is updated to revise the capacity of distillation column and storage tanks.

4. Minor Permit Revision No. 45014

Condition # in permit nos. 1001222	Determination				Comments
	Delete	Kept	Revise	Streamline	
Section IV			x		The Section is revised to include conditions for diesel generator.
Attachment "C"			x		The equipment list is updated to include diesel generator.

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5. Significant Permit Revision No. 47817

Condition # in permit nos. 47817	Determination				Comments
	Delete	Kept	Revise	Streamline	
Section III			x		This Section is revised to include requirements for propane fired-truck washer.
Attachment "C"			x		The equipment list is updated to reflect the changes/additions of equipment.

VIII. MONITORING, RECORDKEEPING AND REPORTING REQUIREMENTS

A. Opacity

The Permittee is required to conduct a quarterly survey of visible emissions emanating from all the equipment at the facility. If the opacity of the emissions observed appears to exceed the standard, the observer must conduct a certified EPA Reference Method 9 observation. The Permittee is required to keep records of the initial survey and any EPA Reference Method 9 observations performed. If the observation results in a Method 9 opacity reading in excess of the standard, the Permittee must report this to ADEQ as excess emission as per Section XII of Attachment "A" and initiate appropriate corrective action to reduce the opacity. The Permittee is required to keep records of the corrective actions performed.

B. Internal Floating Roof Tanks (Tank Nos. 4, 5 and 9)

1. The Permittee is required to perform visual inspection through the manholes or roof hatches on an annual basis. If the internal floating roof is not resting on the surface of the volatile organic liquid (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 must repair the items or empty and remove the storage vessel from service within 45 days. If any of the above conditions are detected during the annual visual inspection, a report must be furnished to the Director within 30 days of the inspection. Each report must 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. The Permittee is required to perform a complete inspection of the primary seal and floating roof, whenever the tank is emptied for non-operational reasons or at least every five years, whichever is more frequent.
3. The Permittee is required to keep a record of each inspection performed. Each record must identify the storage vessel on which the inspection was performed and must contain the date the vessel was inspected and the observed condition of each component of the control equipment (seals, internal floating roof, and fittings).

B. Gasoline Storage Tanks (Tank Nos. 6, 10, 11, 12, 13, 14 and 15)

The Permittee, at all times, is required to operate a flare system when any emissions are

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vented from these storage tanks.

C. Loading Racks

1. At all times, when emissions are vented from the loading racks, the Permittee required to operate the flare system for minimizing VOC emission associated with loading operations
2. The Permittee is required to limit the loading of gasoline into only vapor-tight trucks, which have been certified.
3. The Permittee must ensure the terminal's and the tank truck's vapor collection systems are connected during each loading of a tank truck at the facility. The Permittee must operate the vapor collection system such that any vapors collected at one loading rack are prevented from passing to another loading rack.

D. Flare System

1. The Permittee is required to conduct a monthly survey of visible emissions emanating from the flare, when in operation. EPA Reference Method 22 must be used to determine the compliance with the permit conditions. The observation period must be 2 hours. The Permittee must keep records of the name of observer, date and time of observation. The results of the observation must be logged every five minutes. If visible emissions exceeding 5-minutes are noted during a 2-hr observation period, The Permittee is required to take immediate corrective actions to reduce the visible emissions and log all such actions.
2. The Permittee is required to monitor the presence of the flare pilot flame using a thermocouple. The Permittee is required to perform a daily check on the thermocouple to ensure the presence of the pilot flame. The Permittee is required to maintain a log of the date and the result of the daily checks.

VIII. TESTING REQUIREMENTS

The Permittee is required to perform performance tests to demonstrate compliance with 95% destruction efficiency requirement for the flare once every six months. The Performance tests shall be conducted in accordance with Reference Method 25A in 40 CFR 60, Appendix A.

IX. NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS) REQUIREMENTS

The National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Gasoline Distribution Bulk Terminals and Bulk Plant, 40 CFR 63 Subpart BBBB, became effective January 10, 2008, and is applicable to gasoline storage tanks and gasoline loading racks at the facility. All existing sources are required to comply with these standards no later than January 10, 2011. The permit contains the NESHAPS requirements that the Permittee must comply with by January 10, 2011.

X. INSIGNIFICANT ACTIVITIES

The applicant has requested the following activities to be deemed as "insignificant". According to A.A.C. R18-2-101.57, for an activity to be deemed "insignificant", there should be no applicable

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requirement for the activity. This was the basis used to determine if the activities in the following list qualify as an “insignificant” activity under Arizona law.

Tank	Capacity (gallons)	Service	Insignificant Yes/No	Justification
TK-1A	39,000	On-Spec Used Oil	No	A.A.C. R18-2-730 applicable
TK-1B	39,000	On-Spec Used Oil	No	A.A.C. R18-2-730 applicable
TK-1C	39,000	Diesel	Yes	A.A.C. R18-2-101.57c
TK-2A	13,000	Diesel	Yes	A.A.C. R18-2-101.57c
TK-2B	12,000	Diesel	Yes	A.A.C. R18-2-101.57c
TK-2C	18,000	Diesel	Yes	A.A.C. R18-2-101.57c
TK-3A	12,000	Diesel	Yes	A.A.C. R18-2-101.57c
TK-3B	12,000	Diesel	Yes	A.A.C. R18-2-101.57c
TK-16	20,000	Propane	No	A.A.C. R18-2-730 applicable
TK-17	5,000	Used Oil	No	A.A.C. R18-2-730 applicable
TK-18	27,500	Used Oil	No	A.A.C. R18-2-730 applicable
TK-19	27,500	Used Oil	No	A.A.C. R18-2-730 applicable
TK-20	27,500	Used Oil	No	A.A.C. R18-2-730 applicable
TK-21	14,000	Diesel	Yes	A.A.C. R18-2-101.57c
TK-22	12,000	Diesel	Yes	A.A.C. R18-2-101.57c
Fuel Oil tank	10,2100	Diesel	Yes	A.A.C. R18-2-101.57c
FO-1	7,732	On-Spec Used Oil	No	A.A.C. R18-2-730 applicable
FO-2	7,732	On-Spec Used Oil	No	A.A.C. R18-2-730 applicable
W-4	10,000	Water/impurities	Yes	A.A.C. R18-2-101.57j
W-5	10,000	Water/impurities	Yes	A.A.C. R18-2-101.57j
Liquid trap	-	Diesel	Yes	A.A.C. R18-2-101.57j

XI. LIST OF ABBREVIATIONS

AAAQG Arizona Ambient Air Quality Guideline
A.A.C. Arizona Administrative Code
ADEQ Arizona Department of Environmental Quality
AQD Air Quality Division
CO Carbon Monoxide
HAP Hazardous Air Pollutant
hr Hour
IC Internal Combustion
lb Pound
MMBtu Million British Thermal Units

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$\mu\text{g}/\text{m}^3$	Microgram per Cubic Meter
NAAQS	National Ambient Air Quality Standard
NO_x	.....	Nitrogen Oxide
NO_2	.....	Nitrogen Dioxide
O_3	.....	Ozone
PM	.....	Particulate Matter
PM_{10}	.....	Particulate Matter Nominally less than 10 Micrometers
PTE	.....	Potential-to-Emit
SO_2	.....	Sulfur Dioxide
TPY	.....	Tons per Year
USEPA	.....	United States Environmental Protection Agency
VOC	.....	Volatile Organic Compound
yr	.....	Year