



Joseph E. Kernan
Governor

Lori F. Kaplan
Commissioner

December 15, 2004

100 North Senate Avenue
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(317) 232-8603
(800) 451-6027
www.in.gov/idem

TO: Interested Parties / Applicant
RE: Liquid Recovery, Inc. / 145-19751-05265
FROM: Paul Dubenetzky
Chief, Permits Branch
Office of Air Quality

Notice of Decision – Approval

Please be advised that on behalf of the Commissioner of the Department of Environmental Management, I have issued a decision regarding the enclosed matter. Pursuant to 326 IAC 2, this approval was effective immediately upon submittal of the application.

If you wish to challenge this decision, IC 4-21.5-3-7 requires that you file a petition for administrative review. This petition may include a request for stay of effectiveness and must be submitted to the Office of Environmental Adjudication, 100 North Senate Avenue, Government Center North, Room 1049, Indianapolis, IN 46204, **within eighteen (18) calendar days from the mailing of this notice**. The filing of a petition for administrative review is complete on the earliest of the following dates that apply to the filing:

- (1) the date the document is delivered to the Office of Environmental Adjudication (OEA);
- (2) the date of the postmark on the envelope containing the document, if the document is mailed to OEA by U.S. mail; or
- (3) The date on which the document is deposited with a private carrier, as shown by receipt issued by the carrier, if the document is sent to the OEA by private carrier.

The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by the decision or otherwise entitled to review by law. Please identify the permit, decision, or other order for which you seek review by permit number, name of the applicant, location, date of this notice and all of the following:

- (1) the name and address of the person making the request;
- (2) the interest of the person making the request;
- (3) identification of any persons represented by the person making the request;
- (4) the reasons, with particularity, for the request;
- (5) the issues, with particularity, proposed for considerations at any hearing; and
- (6) identification of the terms and conditions which, in the judgment of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing documents of the type issued by the Commissioner.

If you have technical questions regarding the enclosed documents, please contact the Office of Air Quality, Permits Branch at (317) 233-0178. Callers from within Indiana may call toll-free at 1-800-451-6027, ext. 3-0178.

Enclosures
FNPER-AM.dot 9/16/03



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
We make Indiana a cleaner, healthier place to live.

Joseph E. Kernan
Governor

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December 15, 2004

Ms. Karen Milligan
Liquid Recovery, Inc.
1190 Hancock Chapel Road NE
New Salisbury, IN 47161

Dear Ms. Milligan:

Re: Exempt Construction and Operation Status,
145-19751-05265

The application for Liquid Recovery, Inc., received on October 18, 2004, has been reviewed. Based on the data provided and the provisions in 326 IAC 2-1.1-3, it has been determined that the following mobile truck-mounted waste solvent recycling unit is classified as exempt from air pollution permit requirements:

One (1) mobile truck-mounted waste solvent recycling unit, with a maximum process weight capacity of 321 pounds of waste solvent per hour, including, but not limited to, waste acetone, toluene, xylenes, methyl ethyl ketone, and methyl isobutyl ketone.

The following condition shall be applicable:

- (1) Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:
 - (a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period unless otherwise specified in 326 IAC 6-1-10.1.
 - (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) in a six (6) hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

This exemption is the first air approval issued to this source.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original signed by

Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

NCB

cc: File - Shelby County
Shelby County Health Department
Air Compliance - DJ Knotts
Permit Tracking
Compliance Data Section - Karen Nowak

**Indiana Department of Environmental Management
Office of Air Quality**

Technical Support Document (TSD) for an Exemption

Source Background and Description

Source Name: Liquid Recovery, Inc.
Source Location: Shelbyville, Indiana 46176
County: Shelby County
SIC Code: 4953 (Sanitary Services, Refuse Systems)
Exemption No.: 145-19751-05265
Permit Reviewer: Nathan C. Bell

The Office of Air Quality (OAQ) has reviewed an application from Liquid Recovery, Inc. relating to the operation of a mobile truck-mounted waste solvent recycling unit.

Emission Unit and Pollution Control Equipment

The application includes information relating to the operation of the following unit:

- (a) One (1) mobile truck-mounted waste solvent recycling unit, with a maximum process weight capacity of 321 pounds of waste solvent per hour, including, but not limited to, waste acetone, toluene, xylenes, methyl ethyl ketone, and methyl isobutyl ketone.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

A complete application for the purposes of this review was received on October 18, 2004. Additional information was provided by email by the source on November 12, 2004, November 30, 2004, and December 8, 2004.

Unless otherwise stated, information used in this review was derived from the application and additional information provided by the applicant.

Emission Calculations

Actual emissions of acetone from the unit was measured by the source in a material balance study on November 15, 2004, with the results provided to IDEM OAQ on November 30, 2004. Results of the study demonstrated that the unit could process 321 pounds of acetone per hour (803 pounds of acetone in 2.5 hours), with actual emissions of 0.25 pounds of acetone per hour (0.625 pounds of acetone in 2.5 hours). Based on these results, the calculated emission factor for this operation is 1.56 lb acetone emitted per ton of acetone processed. This emission factor is in agreement with the emission factor range (0.00024 - 1.42 lb/ton) provided in AP-42 Table 4.7-1 for volatile organic fugitive emissions from solvent reclaiming. Assuming the worst case scenario of 24 hours of operation per day, and 365 days of operation per year, and that acetone has volatility that is representative of the other volatile organic solvents to be processed by the unit, the total potential emission of all volatile organic solvents (represented by X below) is as follows:

$$0.25 \text{ lb X/hr} * 24 \text{ hr/day} * 365 \text{ days/yr} * (1 \text{ ton X}) / (2000 \text{ lb X}) = 1.1 \text{ tons/yr volatile organic solvents}$$

On December 8, 2004, the source informed IDEM OAQ that unit would be used to process waste solvents consisting primarily of waste acetone (mostly), toluene, xylene, and small amounts of methyl ethyl ketone (MEK) and methyl isobutyl ketone (MIBK). For this TSD, it is assumed that the unit will process waste solvents at the following weight percentages: acetone (50%), toluene (20%), xylene (20%), MEK (5%), and MIBK (5%). Using the above PTE for volatile organic solvents and weight percentage, the PTE for each of the waste solvents was calculated as follows:

1.1 tons VOCs/yr * 0.5 tons acetone/ton VOC	=	0.55 tons acetone/yr
1.1 tons VOCs/yr * 0.2 tons toluene/ton VOC	=	0.22 tons toluene/yr
1.1 tons VOCs/yr * 0.2 tons xylenes/ton VOC	=	0.22 tons xylenes/yr
1.1 tons VOCs/yr * 0.05 tons MEK/ton VOC	=	0.055 tons MEK/yr
1.1 tons VOCs/yr * 0.05 tons MIBK/ton VOC	=	0.055 tons MIBK/yr

Since, acetone is not a volatile organic compound (VOC) as defined by 40 CFR 51 Subpart F, Section 51.100, the potential to emit (PTE) VOCs was calculated by adding up the PTE of toluene, xylenes, MEK, and MIBK, as follows:

$$0.22 + 0.22 + 0.055 + 0.055 = \mathbf{0.55 \text{ tons VOC/yr}}$$

Acetone is also not a hazardous air pollutant (HAP) as defined by the Clean Air Act Section 112(b).

Potential To Emit Before Controls

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit (PTE) is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	negligible
PM-10	negligible
SO ₂	negligible
NO _x	negligible
VOC	0.55
CO	negligible

Hazardous Air Pollutants (HAPs)	Potential to Emit (tons/yr)
Toluene	0.22
Xylenes	0.22
MEK	0.055
MIBK	0.055
Worst Single HAP	0.22
Combined HAPs	0.55

- (a) The PTE (as defined in 326 IAC 2-1.1-1(16)) of regulated criteria pollutants are less than the levels listed in 326 IAC 2-1.1-3(e)(1). Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3.
- (b) The PTE (as defined in 326 IAC 2-1.1-1(16)) of any single HAP is less than ten (10) tons per year and the PTE of a combination of HAPs is less than twenty-five (25) tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-1.1-3.

County Attainment Status

The source is portable. The source is currently located in Shelby County. A determination will be made for the worst case county, since this operation wants to be able to operate throughout the state of Indiana. If this were examined for Lake County, it would have the following determination.

Pollutant	Status
PM-10	attainment
SO ₂	primary nonattainment
NO ₂	unclassifiable
1-hour Ozone	severe nonattainment
8-hour Ozone	moderate nonattainment
CO	maintenance attainment
Lead	attainment

- (a) Volatile organic compounds (VOC) and Nitrogen Oxides (NOx) are regulated under the Clean Air Act (CAA) for the purposes of attaining and maintaining the National Ambient Air Quality Standards (NAAQS) for ozone.
 - (1) On January 28, 1996 in 40 CFR 52.777(i), the U.S. EPA granted a waiver of the requirements of Section 182(f) of the CAA for Lake and Porter Counties, including the lower NOx threshold for nonattainment new source review. Therefore, VOC emissions alone are considered when evaluating the rule applicability relating to the 1-hour ozone standard. Lake County has been designated as nonattainment in Indiana for the 1-hour ozone standard. Therefore, VOC emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability for the source section.
 - (2) VOC and NOx emissions are considered when evaluating the rule applicability relating to the 8-hour ozone standard. Lake County has been designated as nonattainment for the 8-hour ozone standard. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for nonattainment new source review.
- (b) Lake County has been classified as attainment in Indiana for PM-10, CO, and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2. See the State Rule Applicability for the source section.
- (c) Lake County has been classified as nonattainment in Indiana for SO₂. Therefore, SO₂ emissions were reviewed pursuant to the requirements for Emission Offset, 326 IAC 2-3. See the State Rule Applicability for the source section.

Portable Source

- (a) Initial Location
This is a portable source and its initial location is Shelbyville, Indiana 46176.
- (b) PSD and Emission Offset Requirements
The emissions from this portable source were reviewed under the requirements of the Prevention of Significant Deterioration (PSD) 326 IAC 2-2 and Emission Offset 326 IAC 2-3.
- (c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed sources under 326 IAC 2-2 or 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

New Source PSD Definition (emissions after thermal oxidation pollution controls, based on 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/yr)
PM	negligible
PM-10	negligible
SO ₂	negligible
NO _x	negligible
VOC	0.55
CO	negligible
Worst Single HAP	0.22
Combined HAPs	0.55

- (a) This new source is not a major PSD stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, the PSD requirements do not apply.
- (b) This source, if located in Lake County, is not a major stationary source of VOCs as defined by 326 IAC 2-3-1(aa), because VOC is not emitted at a rate of 25 tons per year or greater. This source is not a major source of SO₂ as defined by 326 IAC 2-3-1(aa), because SO₂ is not emitted at a rate of 100 tons per year or greater. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the PTE of:

- (a) each criteria pollutant is less than 100 tons per year,
- (b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
- (c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

Federal Rule Applicability

- (a) This source is not subject to the requirements of 40 CFR 60, Subpart Kb (60.110b through 60.117b), 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 (promulgated on October 15, 2003), because this unit does not include storage vessels (as defined by 40 CFR 60.111b) within its process. (Note: the recent revisions to 40 CFR 60, Subpart Kb promulgated on October 15, 2003 are not applicable to this unit, because 326 IAC 12 and 326 IAC 1-1-3 specifically state that the July 1, 2002 version of 40 CFR 60, Subpart Kb are applicable).
- (b) This source is not subject to the following New Source Performance Standards (NSPS), because this source does not "produce" chemicals (solvents) (i.e., manufacture chemicals by predominantly chemical processes), but merely separates chemicals (solvents) from complex mixtures for reuse. In addition, the waste solvents are not chemically changed in the recovery process. Therefore, this source would not fall under the Synthetic Organic Chemicals Manufacturing Industry (SOCMI) category. This source's activities fall under SIC Code 4953 (Sanitary Services, Refuse Systems), rather than the SOCMI industry (SIC Major Group 28). See Applicability Determination Index (ADI) Control Number: 9700112 (Memorandum from Thomas J. Maslany of EPA Region III to Brian J. Tarantino of Merck & Co., Inc., dated June 19, 1997)

- (1) 40 CFR 60, Subpart VV (60.480 through 60.489), Standards of Performance for Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry (326 IAC 12);
 - (2) 40 CFR 60, Subpart III (60.610 through 60.617), Standards of Performance for Volatile Organic Compound (VOC) Emissions From the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Air Oxidation Unit Processes (326 IAC 12);
 - (3) 40 CFR 60, Subpart NNN (60.660 through 60.668), Standards of Performance for Volatile Organic Compound (VOC) Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Distillation Operations (326 IAC 12).
 - (4) 40 CFR 60, Subpart RRR (60.700 through 60.708), Standards of Performance for Volatile Organic Compound Emissions From Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes (326 IAC 12).
- (c) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) included in the permit for this source.
- (d) This source is not subject to the following National Emission Standards for Hazardous Air Pollutants (NESHAPs), because this source is not a major source of HAPs and this source does not "produce" chemicals (solvents) (i.e., manufacture chemicals by predominantly chemical processes), but merely separates chemicals (solvents) from complex mixtures for reuse. In addition, the waste solvents are not chemically changed in the recovery process. Therefore, this source would not fall under the Synthetic Organic Chemicals Manufacturing Industry (SOCMI) category. This source's activities fall under SIC Code 4953 (Sanitary Services, Refuse Systems), rather than the SOCMI industry (SIC Major Group 28). See Applicability Determination Index (ADI) Control Number: 9700112 (Memorandum from Thomas J. Maslany of EPA Region III to Brian J. Tarantino of Merck & Co., Inc., dated June 19, 1997).
- (1) 40 CFR 63 Subpart F (63.100 through 63.107), NESHAPs From the Synthetic Organic Chemical Manufacturing Industry (326 IAC 20-11-1)
 - (2) 40 CFR 63 Subpart G (63.110 through 63.153), NESHAPs From the Synthetic Organic Chemical Manufacturing Industry for Process Vents, Storage Vessels, Transfer Operations, and Wastewater (326 IAC 20-11-1)
 - (3) 40 CFR 63 Subpart H (63.160 through 63.183), NESHAPs: Organic Hazardous Air Pollutants for Equipment Leaks (326 IAC 20-11-1)
 - (4) 40 CFR 63 Subpart I (63.190 through 63.193), NESHAPs: Certain Processes Subject to the Negotiated Regulation for Equipment Leaks (326 IAC 20-12-1)
 - (5) 40 CFR 63, Subpart FFFF (60.2430 through 60.2550), NESHAP for Miscellaneous Organic Chemical Manufacturing (326 IAC 20-12-1).
- (e) This source is not subject to the requirements of 40 CFR 60, Subpart DD (60.680 through 60.698), NESHAP for National Emission Standards for Hazardous Air Pollutants from Off-Site Waste and Recovery Operations, because this source is not a major source of HAPs and the waste solvent recovered by this unit is not considered off-site material. The waste solvent is not an off-site material, because it is produced or generated within each of the plant site boundaries that the mobile unit operates at (40 CFR 60.680(b)(1)(ii)).
- (f) There are no National Emission Standards for Hazardous Air Pollutants (NESHAP)(326 IAC 14, 20 and 40 CFR Part 61, 63) included in the permit for this source.

State Rule Applicability - Entire Source

326 IAC 2-2 (Prevention of Significant Deterioration (PSD))

This source will be constructed after the applicability date of August 7, 1977, however, it is not one of the 28 listed source categories defined in 326 IAC 2-2-1(gg)(1), no major modifications were done to this source, and the uncontrolled potential to emit of all attainment regulated pollutants is less than 250 tons per year. Therefore, the requirements of 326 IAC 2-2 (PSD) are not applicable.

326 IAC 2-3 (Emission Offset)

This source, if located in Lake County, which is classified as severe nonattainment for 1-hour ozone and moderate nonattainment for 8-hour ozone, is not a major source of VOCs as defined by 326 IAC 2-3-1(aa), because VOC is not emitted at a rate of 25 tons per year or greater. This source, which is also classified as primary nonattainment for SO₂, is not a major source of SO₂ as defined by 326 IAC 2-3-1(aa), because SO₂ is not emitted at a rate of 100 tons per year or greater. Therefore, pursuant to 326 IAC 2-3, the Emission Offset requirements do not apply.

326 IAC 2-4.1 (Major Sources of Hazardous Air Pollutants (HAPs))

The requirements of 326 IAC 2-4.1 are not applicable to this source, since the potential to emit of any single HAP is less than ten (10) tons per year and the potential to emit of a combination of HAPs is less than twenty-five (25) tons per year.

326 IAC 2-6 (Emission Reporting)

If this source is located in Lake County and the potential to emit of VOC and NO_x are less than twenty five (25) tons per year, the potential to emit of all other criteria pollutants are less than one hundred (100) tons per year, and the source does not emit lead into the ambient air at levels equal to or greater than five (5) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

This source could be located in the portion of Lake County noted in 326 IAC 5-1-1(c)(4). Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

- (a) Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period unless otherwise specified in 326 IAC 6-1-10.1.
- (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) in a six (6) hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

326 IAC 6-1 (Nonattainment Area Limitations)

The requirements of 326 IAC 6-1 are not applicable to this source, since the source does not have the potential to emit greater than 100 tons per year of particulate matter, or actual emissions of greater than 10 tons per year of particulate matter, is not one of the Lake County sources listed in 326 IAC 6-1-10.1 or 326 IAC 6-1-10.2 or 326 IAC 6-1-11.1(a)(2), and does not have the potential to emit greater than 5 tons per year of fugitive particulate matter into the atmosphere in Lake County.

326 IAC 8-7-2 (Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties)

The potential to emit of VOCs at this source, if located in Lake County, is less than the applicability threshold of 25 tons per year. Therefore, 326 IAC 8-7-2 does not apply.

State Rule Applicability - Individual Facilities

326 IAC 8-1-6 (Volatile Organic Compounds; General Reduction Requirements for New Facilities)

The requirements of 326 IAC 8-1-6 are not applicable, since each of the emission units at this source does not have the potential to emit greater than twenty-five (25) tons of VOCs per year.

326 IAC 8-4-3 (Volatile Organic Compounds; Petroleum Liquid Storage Facilities)

The requirements of 326 IAC 8-4-3 are not applicable, since this unit does not include storage vessels within its process.

326 IAC 8-6 (Volatile Organic Compounds; Organic Solvent Emission Limitations)

The requirements of 326 IAC 8-6 are not applicable, since this source, which did not exist in Lake County prior to January 1, 1980, does not have the potential to emit VOCs at levels equal to or greater than one hundred (100) tons per year.

326 IAC 8-7 (Volatile Organic Compounds; Specific VOC Reduction Requirements for Lake, Porter, Clark, and Floyd Counties)

The requirements of 326 IAC 8-7 are not applicable, since this source, which if located in Lake County and does not include coating facilities, does not have the potential to emit VOCs at levels equal to or greater than twenty-five (25) tons per year.

326 IAC 8-9 (Volatile Organic Compounds; Volatile Organic Liquid Storage Vessels)

The requirements of 326 IAC 8-9 are not applicable, since this unit does not include storage vessels as defined by 326 IAC 8-9-3(9) within its process.

326 IAC 12 (New Source Performance Standards)

Pursuant to 326 IAC 12 and 326 IAC 1-1-3, storage tanks which store organic liquids must be reviewed pursuant to the July 1, 2002 version of 40 CFR Part 60, Subpart Kb (60.110b through 60.117b), 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 (promulgated on July 1, 2002). This source is not subject to the requirements of 326 IAC 12 or 40 CFR 60, Subpart Kb (promulgated on July 1, 2002), because this unit does not include storage vessels (as defined by 40 CFR 60.111b) within its process.

Conclusion

The construction and operation of this mobile truck-mounted waste solvent recycling unit shall be subject to the conditions of the attached proposed Exemption No. 145-19751-05265.