

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - REVISED

PERMITTEE

TRW Automotive U.S. LLC
Attn: Mr. Joseph L. Meszaros
902 South Second Street
Marshall, Illinois 62441

Application No.: 90040104 I.D. No.: 023010AAM
Applicant's Designation: EXSELECT Date Received: March 30, 2005
Subject: Automotive Electronics Manufacturing Plant
Date Issued: February 27, 2008 Expiration Date: October 28, 2009
Location: 902 South Second Street, Marshall, Clark County

Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of 7 coating lines controlled by a regenerative thermal oxidizer (RTO) and an existing catalytic afterburner (as back-up), nine Soldering process lines, and one air stripper as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued:
 - i. To limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 tons per year for VOM, 10 tons/year for a single HAP, and 25 tons per year any combination of such HAPs). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
 - ii. To establish federally enforceable production and operating limitations, which restrict a potential to emit to less than 10 tons/year for any individual Hazardous Air Pollutant (HAP), and 25 tons/year of any combination of such HAPs so that the source is not subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Surface Coating of Miscellaneous Metal Parts and Products, 40 CFR 63 Subpart MMMM.
- b. Prior to initial issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits issued for this location.

- 2a. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 Ill. Adm. Code 212.122, pursuant to 35 Ill. Adm. Code 212.123(a), except as allowed by 35 Ill. Adm. Code 212.123(b) and 212.124.
- b. Pursuant to 35 Ill. Adm. Code 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 Ill. Adm. Code 212.321.
3. Pursuant to 35 Ill. Adm. Code 214.301, no person shall cause or allow the emission of sulfur dioxide into the atmosphere from any process emission source to excess 2000 ppm.
- 4a. Pursuant to 35 Ill. Adm. Code 215.301, no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission source, except as provided in 35 Ill. Adm. Code 215.302, 215.303, 215.304 and the following exception: If no odor nuisance exists the limitation of 35 Ill. Adm. Code 215 Subpart K shall apply only to photochemically reactive material.
- b. Pursuant to 35 Ill. Adm. Code 215.302(a), emissions of organic material in excess of those permitted by 35 Ill. Adm. Code 215.301 are allowable if such emissions are controlled by flame, thermal or catalytic incineration so as either to reduce such emissions to 10 ppm equivalent methane (molecular weight 16) or less, or to convert 85 percent of the hydrocarbons to carbon dioxide and water.
5. This permit is issued based on the source not being subject to the requirements of the National Emission Standard for Hazardous Air Pollutants (NESHAP) for Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources, 40 CFR 63, Subpart HHHHHH because the source is not involved in any of the activities in 40 CFR 63.11169(a) through (c).
- 6a. The regenerative thermal oxidizer shall be the main air pollution control equipment and shall be in operation at all times when the associated coating line(s) are in operation and emitting air contaminants, except during malfunctions, in which case, the existing catalytic afterburner shall be in operation, controlling emissions from the associated coating line(s).
- b. The regenerative thermal oxidizer combustion chamber shall be preheated to at least the manufacturer's recommended temperature but no less than the temperature at which it was operating during the most recent stack

test, or 1400°F in the absence of a compliance test. This temperature shall be maintained during operation.

- c. The catalytic oxidizer shall be operated such that the temperature before the catalytic bed shall not be below the average temperature immediately before the catalytic bed measured during the most recent stack test that demonstrated that the operation was in compliance.
- d. The Permanent Total Enclosures (PTE) shall be maintained as they were during the most recent stack test. The modification of a Permanent Total Enclosure requires that the Permittee first obtain a construction permit from the Illinois EPA and then perform stack testing to verify compliance with all applicable requirements.
- e. Subject to the following terms and conditions, the Permittee is authorized to continue operation of the coating lines in violation of the applicable requirements of 35 Ill. Adm. Code 215.301 and 215.302(a) in the event of a malfunction or breakdown of the coating lines, including the regenerative thermal oxidizer and/or the back-up catalytic oxidizer. This authorization is provided pursuant to 35 Ill. Adm. Code 201.149, 201.161 and 201.262, as the Permittee has applied for such authorization in its application, generally explaining why such continued operation would be required to provide essential service or to prevent injury to personnel or severe damage to equipment, and describing the measures that will be taken to minimize emissions from any malfunctions and breakdowns.
 - i. This authorization only allows such continued operation as necessary to provide essential service or to prevent injury to personnel or severe damage to equipment and does not extend to continued operation solely for the economic benefit of the Permittee.
 - ii. Upon occurrence of excess emissions due to malfunction or breakdown, the Permittee shall as soon as practicable reduce load of the coating lines, repair the regenerative thermal oxidizer or back-up catalytic oxidizer, remove the coating lines from service or undertake other action so that excess emissions cease.
 - iii. The Permittee shall fulfill applicable recordkeeping and reporting requirements of Conditions 14(a)(ii) and 15. For these purposes, time shall be measured from the start of a particular incident. The absence of excess emissions for a short period shall not be considered to end the incident if excess emissions resume. In such circumstances, the incident shall be considered to continue until corrective actions are taken so that excess emissions cease or the Permittee takes the coating lines out of service.
 - iv. Following notification to the Illinois EPA of a malfunction or breakdown with excess emissions, the Permittee shall comply with

all reasonable directives of the Illinois EPA with respect to such incident, pursuant to 35 Ill. Adm. Code 201.263.

- v. This authorization does not relieve the Permittee from the continuing obligation to minimize excess emissions during malfunction or breakdown. As provided by 35 Ill. Adm. Code 201.265, an authorization in a permit for continued operation with excess emissions during malfunction and breakdown does not shield the Permittee from enforcement for any such violation and only constitutes a prima facie defense to such an enforcement action provided that the Permittee has fully complied with all terms and conditions connected with such authorization.
- f. In the event that the operation of this source results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the odor nuisance.
- g. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the regenerative thermal oxidizer and back-up catalytic oxidizer such that the pollution control equipment be kept in proper working condition and not cause a violation of the Illinois Environmental Protection Act or regulations promulgated therein.
- 7a. Emissions and operation of all seven coating lines, including conformal coating tank-flex 13, and all clean-up operations, controlled by the regenerative thermal oxidizer or the back-up catalytic afterburner shall not exceed the following limits:

<u>Raw Material</u>	<u>VOM Usage</u>		<u>Control</u>	<u>VOM Emissions</u>	
	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>	<u>Efficiency (Wt. %)</u>	<u>(Tons/Mo)</u>	<u>(Tons/Yr)</u>
Coating	6.0	60	95	0.3	3.0
Toluene	8.8	88	95	0.44	4.4

These limits are based on the maximum production rate and assumption that 100% of VOM in the raw materials are evaporated and an overall control efficiency of 95% for the regenerative thermal oxidizer, demonstrated by the most recent stack test, to comply with 35 Ill. Adm. Code 215.302(a). Note that there is a "nested" limit on the emissions of the combination of HAPs as a result of the limit on VOM emissions. The HAPs emitted at this source have been determined to be VOMs and therefore limiting VOM emissions also limits HAP emissions.

- b. This permit is issued based on negligible emissions of VOM from all soldering operations. For this purpose, emissions from all such emission units shall not exceed nominal rates of 0.1 lb/hour and 0.44 tons/year.

- c. This permit is issued based on negligible emission of volatile organic materials (VOM) from the air stripper. For this purpose, emissions shall not exceed nominal emission rate of 0.1 lb/hour and 0.44 tons/year. Emissions from the air stripper shall be calculated as follows:

$$\begin{array}{l}
 \text{VOM Emissions} \\
 \text{(Tons)}
 \end{array}
 =
 \left[
 \begin{array}{l}
 \text{Measured BTEX} \\
 \text{Concentration of} \\
 \text{water in fluent} \\
 \text{to air stripper (mg / L)} \times 7 \text{ (voc / btx)} \times 3.74 \text{ (L / gal)} \times \text{(gal / min)} \times 2.21 \text{ lb / Kg} \times 60 \text{ min / hr}
 \end{array}
 \right]
 \times
 \begin{array}{l}
 \text{Hours} \\
 \text{Operated}
 \end{array}$$

- d. This permit is issued based on negligible emissions of particulate matter from each of the seven coating lines. For this purpose, emissions from each line shall not exceed nominal emission rates of 0.1 lbs/hour and 0.44 tons/year.
- 8. Compliance with the annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus the preceding 11 months (running 12 month total).
- 9a. Pursuant to 35 Ill. Adm. Code 201.282, every emission source or air pollution control equipment shall be subject to the following testing requirements for the purpose of determining the nature and quantities of specified air contaminant emissions and for the purpose of determining ground level and ambient air concentrations of such air contaminants:
 - i. Testing by Owner or Operator. The Illinois EPA may require the owner or operator of the emission source or air pollution control equipment to conduct such tests in accordance with procedures adopted by the Illinois EPA, at such reasonable times as may be specified by the Illinois EPA and at the expense of the owner or operator of the emission source or air pollution control equipment. The Illinois EPA may adopt procedures detailing methods of testing and formats for reporting results of testing. Such procedures and revisions thereto, shall not become effective until filed with the Secretary of State, as required by the APA Act. All such tests shall be made by or under the direction of a person qualified by training and/or experience in the field of air pollution testing. The Illinois EPA shall have the right to observe all aspects of such tests.
 - ii. Testing by the Illinois EPA. The Illinois EPA shall have the right to conduct such tests at any time at its own expense. Upon request of the Illinois EPA, the owner or operator of the emission source or air pollution control equipment shall provide, without charge to the Illinois EPA, necessary holes in stacks or ducts and other safe and proper testing facilities, including scaffolding, but excluding instruments and sensing devices, as may be necessary.

- b. Testing required by Condition 10 shall be performed upon a written request from the Illinois EPA by a qualified independent testing service.
- 10a Pursuant to 35 Ill. Adm. Code 212.107, for both fugitive and nonfugitive particulate matter emissions, a determination as to the presence or absence of visible emissions from emission units shall be conducted in accordance with Method 22, 40 CFR part 60, Appendix A, except that the length of the observing period shall be at the discretion of the observer, but not less than one minute. 35 Ill. Adm. Code 212 Subpart A shall not apply to 35 Ill. Adm. Code 212.301.
- b. Pursuant to 35 Ill. Adm. Code 212.109, except as otherwise provided in 35 Ill. Adm. Code Part 212, and except for the methods of data reduction when applied to 35 Ill. Adm. Code 212.122 and 212.123, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR Part 60, Appendix A, and the procedures in 40 CFR 60.675(c) and (d), if applicable, except that for roadways and parking areas the number of readings required for each vehicle pass will be three taken at 5-second intervals. The first reading shall be at the point of maximum opacity and second and third readings shall be made at the same point, the observer standing at right angles to the plume at least 15 feet away from the plume and observing 4 feet above the surface of the roadway or parking area. After four vehicles have passed, the 12 readings will be averaged.
 - c. Pursuant to 35 Ill. Adm. Code 212.110(a), measurement of particulate matter emissions from stationary emission units subject to 35 Ill. Adm. Code Part 212 shall be conducted in accordance with 40 CFR part 60, Appendix A, Methods 5, 5A, 5D, or 5E.
 - d. Pursuant to 35 Ill. Adm. Code 212.110(b), the volumetric flow rate and gas velocity shall be determined in accordance with 40 CFR part 60, Appendix A, Methods 1, 1A, 2, 2A, 2C, 2D, 3, and 4.
 - e. Pursuant to 35 Ill. Adm. Code 212.110(c), upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA.
- 11a. The regenerative thermal oxidizer shall be equipped with a continuous temperature indicator and strip chart recorder or disk storage which is installed, calibrated, maintained, and operated according to vendor specifications at all times that the oxidizer is in use. This device shall monitor the oxidizer combustion chamber temperature.

- b. The catalytic oxidizer shall be equipped with applicable continuous monitoring equipment that will measure the temperature rise across each catalytic oxidizer bed. It shall be installed, calibrated, maintained and operated according to vendor specifications at all times when the oxidizer is in use.
 - c. The Permittee shall perform weekly checks of the Permanent Total Enclosure to assure that it is functioning properly.
12. Pursuant to 40 CFR 63.10(b)(3), if an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f) of the Clean Air Act, and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under 40 CFR Part 63) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the USEPA and/or Illinois EPA to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of 40 CFR Part 63 for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with USEPA guidance materials published to assist sources in making applicability determinations under Section 112 of the Clean Air Act, if any. The requirements to determine applicability of a standard under 40 CFR 63.1(b)(3) and to record the results of that determination under 40 CFR 63.10(b)(3) shall not by themselves create an obligation for the owner or operator to obtain a Title V permit.
13. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.
- 14a. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions of this permit:
- i. Records addressing use of good operating practices for the regenerative thermal oxidizer and the catalytic oxidizer:

- A. Records for periodic inspection of the regenerative thermal oxidizer, the catalytic oxidizer, and the Permanent Total Enclosures with date, individual performing the inspection, and nature of inspection; and
 - B. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
 - C. Thermal Oxidizer and Catalytic Afterburner monitoring device records, with documentation of all 3-hour periods (during coating operations) during which the average combustion temperature was more than 28°C (50°F) below the average combustion temperature during the most recent performance test that demonstrated compliance.
 - D. A log of operating time for the control devices, monitoring devices, and the associated production line; and
 - E. A maintenance log for the control and monitoring devices and the Permanent Total Enclosures detailing all routine and non-routine maintenance performed, including dates and duration of any outages.
- ii. The Permittee shall maintain records of excess emissions during malfunctions and breakdowns. At a minimum, these records shall include:
- A. Date and duration of malfunction or breakdown;
 - B. A full and detailed explanation of the cause for such emissions;
 - C. The contaminants emitted and an estimate of the quantity of emissions;
 - D. The measures used to reduce the quantity of emissions and the duration of the occurrence; and
 - E. The steps taken to prevent similar malfunctions or breakdowns or reduce their frequency and severity.
- iii. Total BTEX concentrations (mg/L) in the influent water to the air stripper at start-up, once per week for first month after start-up, and then quarterly thereafter;
- iv. Influent water flow rate (gpm) to the air stripper at start-up, once per week for first month after start-up, and then quarterly thereafter;
- v. Hours of operation for the air stripper (hours/month and hours/year);

- vi. Measured exhaust total contaminant concentration (ppmv) in exhaust air flow samples of the Air Stripper. These samples and measurements shall be taken at start-up, twice/day for first 3 days, and once/month thereafter;
 - vii. Exhaust air flow rate (dscfm) of the Air Stripper at start-up, twice/day for first 3 days, and once/month thereafter
 - viii. The name and identification number of each coating and solvent used;
 - ix. The usage (gallon/month), density (lb/gallon), VOM and HAP content (weight percent or lb/gallon) of each coating and solvent, including clean-up; and
 - x. Monthly and annual PM, VOM and HAP emissions with supporting calculations, (tons/month, tons/year).
- b. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to the Illinois EPA or USEPA request for records during the course of a source inspection.
- 15a. Pursuant to 35 Ill. Adm. Code 201.263, any person who causes or allows the continued operation of an emission source during a malfunction or breakdown of the emission source or related air pollution control equipment when such continued operation would cause a violation of the applicable standards or limitations shall immediately report such incident to the Illinois EPA by telephone, telegraph or such other method as constitutes the fastest available alternative. Thereafter, any such person shall comply with all reasonable directives of the Illinois EPA with respect to the incident. In addition, any person subject to this 35 Ill. Adm. Code 201 Subpart I shall maintain such records and make such reports as may be required in procedures adopted by the Illinois EPA pursuant to 35 Ill. Adm. Code 201 Subpart K.
- b. The Permittee shall provide the following notification and reports to the Illinois EPA, Compliance Section and Regional Field Office, concerning continued operation of the affected coating line(s) during malfunction or breakdown of the regenerative thermal oxidizer and catalytic oxidizer with excess emissions:
- i. The Permittee shall notify the Illinois EPA's regional office by telephone as soon as possible during normal working hours, but no later than three (3) days, upon the occurrence of noncompliance due to malfunction, or breakdown.

- ii. Upon conclusion of the incident, the Permittee shall give a written follow-up notice to the Illinois EPA, Compliance Section and Regional Field Office, providing a detailed explanation of the event, an explanation why continued operation of the affected coating line(s) was necessary, the length of time during which operation continued under such conditions, the measures taken by the Permittee to minimize and correct deficiencies with chronology, and when the repairs were completed or when the affected coating line(s) was taken out of service.
16. Pursuant to 35 Ill. Adm. Code 212.110(d), a person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used.
17. If there is an exceedance of or a deviation from the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance or deviation. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedances or deviation and efforts to reduce emissions and future occurrences.
18. Two (2) copies of required reports and notifications shall be sent to:
- Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276
- and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:
- Illinois Environmental Protection Agency
Division of Air Pollution Control
2009 Mall Street
Collinsville, Illinois 62234
- 19a. The issuance of this permit does not relieve the Permittee of the responsibility of complying with the applicable provisions of the State of Illinois Rules and Regulations, Title 35: Subtitle C, Water Pollution Control, Chapter 1. The Permittee may need to obtain a permit from the Division of Water Pollution Control for operation of the wastewater and discharge tributary from the Air Stripper.
- b. The issuance of this permit does not relieve the Permittee from compliance with the applicable portions of 35 Ill. Adm. Code Part 731

Underground Storage Tanks or the permit requirements of Section 21 and 39 of the Environmental Protection Act with respect to a waste management operation, nor does it constitute a release from further responsibility for preventive or corrective action as defined under Section 4(y) of the Environmental Protection Act. Pursuant to 35 Ill. Adm. Code Part 731, approval may be required from the Bureau of Land - Leaking Underground Storage Tank Section (217/782-6762) for operation of the Air Stripper.

It should be noted that this permit has been revised so as to incorporate the operation of the equipment described in Construction permits 04090029 and 05040055.

If you have any questions on this, please call Randy Solomon at 217/782-2113.

Edwin C. Bakowski, P.E.
Acting Manager, Permit Section
Division of Air Pollution Control

Date Signed: _____

ECB:RBS:jws

cc: Illinois EPA, FOS Region 3
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from the Automotive Electronics Manufacturing Plant, operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant. This is handling 88 tons of Toluene and 148 tons of VOM per year. The resulting maximum emissions are below the levels (e.g., less than 100 tons/year of volatile organic material (VOM), 25 tons/year of combined HAPs, and 10 tons/year of each single HAP) at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

<u>Emission Unit</u>	E M I S S I O N S (Tons/Year)						Single <u>HAP</u>	Total <u>HAPs</u>
	<u>CO</u>	<u>NOx</u>	<u>PM</u>	<u>SO₂</u>	<u>VOM</u>			
7 Coating Lines with RTO/back-up Cat-Ox Nine Soldering Process Lines					7.4		7.4	7.4
One Air Stripper					0.44			
Totals					<u>8.3</u>		<u>7.4</u>	<u>7.4</u>

RBS:jws