

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION**

July 2, 2018

**PERMIT TO INSTALL  
72-10E**

**ISSUED TO  
XALT Energy, LLC**

**LOCATED AT  
2700 South Saginaw Road  
Midland, Michigan**

**IN THE COUNTY OF  
Midland**

**STATE REGISTRATION NUMBER  
P0091**

The Air Quality Division has approved this Permit to Install, pursuant to the delegation of authority from the Michigan Department of Environmental Quality. 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:

**April 19, 2018**

DATE PERMIT TO INSTALL APPROVED:

**July 2, 2018**

SIGNATURE:

DATE PERMIT VOIDED:

SIGNATURE:

DATE PERMIT REVOKED:

SIGNATURE:

## PERMIT TO INSTALL

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**Common Abbreviations / Acronyms**

<b>Common Acronyms</b>		<b>Pollutant / Measurement Abbreviations</b>	
AQD	Air Quality Division	acfm	Actual cubic feet per minute
BACT	Best Available Control Technology	BTU	British Thermal Unit
CAA	Clean Air Act	°C	Degrees Celsius
CAM	Compliance Assurance Monitoring	CO	Carbon Monoxide
CEM	Continuous Emission Monitoring	CO <sub>2e</sub>	Carbon Dioxide Equivalent
CFR	Code of Federal Regulations	dscf	Dry standard cubic foot
COM	Continuous Opacity Monitoring	dscm	Dry standard cubic meter
Department/ department	Michigan Department of Environmental Quality	°F	Degrees Fahrenheit
EU	Emission Unit	gr	Grains
FG	Flexible Group	HAP	Hazardous Air Pollutant
GACS	Gallons of Applied Coating Solids	Hg	Mercury
GC	General Condition	hr	Hour
GHGs	Greenhouse Gases	HP	Horsepower
HVLP	High Volume Low Pressure*	H <sub>2</sub> S	Hydrogen Sulfide
ID	Identification	kW	Kilowatt
IRSL	Initial Risk Screening Level	lb	Pound
ITSL	Initial Threshold Screening Level	m	Meter
LAER	Lowest Achievable Emission Rate	mg	Milligram
MACT	Maximum Achievable Control Technology	mm	Millimeter
MAERS	Michigan Air Emissions Reporting System	MM	Million
MAP	Malfunction Abatement Plan	MW	Megawatts
MDEQ	Michigan Department of Environmental Quality	NMOC	Non-methane Organic Compounds
MSDS	Material Safety Data Sheet	NO <sub>x</sub>	Oxides of Nitrogen
NA	Not Applicable	ng	Nanogram
NAAQS	National Ambient Air Quality Standards	PM	Particulate Matter
NESHAP	National Emission Standard for Hazardous Air Pollutants	PM <sub>10</sub>	Particulate Matter equal to or less than 10 microns in diameter
NSPS	New Source Performance Standards	PM <sub>2.5</sub>	Particulate Matter equal to or less than 2.5 microns in diameter
NSR	New Source Review	pph	Pounds per hour
PS	Performance Specification	ppm	Parts per million
PSD	Prevention of Significant Deterioration	ppmv	Parts per million by volume
PTE	Permanent Total Enclosure	ppmw	Parts per million by weight
PTI	Permit to Install	psia	Pounds per square inch absolute
RACT	Reasonable Available Control Technology	psig	Pounds per square inch gauge
ROP	Renewable Operating Permit	scf	Standard cubic feet
SC	Special Condition	sec	Seconds
SCR	Selective Catalytic Reduction	SO <sub>2</sub>	Sulfur Dioxide
SNCR	Selective Non-Catalytic Reduction	TAC	Toxic Air Contaminant
SRN	State Registration Number	Temp	Temperature
TEQ	Toxicity Equivalence Quotient	THC	Total Hydrocarbons
USEPA/EPA	United States Environmental Protection Agency	tpy	Tons per year
VE	Visible Emissions	µg	Microgram
		µm	Micrometer or Micron
		VOC	Volatile Organic Compounds
		yr	Year

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

### 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 Environmental Quality, 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 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 R 336.1219 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 R 336.1219 and shall be sent to the District Supervisor, Air Quality Division, Michigan Department of Environmental Quality. **(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 conditions 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 R 336.1301, 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 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 R 336.1370(2). **(R 336.1370)**
  
13. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**

**SPECIAL CONDITIONS**

**EMISSION UNIT SUMMARY TABLE**

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

EUANCOATING	Anode roll coating process. Emissions are controlled by a solvent recovery system which includes a primary condenser followed by a concentrator system.	FGCOATING
EUCACOATING	Cathode roll coating process. Emissions are controlled by a solvent recovery system which includes a primary condenser followed by a concentrator system.	FGCOATING
EUBINDER	Binder raw material handling and mixing, consisting of storage tanks and mix tanks, controlled by a nitrogen blanketing system and pipe-away pressure relief valves on storage tanks.	NA
EUANODE	Anode and binder dry ingredient material handling and mixing controlled by a dust collector and HEPA filter. Anode coating storage and manufacturing tanks are controlled by a nitrogen blanketing system and pipe-away pressure relief valves.	NA
EUCATHODE	Cathode dry ingredient material handling and mixing controlled by a dust collector and HEPA filter. Cathode coating storage and manufacturing tanks are controlled by a nitrogen blanketing system and pipe-away pressure relief valves.	NA
EUCELLPACK	Cell pouch formation and degas operations.	NA
EUCELLSTACK	Cell stacking operations utilizing solvent based adhesives and clean-up solvents.	NA
EUELECTROLYTE	Cell assembly operations including addition of electrolyte material to pouches and sealing of pouches.	NA
EUDRYING	Vacuum drying operations for anode and cathode coated materials.	FGCOATING

**The following conditions apply to: EUBINDER**

**DESCRIPTION:** Binder raw material handling and mixing, consisting of storage tanks and mix tanks

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT:** Nitrogen blanketing system, Pipe-away pressure relief valve (PRV)

**I. EMISSION LIMITS**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Testing / Monitoring Method</b>	<b>Underlying Applicable Requirements</b>
1. VOC	66 lbs per year	12-month rolling time period as determined at the end of each calendar month	EUBINDER	SC VI.1	R 336.1225, R 336.1702(a)

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

NA

**IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate EUBINDER mixing or storage tank filling operations unless the nitrogen blanketing system and pipe-away pressure relief valve (PRV) system are installed, maintained, and operated in a satisfactory manner. **(R 336.1224, 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))**

NA

**VI. MONITORING/RECORDKEEPING**

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

1. The permittee shall calculate the VOC emission rates from EUBINDER for each calendar month and 12-month rolling time period using a method acceptable to the AQD District Supervisor. **(R 336.1225, R 336.1702(a))**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

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

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter/Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV003	2	64.5	R 336.1225

**IX. OTHER REQUIREMENTS**

NA

**The following conditions apply to: EUANODE**

**DESCRIPTION:** Anode and binder dry ingredient material handling and mixing, and Anode coating storage and manufacturing tanks

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT:** Dust collectors (DC-1125), HEPA filters (FL-1125), Nitrogen blanketing system, Pipe-away pressure relief valves

**I. EMISSION LIMITS**

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.002 lbs per 1,000 lbs of exhaust gas, calculated on a dry basis	Test Protocol*	EUANODE (SV005)	GC 13	R 336.1331
2. PM10	0.011 pph	Test Protocol*	EUANODE (SV005)	GC 13	R 336.1225, 40 CFR 52.21 Subparts (c) & (d)
3. PM2.5	0.011 pph	Test Protocol*	EUANODE (SV005)	GC 13	R 336.1225, 40 CFR 52.21 Subparts (c) & (d)

\* Test Protocol shall specify averaging time

4. There shall be no visible emissions from EUANODE (SV005). **(R 336.1225, R 336.1301, 40 CFR 52.21(c) & (d))**

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

NA

**IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate EUANODE dry material operations unless the DC-1125 and FL-1125 control devices are installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes, but is not limited to, maintaining a pressure drop range across each dust collector according to manufacturer's specifications. **(R 336.1224, R 336.1225, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the pressure drop for each dust collector for EUANODE on a calendar day basis. The permittee is not required to monitor operational parameter data during periods of non-operation of the device resulting in cessation of the emissions to which the monitoring applies. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**

3. The permittee shall not operate EUANODE coating manufacturing or storage tanks unless the nitrogen blanketing system and pipe-away pressure relief valve (PRV) system are installed, maintained, and operated in a satisfactory manner. **(R 336.1224, 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))**

NA

**VI. MONITORING/RECORDKEEPING**

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

1. The permittee shall record the pressure drop for each dust collector for EUANODE on a calendar day basis. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall monitor the dust collector emission points to verify the filters are operating properly, by taking visible emission readings for EUANODE 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 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**
3. The permittee shall keep, in a satisfactory manner, records of all visible emission readings for EUANODE. 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**

NA

**VIII. STACK/VENT RESTRICTIONS**

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

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter/Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV004A <sup>B</sup>	4	64.5	R 336.1225
2. SV004B <sup>B</sup>	2	69.5	R 336.1225
3. SV004C <sup>B</sup>	2	69.5	R 336.1225
4. SV004D <sup>B</sup>	2	69.5	R 336.1225
5. SV005	10	64.5	R 336.1225, 40 CFR 52.21(c) & (d)

<sup>B</sup> This stack is not required to be discharged unobstructed vertically upwards to the ambient air.

**IX. OTHER REQUIREMENTS**

NA

**The following conditions apply to: EUCATHODE**

**DESCRIPTION:** Cathode dry ingredient material handling and mixing, and Cathode coating storage and manufacturing tanks

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT:** Dust collectors (DC-1170), HEPA filters (FL-1170). Nitrogen blanketing system, Pipe-away pressure relief valves

**I. EMISSION LIMITS**

Pollutant	Limit	Time Period / Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. PM	0.001 lbs per 1,000 lbs of exhaust gas, calculated on a dry gas basis	Test Protocol*	EUCATHODE (SV007)	GC 13	R 336.1331
2. PM10	0.0014 pph	Test Protocol*	EUCATHODE (SV007)	GC 13	R 336.1225, 40 CFR 52.21 Subparts (c) & (d)
3. PM2.5	0.0014 pph	Test Protocol*	EUCATHODE (SV007)	GC 13	R 336.1225, 40 CFR 52.21 Subparts (c) & (d)

\* Test Protocol shall specify averaging time

4. There shall be no visible emissions from EUCATHODE (SV007). **(R 336.1225, R 336.1301, 40 CFR 52.21(c) & (d))**

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

NA

**IV. DESIGN/EQUIPMENT PARAMETERS**

- The permittee shall not operate EUCATHODE dry material operations unless the DC-1170 and FL-1170 control devices are installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes, but is not limited to, maintaining a pressure drop range across each dust collector according to manufacturer's specifications. **(R 336.1224, R 336.1225, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**
- The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the pressure drop for each dust collector for EUCATHODE on a calendar day basis. The permittee is not required to monitor operational parameter data during periods of non-operation of the device resulting in cessation of the emissions to which the monitoring applies. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**
- The permittee shall not operate EUCATHODE coating manufacturing or storage tanks unless the nitrogen blanketing system and pipe-away pressure relief valve (PRV) system are installed, maintained, and operated in a satisfactory manner. **(R 336.1224, 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))**

NA

**VI. MONITORING/RECORDKEEPING**

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

1. The permittee shall record the pressure drop for each dust collector for EUCATHODE on a calendar day basis. **(R 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**
2. The permittee shall monitor the dust collector emission points to verify the filters are operating properly, by taking visible emission readings for EUCATHODE 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 336.1224, R 336.1225, R 336.1301, R 336.1331, R 336.1910, 40 CFR 52.21(c) & (d))**
3. The permittee shall keep, in a satisfactory manner, records of all visible emission readings for EUCATHODE. 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**

NA

**VIII. STACK/VENT RESTRICTIONS**

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

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter/Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV007	10	64.5	R 336.1225, 40 CFR 52.21(c) & (d)
2. SV008A <sup>B</sup>	4	64.5	R 336.1225
3. SV008B <sup>B</sup>	2	69.5	R 336.1225
4. SV008C <sup>B</sup>	2	69.5	R 336.1225
5. SV008D <sup>B</sup>	2	69.5	R 336.1225

<sup>B</sup> This stack is not required to be discharged unobstructed vertically upwards to the ambient air.

**IX. OTHER REQUIREMENTS**

NA

**The following conditions apply to: EUCELLPACK**

**DESCRIPTION:** Cell pouch formation and degas operations

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT:** NA

**I. EMISSION LIMITS**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period/ Operating Scenario</b>	<b>Equipment</b>	<b>Testing / Monitoring Method</b>	<b>Underlying Applicable Requirements</b>
1. VOC <sup>A</sup>	8.6 tpy	12-month rolling time period as determined at the end of each calendar month	EUCELLPACK	SC VI.1, VI.2	R 336.1225, R 336.1702(a)

<sup>A</sup> This limit does not include fugitive emissions (i.e., emissions from leaking valves, flanges, etc.) from the process

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

NA

**IV. DESIGN/EQUIPMENT PARAMETERS**

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 keep a record of the adhesive compound used in EUCELLPACK on a monthly averaging period:
  - a) Pounds or gallons of each adhesive compound used.
  - b) Where applicable, the amount (in pounds or gallons) of adhesive compound reclaimed, recovered, recycled, or disposed of.
  - c) VOC 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 336.1205, R 336.1224, R 336.1225, R 336.1702)**

2. The permittee shall calculate the VOC emission rate from EUCELLPACK monthly, for the preceding 12-month rolling time period, 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 336.1224, R 336.1225, R 336.1702)**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

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

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter/Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV009	6	64.5	R 336.1225

**IX. OTHER REQUIREMENTS**

NA

**The following conditions apply to: EUCELLSTACK**

**DESCRIPTION:** Cell stacking operations utilizing solvent based adhesives

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT:** NA

**I. EMISSION LIMITS**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period/ Operating Scenario</b>	<b>Equipment</b>	<b>Testing / Monitoring Method</b>	<b>Underlying Applicable Requirements</b>
1. VOC	13.2 tpy	12-month rolling time period as determined at the end of each calendar month	EUCELLSTACK	SC VI.1	R 336.1225, R 336.1702(a)

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

NA

**IV. DESIGN/EQUIPMENT PARAMETERS**

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 keep a record of the adhesive used in EUCELLSTACK on a monthly averaging period:
  - a) Pounds or gallons of each adhesive compound used.
  - b) Where applicable, the amount (in pounds or gallons) of adhesive compound reclaimed.
  - c) VOC 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 336.1205, R 336.1224, R 336.1225, R 336.1702)**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

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

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter/Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV013A	10	64.5	R 336.1225
2. SV013B	10	64.5	R 336.1225
3. SV013C	10	64.5	R 336.1225
4. SV013D	10	64.5	R 336.1225

**IX. OTHER REQUIREMENTS**

NA

**The following conditions apply to: EUELECTROLYTE**

**DESCRIPTION:** Cell assembly operations including addition of electrolyte material to pouches and sealing of pouches

**Flexible Group ID:** NA

**POLLUTION CONTROL EQUIPMENT:** NA

**I. EMISSION LIMITS**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period/ Operating Scenario</b>	<b>Equipment</b>	<b>Testing / Monitoring Method</b>	<b>Underlying Applicable Requirements</b>
1. VOC <sup>A</sup>	18.5 tpy	12-month rolling time period as determined at the end of each calendar month	EUELECTROLYTE	SC VI.1	R 336.1225, R 336.1702(a)

<sup>A</sup> This limit does not include fugitive emissions (i.e., emissions from leaking valves, flanges, etc.) from the process

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

NA

**IV. DESIGN/EQUIPMENT PARAMETERS**

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 keep a record of the electrolyte used in EUELECTROLYTE on a monthly averaging period:
  - a) Pounds or gallons of electrolyte used.
  - b) Where applicable, the amount (in pounds or gallons) of electrolyte reclaimed.
  - c) VOC 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 336.1205, R 336.1224, R 336.1225, R 336.1702)**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

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

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter/Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV011A	8	79.5	R 336.1225
2. SV011B	8	79.5	R 336.1225
3. SV011C	8	79.5	R 336.1225
4. SV011D	8	79.5	R 336.1225
5. SV011E	8	79.5	R 336.1225
6. SV011F	8	66	R 336.1225
7. SV011G	8	66	R 336.1225
8. SV011H	8	66	R 336.1225
9. SV011I	8	66	R 336.1225
10. SV011J	8	66	R 336.1225

**IX. OTHER REQUIREMENTS**

NA

### FLEXIBLE GROUP SUMMARY TABLE

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

<b>Flexible Group ID</b>	<b>Flexible Group Description</b>	<b>Associated Emission Unit IDs</b>
FGCOATING	Anode and cathode roll coating operations followed by drying operations. The coating emissions will be controlled by a solvent recovery system which includes a primary condenser followed by a concentrator system.	EUANCOATING, EUCACOATING, EUDRYING
FGFACILITY	All process equipment source-wide including equipment covered by other permits, grand-fathered equipment and exempt equipment.	

**The following conditions apply to: FGCOATING**

**DESCRIPTION:** Anode and cathode roll coating operations followed by drying operations

**Emission Units:** EUANCOATING, EUCACOATING, EUDRYING

**POLLUTION CONTROL EQUIPMENT:** Solvent recovery system (primary condenser, concentrator system)

**I. EMISSION LIMITS**

Pollutant	Limit	Time Period/ Operating Scenario	Equipment	Testing / Monitoring Method	Underlying Applicable Requirements
1. VOC <sup>A</sup>	2.2 tpy	12-month rolling time period as determined at the end of each calendar month	FGCOATING	SC VI.3	R 336.1225, R 336.1702(a)

<sup>A</sup> This limit does not include fugitive emissions (i.e., emissions from leaking valves, flanges, etc.) from the process

**II. MATERIAL LIMITS**

NA

**III. PROCESS/OPERATIONAL RESTRICTIONS**

NA

**IV. DESIGN/EQUIPMENT PARAMETERS**

1. The permittee shall not operate EUANCOATING or EUCACOATING unless the FGCOATING solvent recovery system is installed, maintained, and operated in a satisfactory manner. Satisfactory operation includes, but is not limited to, maintaining a solvent recovery system condenser air outlet temperature of less than 30° C and solvent recovery system concentrator desorption inlet air temperature of greater than 170° C. **(R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.1910)**
2. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a temperature monitoring device to monitor and record the solvent recovery system condenser outlet temperature on a calendar day basis. **(R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.1910)**
3. The permittee shall install, calibrate, maintain and operate in a satisfactory manner, a temperature monitoring device to monitor and record the solvent recovery system concentrator desorption inlet temperature on a calendar day basis. **(R 336.1205, R 336.1224, R 336.1225, R 336.1702, R 336.1910)**

**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 record the solvent recovery system condenser outlet temperature on a calendar day basis. **(R 336.1224, R 336.1225, R 336.1702, R 336.1910)**
2. The permittee shall record the solvent recovery system concentrator desorption inlet temperature on a calendar day basis. **(R 336.1224, R 336.1225, R 336.1702, R 336.1910)**
3. The permittee shall keep a record of the solvent used in FGCOATING on a monthly averaging period:
  - a) Tons or gallons of solvent used.
  - b) Where applicable, the amount (in tons or gallons) of solvent recovered, reclaimed, recycled or disposed of.
  - c) VOC 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 336.1205, R 336.1224, R 336.1225, R 336.1702)**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

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

<b>Stack &amp; Vent ID</b>	<b>Maximum Exhaust Diameter/Dimensions (inches)</b>	<b>Minimum Height Above Ground (feet)</b>	<b>Underlying Applicable Requirements</b>
1. SV001A	12	79.5	R 336.1225
2. SV001B	12	79.5	R 336.1225
3. SV001C	12	79.5	R 336.1225
4. SV001D	12	79.5	R 336.1225
5. SV001E	12	79.5	R 336.1225
6. SV001F	12	79.5	R 336.1225
7. SV012A	4	64.5	R 336.1225
8. SV012B	4	64.5	R 336.1225

**IX. OTHER REQUIREMENTS**

NA

**The following conditions apply Source-Wide to: FGFACILITY**

**POLLUTION CONTROL EQUIPMENT:** NA

**I. EMISSION LIMITS**

NA

**II. MATERIAL LIMITS**

<b>Material</b>	<b>Limit</b>	<b>Time Period / Operating Scenario</b>	<b>Equipment</b>	<b>Testing / Monitoring Method</b>	<b>Underlying Applicable Requirements</b>
1. Acetone	11 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.1	R 336.1224, R 336.1225
2. Methyl ethyl ketone	11 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.1	R 336.1205(3), R 336.1225, R 336.1702
3. Isopropyl alcohol	4.8 tpy	12-month rolling time period as determined at the end of each calendar month	FGFACILITY	SC VI.1	R 336.1205(3), R 336.1225, R 336.1702

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall handle all clean-up solvents 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 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a))**

**IV. DESIGN/EQUIPMENT PARAMETERS**

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 keep the following information on a monthly basis for FGFACILITY:
  - a) The identity of each clean-up solvent used.
  - b) The amount (in gallons or pounds) of each clean-up solvent used.
  - c) Where applicable, gallons or pounds of each clean-up solvent reclaimed.
  - d) Acetone, methyl ethyl ketone, and isopropyl alcohol emission calculations determining the monthly emission rate in tons per calendar month and 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 336.1205(3), R 336.1224, R 336.1225, R 336.1702(a))**

**VII. REPORTING**

NA

**VIII. STACK/VENT RESTRICTIONS**

NA

**IX. OTHER REQUIREMENTS**

NA