

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S)**A. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Unique 55 casting line, a continuous battery electrode film caster with thermal oxidizer	OAC rule 3745-31-05	LIMIT(s): OC: 4.34 lbs/hr; 19 tpy; See A.2.a. Compliance with Air Toxic Policy
	OAC rule 3745-21-07 (G)(2)	Exempt from emission limits from the rule. See B.3 & B.4

2. Additional Terms and Conditions

- 2.a OC emissions shall be controlled by a thermal oxidizer. The overall control efficiency shall be a minimum of 95% by weight.

B. Operational Restrictions

1. The thermal oxidizer control system shall be operated at all times that this emissions unit is operating.
2. The average temperature of the exhaust gases from the thermal incinerator, for any 3-hour block of time, shall not be more than 50 degrees Fahrenheit below the average temperature during the initial emission test that demonstrated the emissions unit was in compliance.
3. The use of photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(5), in this emissions unit is prohibited.

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4. Prior to employing any photochemically reactive materials, the permittee shall provide written notification to, and obtain approval from, the Ohio EPA field office. Such notification shall include information sufficient to determine that the emissions associated with the proposed change in materials will comply with the emission limits and/or control requirements as defined in OAC 3745-21-07(G)(2). This notification, at a minimum, shall include the company identification of the new material to be employed, the solvent composition of the material, and the maximum amount to be used, in pounds per hour.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
2. The permittee shall collect and record the following information for each day:
 - a. All 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the initial emission test that demonstrated the emissions unit was in compliance.
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
3. The permittee shall collect and record the following information for the purpose of determining the hourly and annual OC (acetone) emission rate of this emissions unit:
 - a. the company identification for each coating material employed;
 - b. the monthly lithium polymer battery electrode production, in pounds;
 - c. the daily amount of acetone employed, in pounds;
 - d. the hours of operation of the continuous caster on a daily basis; and

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- e. the average OC emission rate for the coating material, i.e., (c)/(d), in lbs/hr. The controlled OC emission rate shall be calculated using the overall control efficiency of the thermal oxidizer as stated by the manufacturer or determined by the initial compliance test.
4. The permittee shall collect and record the following information for each change where the air toxic modeling was required pursuant to the Air Toxic Policy:
 - a. background data that describes the parameters changed (composition of materials, new pollutions, etc.); and
 - b. a copy of the resulting computer model runs that show the results of the application of the Air Toxic Policy for the change.
 5. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings, if a strip-chart recorder is employed, for continuous monitoring instrumentation, and copies of all reports required by the permit. Such records may be maintained in computerized form.

D. Reporting Requirements

1. The permittee shall submit deviation (excursion) reports which identify all 3-hour blocks of time during which the average combustion temperature within the thermal incinerator does not comply with the temperature limitation specified above.
2. The permittee shall submit required reports in the following manner:
 - a. Reports of any required monitoring and/or recordkeeping information shall be submitted to the appropriate Ohio EPA District Office or local air agency.
 - b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursion) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly,

i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions reported in accordance with OAC rule 3745-15-06.)

E. Testing Requirements

1. Emission Limitation: 4.34 lbs/hr of OC
Applicable Compliance Method: Compliance shall be determined by emission testing as specified in section E.3 and recordkeeping specified in section C.1.
2. Emission Limitation: 19 tons of OC per year
Applicable Compliance Method: Compliance shall be determined by multiplying the average hourly emission rate in pounds per ton of lithium polymer battery electrode production from the initial compliance test by the annual 12-month production summation and dividing by 2,000 lbs/ton.
- 3.a The permittee shall conduct, or have conducted, emission testing to demonstrate compliance with the control efficiency for OC as well as compliance with the allowable mass emission rate for OC. The emission testing shall be conducted within 3 months of start up of the emissions unit.
- 3.b Compliance with the control efficiency and the allowable mass emission rate for OC shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 18, Method 25 or 25A.
- 3.c Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the test(s).

Personnel from the appropriate Ohio EPA District Office or local air agency shall be permitted to witness the test(s), examine the testing equipment, and acquire data and information necessary to ensure that the operation of the emissions unit and the testing procedures provide a valid characterization of the emissions from the emissions unit and/or the performance of the control equipment.

A comprehensive written report on the results of the emission test(s) shall be signed by the person or persons responsible for the tests and submitted to the appropriate Ohio EPA District Office or local air agency within 30 days following completion of the test(s).

F. Miscellaneous Requirements

1. Air Toxic Policy Clarifying Language

This permit allows the use of materials specified by the permittee in the permit to install application for this emissions unit. To fulfill the best available technology requirements of (OAC) rule 3745-31-05 and to ensure compliance with OAC rule 3745-15-07 (Air Pollution Nuisances Prohibited), the emission limitation specified in this permit was established using the Ohio EPA's "Air Toxic Policy" and is based on both the materials used and the design parameters of the emissions unit's exhaust system, as specified in the application. The Ohio EPA's "Air Toxic Policy" was applied for each pollutant using the SCREEN 3.0 model and comparing the predicted 1-hour maximum ground-Level Concentration (MAGLC). The following summarizes the results of the modeling for each pollutant:

Pollutant: Acetone

TLV (ug/m3): 1,780,000

Maximum Hourly Emission Rate (lbs/hr): 14.54

Predicted 1-Hour Maximum Ground-Level
Concentration (ug/m3): 801.4

MAGLC (ug/m3): 42,381

OAC Chapter 3745-31 requires permittees to apply for and obtain a new or modified permit to install prior to making a "modification" as defined by the OAC rule 3745-31-01. The permittee is hereby advised that the following changes to the process may be determined to be a "modification":

- a. changes in the composition of the materials used (i.e. coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value specified in the above tables;
- b. changes to the emissions unit or its exhaust parameters (e.g., increased emission rate [not including an increase in an "allowable emission limitation specified in terms and conditions of this permit], reduced exhaust gas flow rate, and decreased stack height);
- c. changes in the composition of the materials, or use of new materials, that would result in the emission of an air contaminant not previously permitted; and
- d. changes in the composition of the materials, or use of new materials, that would result in an

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increase in emissions of any pollutant that has a listed TLV.

The Ohio EPA will not consider any of the above-mentioned as a "modification" requiring a permit to install, if the following conditions are met:

- a. the change is not otherwise considered a "modification" under OAC Chapter 3745-31;
- b. the permittee can continue to comply with the allowable emission limitations specified in its permit to install; and
- c. prior to the change, the applicant conducts an evaluation pursuant to the Air Toxic Policy, determines that the changed emissions unit still satisfies the Air Toxic Policy, and the permittee maintains documentation that identifies the change and the results of the application of the Air Toxic Policy for the change.

For any change to the emissions unit or its method of operation that either would require an increase in the emission limitation(s) established by this permit or would otherwise be considered a "modification" as defined in OAC rule 3745-31-01, the permittee shall obtain a final permit to install to the change.

PART II - SPECIAL TERMS AND CONDITIONS FOR SPECIFIC EMISSIONS UNIT(S) [Continued]**A. 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.

<u>Operations, Property, and/or Equipment</u>	<u>Applicable Rules/Requirements</u>	<u>Applicable Emissions Limitations/Control Measures</u>
Hirano casting line, a continuous battery electrode film caster with thermal oxidizer	OAC rule 3745-31-05	Limit(s): OC: 10.20 lbs/hr; 45 tpy; See A.2.a. Compliance with Air Toxic Policy
	OAC rule 3745-21-07 (G)(2)	Exempt from emission limits from the rule. See B.3 & B.4

2. Additional Terms and Conditions

- 2.a OC emissions shall be controlled by a thermal oxidizer. The overall control efficiency shall be a minimum of 95% by weight.

B. Operational Restrictions

1. The thermal oxidizer control system shall be operated at all times that this emissions unit is operating.
2. The average temperature of the exhaust gases from the thermal incinerator, for any 3-hour block of time, shall not be more than 50 degrees Fahrenheit below the average temperature during the initial emission test that demonstrated the emissions unit was in compliance.
3. The use of photochemically reactive materials, as defined in OAC rule 3745-21-01(C)(5), in this emissions unit is prohibited.

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4. Prior to employing any photochemically reactive materials, the permittee shall provide written notification to, and obtain approval from, the Ohio EPA field office. Such notification shall include information sufficient to determine that the emissions associated with the proposed change in materials will comply with the emission limits and/or control requirements as defined in OAC 3745-21-07(G)(2). This notification, at a minimum, shall include the company identification of the new material to be employed, the solvent composition of the material, and the maximum amount to be used, in pounds per hour.

C. Monitoring and/or Recordkeeping Requirements

1. The permittee shall operate and maintain a continuous temperature monitor and recorder which measures and records the combustion temperature within the thermal incinerator when the emissions unit is in operation. Units shall be in degrees Fahrenheit. The monitoring and recording devices shall be capable of accurately measuring the desired parameter. The temperature monitor and recorder shall be installed, calibrated, operated and maintained in accordance with the manufacturer's recommendations, with any modifications deemed necessary by the permittee.
2. The permittee shall collect and record the following information for each day:
 - a. All 3-hour blocks of time during which the average combustion temperature within the thermal incinerator, when the emissions unit was in operation, was more than 50 degrees Fahrenheit below the average temperature during the initial emission test that demonstrated the emissions unit was in compliance.
 - b. A log of the downtime for the capture (collection) system, control device, and monitoring equipment, when the associated emissions unit was in operation.
3. The permittee shall collect and record the following information for the purpose of determining the hourly and annual OC (acetone) emission rate of this emissions unit:
 - a. the company identification for each coating material employed;
 - b. the monthly lithium polymer battery electrode production, in pounds;
 - c. the daily amount of acetone employed, in pounds;
 - d. the hours of operation of the continuous caster on a daily basis; and
 - e. the average OC emission rate for the coating material, i.e., (c)/(d), in lbs/hr. The controlled OC emission rate shall be calculated using the overall control efficiency of the thermal oxidizer as

stated by the manufacturer or determined by the initial compliance test.

4. The permittee shall collect and record the following information for each change where the air toxic modeling was required pursuant to the Air Toxic Policy:
 - a. background data that describes the parameters changed (composition of materials, new pollutions, etc.); and
 - b. a copy of the resulting computer model runs that show the results of the application of the Air Toxic Policy for the change.
5. Each record of any monitoring data, testing data, and support information required pursuant to this permit shall be retained for a period of five years from the date the record was created. Support information shall include, but not be limited to, all calibration and maintenance records and all original strip-chart recordings, if a strip-chart recorder is employed, for continuous monitoring instrumentation, and copies of all reports required by the permit. Such records may be maintained in computerized form.

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 - b. Except as otherwise may be provided in the terms and conditions for a specific emissions unit, quarterly written reports of (a) any deviations (excursion) from emission limitations, operational restrictions, and control device operating parameter limitations that have been detected by the testing, monitoring, and recordkeeping requirements specified in this permit, (b) the probable cause of such deviations, and (c) any corrective actions or preventive measures which have been or will be taken, shall be submitted to the appropriate Ohio EPA District Office or local air agency. If no deviations occurred during a calendar quarter, the permittee shall submit a quarterly report, which states that no deviations occurred during that quarter. The reports shall be submitted quarterly, i.e., by January 31, April 30, July 31, and October 31 of each year and shall cover the previous calendar quarters. (These quarterly reports shall exclude deviations resulting from malfunctions

reported in accordance with OAC rule 3745-15-06.)

E. Testing Requirements

1. Emission Limitation: 10.20 lbs/hr of OC
Applicable Compliance Method: Compliance shall be determined by emission testing as specified in section E.3 and recordkeeping specified in section C.1.
2. Emission Limitation: 45 tons of OC per year
Applicable Compliance Method: Compliance shall be determined by multiplying the average hourly emission rate in pounds per ton of lithium polymer battery electrode production from the initial compliance test by the annual 12-month production summation and dividing by 2,000 lbs/ton.
- 3.a The permittee shall conduct, or have conducted, emission testing to demonstrate compliance with the control efficiency for OC as well as compliance with the allowable mass emissions rate for OC. The emission testing shall be conducted within 3 months of start up of the emissions unit.
- 3.b Compliance with the control efficiency and the allowable mass emissions rate for OC shall be determined in accordance with 40 CFR Part 60, Appendix A, Method 18, Method 25 or 25A.
- 3.c Not later than 30 days prior to the proposed test date(s), the permittee shall submit an "Intent to Test" notification to the appropriate Ohio EPA District Office or local agency. The "Intent to Test" notification shall describe in detail the proposed test methods and procedures, the emissions unit operating parameters, the time(s) and date(s) of the test(s), and the person(s) who will be conducting the test(s). Failure to submit such notification for review and approval prior to the test(s) may result in the Ohio EPA District Office's or local air agency's refusal to accept the results of the test(s).

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F. Miscellaneous Requirements

1. Air Toxic Policy Clarifying Language

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- a. changes in the composition of the materials used (i.e. coatings or cleanup materials), or the use of new materials, that would result in the emission of a compound with a lower Threshold Limit Value (TLV), as indicated in the most recent version of the handbook entitled "American Conference of Governmental Industrial Hygienists (ACGIH)," than the lowest TLV value specified in the above tables;
- b. changes to the emissions unit or its exhaust parameters (e.g., increased emission rate [not including an increase in an "allowable emission limitation specified in terms and conditions of this permit], reduced exhaust gas flow rate, and decreased stack height);
- c. changes in the composition of the materials, or use of new materials, that would result in the emission of an air contaminant not previously permitted; and
- d. changes in the composition of the materials, or use of new materials, that would result in an increase in emissions of any pollutant that has a listed TLV.

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- a. the change is not otherwise considered a "modification" under OAC Chapter 3745-31;
- b. the permittee can continue to comply with the allowable emission limitations specified in its permit to install; and
- c. prior to the change, the applicant conducts an evaluation pursuant to the Air Toxic Policy, determines that the changed emissions unit still satisfies the Air Toxic Policy, and the permittee maintains documentation that identifies the change and the results of the application of the Air Toxic Policy for the change.

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