

**MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
AIR QUALITY DIVISION**

June 23, 2023
REVISED September 13, 2023

PERMIT TO INSTALL
79-23

ISSUED TO
Natron Energy, Inc.

LOCATED AT
70 West 48th Street
Holland, Michigan 49423

IN THE COUNTY OF
Allegan

STATE REGISTRATION NUMBER
P1361

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environment, Great Lakes, and Energy. This permit is hereby issued in accordance with and subject to Section 5505(1) of Article II, Chapter I, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. Pursuant to Air Pollution Control Rule 336.1201(1), this permit constitutes the permittee's authority to install the identified emission unit(s) in accordance with all administrative rules of the Department and the attached conditions. Operation of the emission unit(s) identified in this Permit to Install is allowed pursuant to Rule 336.1201(6).

DATE OF RECEIPT OF ALL INFORMATION REQUIRED BY RULE 203: June 15, 2023	
DATE PERMIT TO INSTALL APPROVED: June 23, 2023	SIGNATURE:
DATE PERMIT VOIDED:	SIGNATURE:
DATE PERMIT REVOKED:	SIGNATURE:

PERMIT TO INSTALL

Table of Contents

COMMON ACRONYMS	2
POLLUTANT / MEASUREMENT ABBREVIATIONS.....	3
GENERAL CONDITIONS	4
EMISSION UNIT SPECIAL CONDITIONS.....	6
EMISSION UNIT SUMMARY TABLE	6
EUCALENDARING	7
EUASSEMBLY.....	9
EUELECTROLYTE	11
EUFORMATION	13
EUINK.....	15
EUCLEANUP	17
FLEXIBLE GROUP SPECIAL CONDITIONS.....	19
FLEXIBLE GROUP SUMMARY TABLE	19
FGDRYMATERIAL.....	20
FGRTO	23

COMMON ACRONYMS

AQD	Air Quality Division
BACT	Best Available Control Technology
CAA	Clean Air Act
CAM	Compliance Assurance Monitoring
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
COMS	Continuous Opacity Monitoring System
Department/department/EGLE	Michigan Department of Environment, Great Lakes, and Energy
EU	Emission Unit
FG	Flexible Group
GACS	Gallons of Applied Coating Solids
GC	General Condition
GHGs	Greenhouse Gases
HVLP	High Volume Low Pressure*
ID	Identification
IRSL	Initial Risk Screening Level
ITSL	Initial Threshold Screening Level
LAER	Lowest Achievable Emission Rate
MACT	Maximum Achievable Control Technology
MAERS	Michigan Air Emissions Reporting System
MAP	Malfunction Abatement Plan
MSDS	Material Safety Data Sheet
NA	Not Applicable
NAAQS	National Ambient Air Quality Standards
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
PS	Performance Specification
PSD	Prevention of Significant Deterioration
PTE	Permanent Total Enclosure
PTI	Permit to Install
RACT	Reasonable Available Control Technology
ROP	Renewable Operating Permit
SC	Special Condition
SCR	Selective Catalytic Reduction
SNCR	Selective Non-Catalytic Reduction
SRN	State Registration Number
TBD	To Be Determined
TEQ	Toxicity Equivalence Quotient
USEPA/EPA	United States Environmental Protection Agency
VE	Visible Emissions

*For HVLP applicators, the pressure measured at the gun air cap shall not exceed 10 psig.

POLLUTANT / MEASUREMENT ABBREVIATIONS

acfm	Actual cubic feet per minute
BTU	British Thermal Unit
°C	Degrees Celsius
CO	Carbon Monoxide
CO ₂ e	Carbon Dioxide Equivalent
dscf	Dry standard cubic foot
dscm	Dry standard cubic meter
°F	Degrees Fahrenheit
gr	Grains
HAP	Hazardous Air Pollutant
Hg	Mercury
hr	Hour
HP	Horsepower
H ₂ S	Hydrogen Sulfide
kW	Kilowatt
lb	Pound
m	Meter
mg	Milligram
mm	Millimeter
MM	Million
MW	Megawatts
NMOC	Non-Methane Organic Compounds
NO _x	Oxides of Nitrogen
ng	Nanogram
PM	Particulate Matter
PM10	Particulate Matter equal to or less than 10 microns in diameter
PM2.5	Particulate Matter equal to or less than 2.5 microns in diameter
pph	Pounds per hour
ppm	Parts per million
ppmv	Parts per million by volume
ppmw	Parts per million by weight
psia	Pounds per square inch absolute
psig	Pounds per square inch gauge
scf	Standard cubic feet
sec	Seconds
SO ₂	Sulfur Dioxide
TAC	Toxic Air Contaminant
Temp	Temperature
THC	Total Hydrocarbons
tpy	Tons per year
µg	Microgram
µm	Micrometer or Micron
VOC	Volatile Organic Compounds
yr	Year

GENERAL CONDITIONS

1. The process or process equipment covered by this permit shall not be reconstructed, relocated, or modified, unless a Permit to Install authorizing such action is issued by the Department, except to the extent such action is exempt from the Permit to Install requirements by any applicable rule. **(R 336.1201(1))**
2. If the installation, construction, reconstruction, relocation, or modification of the equipment for which this permit has been approved has not commenced within 18 months, or has been interrupted for 18 months, this permit shall become void unless otherwise authorized by the Department. Furthermore, the permittee or the designated authorized agent shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy, P.O. Box 30260, Lansing, Michigan 48909-7760, if it is decided not to pursue the installation, construction, reconstruction, relocation, or modification of the equipment allowed by this Permit to Install. **(R 336.1201(4))**
3. If this Permit to Install is issued for a process or process equipment located at a stationary source that is not subject to the Renewable Operating Permit program requirements pursuant to Rule 210 (R 336.1210), operation of the process or process equipment is allowed by this permit if the equipment performs in accordance with the terms and conditions of this Permit to Install. **(R 336.1201(6)(b))**
4. The Department may, after notice and opportunity for a hearing, revoke this Permit to Install if evidence indicates the process or process equipment is not performing in accordance with the terms and conditions of this permit or is violating the Department's rules or the Clean Air Act. **(R 336.1201(8), Section 5510 of Act 451, PA 1994)**
5. The terms and conditions of this Permit to Install shall apply to any person or legal entity that now or hereafter owns or operates the process or process equipment at the location authorized by this Permit to Install. If the new owner or operator submits a written request to the Department pursuant to Rule 219 and the Department approves the request, this permit will be amended to reflect the change of ownership or operational control. The request must include all of the information required by subrules (1)(a), (b), and (c) of Rule 219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environment, Great Lakes, and Energy. **(R 336.1219)**
6. Operation of this equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
7. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal condition or malfunction has been corrected, or within 30 days of discovery of the abnormal condition or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5). **(R 336.1912)**
8. Approval of this permit does not exempt the permittee from complying with any future applicable requirements which may be promulgated under Part 55 of 1994 PA 451, as amended or the Federal Clean Air Act.
9. Approval of this permit does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
10. Operation of this equipment may be subject to other requirements of Part 55 of 1994 PA 451, as amended and the rules promulgated thereunder.

11. Except as provided in subrules (2) and (3) or unless the special conditions of the Permit to Install include an alternate opacity limit established pursuant to subrule (4) of Rule 301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with Rule 303 (R 336.1303). **(R 336.1301)**
 - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
 - b) A visible emission limit specified by an applicable federal new source performance standard.
 - c) A visible emission limit specified as a condition of this Permit to Install.
12. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in Rule 370(2). **(R 336.1370)**
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with Rule 1001 and Rule 1003, under any of the conditions listed in Rule 1001. **(R 336.2001)**

EMISSION UNIT SPECIAL CONDITIONS

EMISSION UNIT SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Emission Unit ID	Emission Unit Description (Including Process Equipment & Control Device(s))	Installation Date / Modification Date	Flexible Group ID
EUANDRYMIX	Anode dry material handling and mixing controlled by a high efficiency particulate air (HEPA) filtration system.	TBD	FGDRYMIX
EUCATDRYMIX	Cathode dry material handling and mixing controlled by a high efficiency particulate air (HEPA) filtration system.	TBD	FGDRYMIX
EUCOATING	Two (2) 6.92 MMBtu/hr total heat input drying ovens, coating storage, preparation, application, and drying. Emissions are controlled by a regenerative thermal oxidizer (RTO).	TBD	FGRTO
EUCALENDARING	Slitting, calendaring, second vacuum drying, and winding of anode and cathode materials. Emissions from the slitting and calendaring are vented to the general in-plant environment.	TBD	FGRTO
EUASSEMBLY	Anode and cathode stacking, assembly, and welding operations. Controlled by a high efficiency particulate air (HEPA) filtration system and vented to the general in-plant environment.	TBD	NA
EUELECTROLYTE	Electrolyte addition and final cell assembly. Emissions occur during sell connection and disconnection operations.	TBD	NA
EUFORMATION	Formation operations involving the placement of a temporary seal on the battery cells, followed by heating and cooling, and replacement of temporary seal with a permanent seal.	TBD	NA
EUINK	Ink jet marking system used to identify off-specification or defective materials.	TBD	NA
EUCLEANUP	Cleaning of Dry Clean Room and other areas within the plant with solvent for particle count reduction.	TBD	NA
EUPILOT	Pilot operations. Controlled by a regenerative thermal oxidizer (RTO).	TBD	FGRTO
EUSOLSTORAGE	(4) 10,000-gallon bulk storage tanks. These tanks store virgin, waste, and reclaimed solvent. Vents from the tanks are controlled by a regenerative thermal oxidizer (RTO).	TBD	FGRTO

Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1291.

EUCALNDARING EMISSION UNIT CONDITIONS

DESCRIPTION

Slitting, calendaring, second vacuum drying, and winding of anode and cathode materials. Emissions from the slitting and calendaring are vented to the general in-plant environment.

Flexible Group ID: FGRT0

POLLUTION CONTROL EQUIPMENT

Emissions from the vacuum drying are routed to the RTO.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUCALNDARING. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

1. The exhaust gases from the slitting and calendaring processes in EUCALNDARING shall be vented to the general in-plant environment, and not directly discharged through a dedicated stack to the outside ambient air at any time. **(R 336.1225, 40 CFR 52.21(c) & (d))**

IX. OTHER REQUIREMENT(S)

NA

EUASSEMBLY EMISSION UNIT CONDITIONS
--

DESCRIPTION

Anode and cathode stacking, assembly, and welding operations. Controlled by a high efficiency particulate air (HEPA) filtration system and vented to the general in-plant environment.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

HEPA filtration system.

I. EMISSION LIMIT(S)

NA

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate EUASSEMBLY unless the dust filtration collection system is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes, but is not limited to, maintaining the dust filtration collection system according to manufacturer's specifications. **(R 336.1224, R 336.1225, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUASSEMBLY. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

1. The exhaust gases from EUASSEMBLY shall be vented to the general in-plant environment, and not directly discharged through a dedicated stack to the outside ambient air at any time. **(R 336.1224, R 336.1225, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**

IX. OTHER REQUIREMENT(S)

NA

**EUELECTROLYTE
 EMISSION UNIT CONDITIONS**

DESCRIPTION

Electrolyte addition and final cell assembly. Emissions occur during sell connection and disconnection operations.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VOC	3.97 tpy	12-month rolling period as determined at the end of each month	EUELECTROLYTE	SC VI.3	R 336.1225, R 336.1702(a)

II. MATERIAL LIMIT(S)

1. The permittee shall not produce more than 6,000,000 cells in EUELECTROLYTE per 12-month rolling time period, as determined at the end of each calendar month. **(R 336.1225, R 336.1702(a))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1225, R 336.1702(a))**
2. The permittee shall keep, in a satisfactory manner, records of the number of battery cells produced in EUELECTROLYTE, on a monthly and 12-month rolling basis. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**
3. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period VOC emission calculation records for EUELECTROLYTE using a method acceptable to the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUELECTROLYTE. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

EUFORMATION EMISSION UNIT CONDITIONS

DESCRIPTION

Formation operations involving the placement of a temporary seal on the battery cells, followed by heating and cooling, and replacement of temporary seal with a permanent seal.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VOC	0.10 tpy	12-month rolling period as determined at the end of each month	EUFORMATION	SC VI.2	R 336.1225, R 336.1702(a)

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

NA

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

NA

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. (R 336.1201(3))

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. (R 336.1225, R 336.1702(a), R 336.1910)
2. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period VOC emission calculation records for EUFORMATION using a method acceptable to the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. (R 336.1225, R 336.1702(a))

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUFORMATION. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

**EUINK
EMISSION UNIT CONDITIONS**

DESCRIPTION

Ink jet marking system used to identify off-specification or defective materials.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VOC	0.50 tpy	12-month rolling time period as determined at the end of each calendar month	EUINK	SC VI.2	R 336.1225, R 336.1702(a)

II. MATERIAL LIMIT(S)

1. The permittee shall not use more than 90 pounds of printing ink solution in EUINK per 12-month rolling time period, as determined at the end of each calendar month. **(R 336.1225, R 336.1702(a))**
2. The permittee shall not use more than 423 pounds of makeup ink solution in EUINK per 12-month rolling time period, as determined at the end of each calendar month. **(R 336.1225, R 336.1702(a))**
3. The permittee shall not use more than 378 pounds of wash solution in EUINK per 12-month rolling time period, as determined at the end of each calendar month. **(R 336.1225, R 336.1702(a))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall capture all waste materials and shall store them in closed containers. The permittee shall dispose of all waste materials in an acceptable manner in compliance with all applicable state rules and federal regulations. **(R 336.1224, R 336.1225, R 336.1702(a))**
2. The permittee shall handle all VOC and/or HAP containing materials, including coatings, reducers, solvents, and thinners, in a manner to minimize the generation of fugitive emissions. The permittee shall keep containers covered at all times except when operator access is necessary. **(R 336.1224, R 336.1225, R 336.1702(a))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall determine the VOC content and density of any ink, as received and as utilized, using manufacturer's formulation data and/or Safety Data Sheets. Upon request by the AQD District Supervisor, the permittee shall determine the VOC content of any clean-up solvent using federal Reference Test Method

24. If the Method 24 and the formulation values should differ, the permittee shall use the Method 24 results to determine compliance. **(R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1225, R 336.1702(a))**
2. The permittee shall keep the following information on a monthly basis for the use of clean-up materials associated with EUCLEANUP:
 - a) The amount, in pounds, of printing ink solution used per calendar month and per 12-month rolling time period as determined at the end of each calendar month.
 - b) The amount, in pounds, of makeup ink solution used per calendar month and per 12-month rolling time period as determined at the end of each calendar month.
 - c) The amount, in pounds, of wash solution used per calendar month and per 12-month rolling time period as determined at the end of each calendar month.
 - d) The VOC content, in wt%, of each solvent used.
 - e) VOC mass emission calculations determining the monthly emission rate in pounds per calendar month and in tons per calendar month.
 - f) VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**

3. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each ink material, including the weight percent of each component. The data may consist of Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of EUINK. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

**EUCLEANUP
EMISSION UNIT CONDITIONS**

DESCRIPTION

Cleaning of Dry Clean Room and other areas within the plant with solvent for particle count reduction.

Flexible Group ID: NA

POLLUTION CONTROL EQUIPMENT

NA

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VOC	0.50 tpy	12-month rolling time period as determined at the end of each calendar month	EUCLEANUP	SC VI.2	R 336.1225, R 336.1702(a)

II. MATERIAL LIMIT(S)

1. The permittee shall not use more than 206 gallons of VOC-containing solution in the total clean-up solvent usage per 12-month rolling period, as determined at the end of each calendar month. **(R 336.1225, R 336.1702(a))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall capture all waste clean-up solvent and shall store it in closed containers. The permittee shall dispose of all waste clean-up solvent in an acceptable manner in compliance with all applicable state rules and federal regulations. **(R 336.1225, R 336.1702(a))**
2. The permittee shall handle all VOC and/or HAP containing materials, including coatings, reducers, solvents, and thinners, in a manner to minimize the generation of fugitive emissions. The permittee shall keep containers covered at all times except when operator access is necessary. **(R 336.1224, R 336.1225, R 336.1702(a))**
3. The permittee shall recover and reclaim, recycle, or dispose of, in accordance with all applicable regulations, a minimum of 30 percent by weight of all VOC-containing solution used for EUCLEANUP. **(R 336.1224, R 336.1225, R 336.1702(a))**

IV. DESIGN/EQUIPMENT PARAMETER(S)

NA

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall determine the VOC content and density of any clean-up solvent, as received and as utilized, using manufacturer's formulation data and/or Safety Data Sheets. Upon request by the AQD District Supervisor, the permittee shall determine the VOC content of any clean-up solvent using federal Reference Test Method 24. If the Method 24 and the formulation values should differ, the permittee shall use the Method 24 results to determine compliance. **(R 336.1225, R 336.1702(a), R 336.2001, R 336.2003, R 336.2004)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1225, R 336.1702(a))**
2. The permittee shall keep the following information on a monthly basis for the use of clean-up materials associated with EUCLEANUP:
 - a) Gallons of each material used and reclaimed.
 - b) VOC content, in weight percent, of each material used.
 - c) VOC mass emission calculations determining the monthly emission rate in tons per calendar month.
 - d) VOC mass emission calculations determining the annual emission rate in tons per 12-month rolling time period as determined at the end of each calendar month.

The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**

3. The permittee shall maintain a current listing from the manufacturer of the chemical composition of each clean-up material, including the weight percent of each component. The data may consist of Safety Data Sheets, manufacturer's formulation data, or both as deemed acceptable by the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1225, R 336.1702(a))**

VII. REPORTING

NA

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

NA

FLEXIBLE GROUP SPECIAL CONDITIONS

FLEXIBLE GROUP SUMMARY TABLE

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

Flexible Group ID	Flexible Group Description	Associated Emission Unit IDs
FGDRYMATERIAL	Dry material handling and mixing prior to solvent addition. Emissions are controlled by a high efficiency particulate air (HEPA) filtration system.	EUANDRYMIX EUCATDRYMIX
FGRTO	Battery manufacturing operations that are routed to a regenerative thermal oxidizer (RTO).	EUCOATING EUCALENDARING EUPILOT EUSOLSTORAGE

**FGDRYMATERIAL
FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Dry material handling and mixing prior to solvent addition. Emissions are controlled by a high efficiency particulate air (HEPA) filtration system.

Emission Unit: EUANDRYMIX, EUCATDRYMIX

POLLUTION CONTROL EQUIPMENT

Particulate emissions are controlled by a HEPA filtration system.

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. PM	0.01 lbs per 1,000 lbs of exhaust gas, calculated on a dry basis	Hourly	FGDRYMATERIAL	SC V.1	R 336.1331

2. There shall be no visible emissions from FGDRYMATERIAL. **(R 336.1301, R 336.1331, 40 CFR 52.21(c) & (d))**

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate FGDRYMATERIAL unless a malfunction abatement plan (MAP), as described in Rule 911(2), for the HEPA filtration system is implemented and maintained. The MAP shall, at a minimum, specify the following:
 - a) A complete preventative maintenance program including identification of the supervisory personnel responsible for overseeing the inspection, maintenance, and repair of air-cleaning devices, a description of the items or conditions that shall be inspected, the frequency of the inspections or repairs, and an identification of the major replacement parts that shall be maintained in inventory for quick replacement.
 - b) An identification of the source and air-cleaning device operating variables that shall be monitored to detect a malfunction or failure, the normal operating range of these variables, and a description of the method of monitoring or surveillance procedures.
 - c) A description of the corrective procedures or operational changes that shall be taken in the event of a malfunction or failure to achieve compliance with the applicable emission limits.

If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days if new equipment is installed, or upon request from the District Supervisor. The permittee shall submit the MAP, and any amendments to the MAP, to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall

implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1225, R 336.1301, R 336.1331, R 336.1910, R 336.1911)**

2. The permittee shall not operate FGDRYMATERIAL unless the pressure drop across the HEPA filtration system is maintained within the range specified in the MAP. **(R 336.1301, R 336.1331, R 336.1910)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate FGDRYMATERIAL unless the HEPA filtration system is installed, maintained, and operated in a satisfactory manner acceptable to the AQD District Supervisor, which includes meeting the requirements of the MAP as listed in SC III.1. **(R 336.1301, R 336.1331, R 336.1910)**
2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the pressure drop for the HEPA filtration system for FGDRYMATERIAL, during operation, on a calendar day basis. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Upon request of the AQD District Supervisor, the permittee shall verify PM emission rates, and visible emissions, from FGDRYMATERIAL by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in Part 10 of the Michigan Air Pollution Control Rules. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD-approved Test Protocol. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1225, R 336.1301, R 336.1331, R 336.2001, R 336.2003, R 336.2004, 40 CFR 52.21(c) & (d))**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1225, R 336.1301, R 336.1303, R 336.1331, R 336.1702(a), R 336.1910)**
2. The permittee shall record the pressure drop for each dust collector for FGDRYMATERIAL on a calendar day basis. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910)**
3. The permittee shall keep a record of all inspections and maintenance, and any corrective actions performed on the HEPA filtration system in FGDRYMATERIAL, in accordance with the MAP. The permittee shall maintain this record on site and make it available to the Department upon request. **(R 336.1225, R 336.1301, R 336.1331)**
4. The permittee shall monitor the dust collector emission points to verify the filters are operating properly, by taking visible emission readings for FGDRYMATERIAL a minimum of once per calendar month. Either a certified or non-certified reader shall take each visible emission reading during routine operating conditions. Such readings do not have to be conducted per the requirements of Method 9. Multiple stacks may be observed simultaneously. If any visible emissions (other than uncombined water vapor) are observed, the permittee shall immediately inspect the filters and perform any required maintenance. **(R 336.1225, R 336.1301, R 336.1331, R 336.1910)**
5. The permittee shall keep, in a satisfactory manner, records of all visible emission readings for FGDRYMATERIAL. At a minimum, records shall include the date, time, name of observer/reader, whether the reader is certified, and status of visible emissions. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1301, R 336.1303, R 336.1910)**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of FGDRYMATERIAL. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVANDRYMIX*	18	36	R 336.1225, 40 CFR 52.21(c) & (d)
2. SVCATDRYMIX*	18	36	R 336.1225, 40 CFR 52.21(c) & (d)

*These stacks are discharged horizontally to the ambient air.

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

**FGRTO
 FLEXIBLE GROUP CONDITIONS**

DESCRIPTION

Battery manufacturing operations that are routed to a regenerative thermal oxidizer (RTO).

Emission Unit: EUCOATING, EUCALENDARING, EUPILOT, EUSOLSTORAGE

POLLUTION CONTROL EQUIPMENT

RTO

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Monitoring / Testing Method	Underlying Applicable Requirements
1. VOC	27.08 tpy	12-month rolling period as determined at the end of each month	FGRTO	SC VI.3	R 336.1205, R 336.1225, R 336.1702(a)
2. Decahydro-naphthalene (CAS No. 91-17-8)	16.40 tpy ¹	12-month rolling period as determined at the end of each month	FGRTO	SC VI.4	R 336.1225

II. MATERIAL LIMIT(S)

1. The permittee shall not use more than 3,280,740 pounds of decahydronaphthalene (CAS No. 91-17-8) in FGRTO per 12-month rolling time period, as determined at the end of each calendar month. **(R 336.1205, R 336.1225, R 336.1702(a))**

III. PROCESS/OPERATIONAL RESTRICTION(S)

1. The permittee shall not operate any emission unit in FGRTO unless a malfunction abatement plan (MAP) as described in Rule 911(2), for the RTO, has been submitted within 90 days of permit issuance, and is implemented and maintained. If at any time the MAP fails to address or inadequately addresses an event that meets the characteristics of a malfunction, the permittee shall amend the MAP within 45 days after such an event occurs. The permittee shall also amend the MAP within 45 days, if new equipment is installed or upon request from the District Supervisor. The permittee shall submit the MAP and any amendments to the MAP to the AQD District Supervisor for review and approval. If the AQD does not notify the permittee within 90 days of submittal, the MAP or amended MAP shall be considered approved. Until an amended plan is approved, the permittee shall implement corrective procedures or operational changes to achieve compliance with all applicable emission limits. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910, R 336.1911)**

IV. DESIGN/EQUIPMENT PARAMETER(S)

1. The permittee shall not operate any emission unit in FGRTO unless the RTO is installed, maintained and operated in a satisfactory manner. Satisfactory operation of the thermal oxidizer includes a minimum VOC destruction efficiency of 99 percent (by weight), and maintaining a minimum temperature of 1600 °F and a minimum retention time of 0.7 seconds. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910)**
2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a temperature monitoring device in the combustion chamber of the thermal oxidizer to monitor and record the temperature, on a continuous basis, when the RTO is in operation. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910)**

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Within 180 days after commencement of initial startup, the permittee shall verify the VOC destruction efficiency of a representative RTO in FGRTO by testing at owner's expense, in accordance with Department requirements. Testing shall be performed using an approved EPA Method listed in 40 CFR Part 60, Appendix A. An alternate method, or a modification to the approved EPA Method, may be specified in an AQD approved Test Protocol and must meet the requirements of the federal Clean Air Act, all applicable state and federal rules and regulations, and be within the authority of the AQD to make the change. No less than 30 days prior to testing, the permittee shall submit a complete test plan to the AQD Technical Programs Unit and District Office. The AQD must approve the final plan prior to testing, including any modifications to the method in the test protocol that are proposed after initial submittal. The permittee must submit a complete report of the test results to the AQD Technical Programs Unit and District Office within 60 days following the last date of the test. **(R 336.1702(a), R 336.1910, R 336.2001, R 336.2003, R 336.2004)**

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall complete all required calculations/records in a format acceptable to the AQD District Supervisor by the last day of the calendar month, for the previous calendar month, unless otherwise specified in any monitoring/recordkeeping special condition. **(R 336.1205, R 336.1225, R 336.1702(a), R 336.1910)**
2. The permittee shall monitor and record, in a satisfactory manner acceptable to the AQD District Supervisor, the temperature in the combustion chamber of the thermal oxidizer, on a continuous basis, during operation of FGRTO. Temperature data recording shall consist of measurements made at equally spaced intervals, not to exceed 15 minutes per interval. **(R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.1910)**
3. The permittee shall keep, in a satisfactory manner, monthly and 12-month rolling time period VOC emission calculation records for FGRTO using a method acceptable to the AQD District Supervisor. The permittee shall keep all records on file at the facility and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702(a))**
4. The permittee shall keep the following information for FGRTO:
 - a) The amount of decahydronaphthalene, in pounds, processed per month and per 12-month rolling time period, as determined at the end of each calendar month.
 - b) Decahydronaphthalene emission calculations determining the monthly emission rate in tons per calendar month and per 12-month rolling time period, as determined at the end of each calendar month.

The permittee shall keep the records on file at the facility, in a format acceptable to the AQD District Supervisor, and make them available to the Department upon request. **(R 336.1205, R 336.1225, R 336.1702(a))**

VII. REPORTING

1. Within 30 days after completion of the installation, construction, reconstruction, relocation, or modification authorized by this Permit to Install, the permittee or the authorized agent pursuant to Rule 204, shall notify the AQD District Supervisor, in writing, of the completion of the activity. Completion of the installation, construction, reconstruction, relocation, or modification is considered to occur not later than commencement of trial operation of FGRTO. **(R 336.1201(7)(a))**

VIII. STACK/VENT RESTRICTION(S)

The exhaust gases from the stacks listed in the table below shall be discharged unobstructed vertically upwards to the ambient air unless otherwise noted:

Stack & Vent ID	Maximum Exhaust Diameter / Dimensions (inches)	Minimum Height Above Ground (feet)	Underlying Applicable Requirements
1. SVRTO	79 x 42.1	50	R 336.1225, 40 CFR 52.21 (c) & (d)

IX. OTHER REQUIREMENT(S)

NA

Footnotes:

¹ This condition is state only enforceable and was established pursuant to Rule 201(1)(b).