ES AMERICA, LLC – QUEEN CREEK

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1. Introduction

This permit pertains to a battery manufacturing facility, operated by ES America, LLC. The NAICS code is 335911. The facility is located at Ironwood Drive and East Pecos Road, Queen Creek, Arizona, upon a parcel also identified by Pinal County Assessor's Parcel #104-22- 209-702-0. The source is situated in an area classified as non-attainment for PM_{10} and ozone.

The facility is proposing to construct and operate a manufacturing facility of lithium-ion batteries for use in electric vehicles and includes an electrode manufacturing process, solvent coating and drying, slitting operations, cell assembly, cell formation, EOL marking, and cell waste building operations. Details of each of these manufacturing processes, including controls are provided in the Technical Support Document (TSD).

A list of equipment from which emissions are allowed by this permit is given in Section §9.A of this permit. Emissions listed in the last section of this permit constitute the emissions subject to regulation, as allowed by this permit.

In the absence of the limitations and controls established in this permit, this source would have an uncontrolled potential to emit VOCs, HAPs and PM10 that could trigger the need for a permit subject to Title V of the Clean Air Act (1990) ("CAA"). However, at the source's request, this permit includes proposed "federally enforceable provision(s)" ("FEP"), designated pursuant to Code §3-1-084. That code section calls for an EPA-review of affected permit provisions. An EPA-concurrence in the practical enforceability of the provisions of this permit should provide both the source and the public with a maximum degree of assurance that the source does not require a "major source" permit under CAA Title V.

2. Authority to Construct

A. Generally ***Federally enforceable pursuant to PCAQCD Code §§3-1-010, 3-1-040 10/12/95) approved as a SIP element at 65 FR 79742 (12/20/00)]***

As an exercise of authority under PCAQCD's SIP approved minor new source review program, this permit revision additionally authorizes the construction of the equipment enumerated in the subsection B of this section. That authorization rests on the findings regarding the limited emission potential of the affected equipment, coupled with the enforceable control requirements under this permit. Therefore, based on the regulations in effect upon the date of issuance of this permit and a finding that allowable emissions from the equipment described in the Equipment Schedule will neither cause nor contribute to a violation of any ambient air quality standard even without any additional limitations, and a further finding that this does not constitute a "major source" within the meaning of Code §3-3-203, this permit constitutes authority to construct and operate such equipment.

B. Minor New Source Review Requirements - Equipment Authorized [***Code §§3-1-010, 3-1-040 (as amended 10/12/95) approved as a SIP element at 61 FR15717 (4/9/96)]; Material Permit Condition [Code §3-1-109]***

The equipment as identified in section §9.A of this permit.

C. Minor New Source Review Requirements - Control Requirements ***[Code §§3-1-010, 3-1-040 (as amended 10/12/95) approved as a SIP element at 61 FR 15717 (4/9/96)]; Material Permit Condition [Code §3-1-109]***

Recognizing that the predominant potential emissions from this facility will consist of VOCs, HAPs, and $PM_{10,}$ this permit imposes the controls required in Sections §§4.C.3 and 4.D.4 of this permit.

3. Listing of *(Currently Federally Enforceable)* Applicable Requirements

A. Those specific provisions of the Pinal-Gila Counties Air Quality Control District ("PGAQCD") Regulations, as adopted by the Pinal County Board of Supervisors on March 31, 1975, and

approved by the Administrator as elements of the Arizona State Implementation Plan ("SIP") at 43 FR 50531, 50532 (11/15/78), and specifically the following rules:

7-1-1.3.A	Air Pollution Prohibited
7-1-1.3.B	Air Pollution Prohibited
7-3-1.2	Emission Standards - Particulate Emissions - Fugitive Dust
7-3-1.8	Particulate Emissions - Process Industries

B. Those specific provisions of the Pinal-Gila Counties Air Quality Control District Regulations, as last amended by the Pinal County Board of Supervisors on June 16, 1980, and approved by the Administrator as elements of the Arizona SIP at 47 FR 15579 (4/12/82), specifically, the following rules:

7-3-1.1 Visible Emissions; General

C. The New Source Performance Standard (NSPS), General Provisions, 40 CFR Part 60, Subpart A [40 CFR §§60.1-60.19]

D. New Source Performance Standards: Small Industrial-Commercial-Institutional Steam Generating Units, 40 CFR 60, Subpart Dc [40 CFR §§60.40c-60.48c]

E. National Emission Standards for Hazardous Air Pollutants for Area Sources: Paints and Allied Products Manufacturing, 40 CFR 63, Subpart CCCCCCC [40 CFR §§63.1159-63.11607]

4. Emission Limitations and Controls

A. Applicable Limitations ***[Federally enforceable pursuant to PCAQCD Code § 3-1-082 (11/3/93) approved as SIP Elements at 65 FR 79742 (12/20/00)]***

Where different standards or limitations apply under this permit, the most stringent combination shall prevail and be enforceable.

B. Allowable Emissions ***[Federally enforceable pursuant to PCAQCD Code § 3-1-040 (10/12/95) approved as SIP Elements at 65 FR 79742 (12/20/00)]***

The owner/operator ("Permittee") is authorized to discharge or cause to discharge into the atmosphere those emissions of air contaminants as set forth in this permit. Unless exempted under Code §3-1-040.C, or authorized by a separate permit, by this permit or by a revision or operational change allowed under Chapter 3, Article 2 of the Code, Permittee shall not commence construction of, operate or make any modification to this source in a manner which will cause emissions of any regulated air pollutant in excess of the *minimis* amount.

C. Emissions Limitations - Particulate Matter ***[Federally enforceable provision, pursuant to Code §3-1-084 (8/11/94)]*** (Code §3-1-081.A)

1. Emission Cap

Permittee shall limit emissions in any consecutive twelve month period such that emissions of particulate matter measured as PM_{10} are less than 70 tons.

2. Throughput Limits

a. Permittee shall limit the annual cathode and anode slurry throughput from the handling and mixing process to 12,900 batches.

b. Permittee shall limit the annual cathode and anode slitting throughput from the slitting process to 353,000,000 feet.

c. Permittee shall limit the cell thickness of Layer 1 and Layer 2 to 40 and 74

mm respectively in the assembly (welding process).

3. Particulate Emissions (PM10) Process Controls

a. Dust collectors shall be installed to control PM10 emissions from the material handling and mixing process at a control efficiency of at least 99%.

b. Dust and scrap collectors shall be installed to control PM10 emissions from the finishing process (slitting) at a control efficiency of at least 99%.

c. Fume and dust collectors shall be installed to control PM10 emissions from the welding process at a control efficiency of at least 99%.

d. Fume collectors shall be installed to control PM10 emissions from the formation and EOL marking process at a control efficiency of at least 99%.

4. Facility Wide PM10 Emissions

The emission cap, throughput limits, and process controls required by this permit will limit the annual potential emissions of particulate matter (PM10) to approximately 10 tons.

D. Emissions Limitations – Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs) ***[Federally enforceable provision, pursuant to Code §3-1-084 (8/11/94)]*** (Code §3-1-081.A)

1. Emission Cap Volatile Organic Compounds (VOCs)

Permittee shall limit emissions in any consecutive twelve month period such that emissions of volatile organic compounds are less than 100 tons.

2. Emission Cap Hazardous Air Pollutants (HAPs)

a. HAP Emissions - Single Pollutant Emission Limitation

Permittee shall limit the emission of any single HAP to less than 10 tons during any 12 month period.

b. HAP Emissions – Combined Pollutants Emission Limitation

Permittee shall limit the emissions of any combination of HAPs to less than 25 tons during any 12 month period.

3. Throughput Limits

a. Permittee shall limit the annual usage of NMP solvent to 2,400 gallons from the mixing and handling process.

b. For M52V battery type, Permittee shall limit the slurry in the mixing and handling process to the following:

i. Cathode Active Material NTT-X12M to 3,800 lbs./batch (cathode)
ii. Binder HPD01 to 15 lbs./batch (cathode)
iii. NMP 99.85 to 1,500 lbs./batch (cathode)

c. For HE2L battery type, Permittee shall limit the slurry in the mixing and handling process to the following:

i. Cathode Active Material NS-H9M to 3,350 lbs./batch (cathode)

ii. Binder BM74OH to 5 lbs./batch (cathode)
iii. Addition agent Daicel 2200 to 17 lbs./batch (anode)

d. Permittee shall limit the annual usage of NMP solvent in the solvent coating and drying process to 2,310,000 gallons.

e Permittee shall limit the annual cathode and anode slitting throughput from the slitting process to 353,000,000 feet.

f. Permittee shall limit the annual electrolyte usage in the electrolyte filling process to 8,400 tons.

g. Permittee shall limit the annual tank throughput of the electrolyte raw materials to 34,000,000 gallons.

h. Permittee shall limit the cell thickness of Layer 1 and Layer 2 to 40 and 74 mm respectively in the assembly (welding process).

i. Permittee shall limit the annual throughout of the cells from the degassing (formation) process to 1,064,340,000 cells.

j. Permittee shall limit the annual usage of Domino Ink and Domino Make-up Ink in the EOL marking process to 241 and 351 gallons respectively.

k. Permittee shall limit the annual usage of electrolyte solution and cell discharging brine solution to 1,600,000 and 182,000 gallons respectively in the cell waste building process.

l. Permittee shall limit the annual throughout of the cells from the cell waste building process to 26,000,000 cells.

m. Permittee shall limit the annual usage of isopropyl alcohol to 14,000 gallons in the miscellaneous chemical use process.

4. Volatile Organic Compounds (VOCs) and Hazardous Air Pollutants (HAPs) Process Controls

a. Absorption Columns (A/C) Towers shall be installed to control VOC emissions from the material handling and mixing process at a control efficiency of at least 98%.

b. Solvent Recovery Plant (SRP) shall be installed to control VOC emissions from the coating and drying process.

c. Absorption Columns (A/C) Tower shall be installed to control VOC emissions generated during the charging of the electrolyte solution at a control efficiency of at least 98%.

d. Absorption Columns (A/C) Towers shall be installed to control VOC emissions from the electrolyte solution stored in tanks at a control efficiency of at least 98%.

e. Absorption Columns (A/C) Tower shall be installed to control VOC emissions generated during the washing and marking of cells at a control efficiency of at least 98%.

f. Absorption Columns (A/C) Towers shall be installed to control VOC emissions generated during the formation and EOL marking process at a control efficiency of at least 98%.

g. Absorption Columns (A/C) Towers shall be installed to control VOC

Emissions generated during the discharging (cell waste) process at a control efficiency of at least 98%

5. Facility Wide VOC and HAP Emissions

The emission caps, throughput limits, and process controls required by this permit will limit the annual potential emissions of volatile organic compounds to approximately 46 tons, combined hazardous air pollutants to approximately 7 tons, and any single hazardous air pollutant (Nickel) to approximately 4 tons.

E. Fuel Use Limitations ***[Federally Enforceable Provision pursuant to code §3-1-081(9/5/01) approved as a SIP element at 66 FR 63166 (12/5/01)]***

1. Primary Fuel

The Permittee is allowed to burn only natural gas in the boilers.

2. Other Fuels (Code §§3-1-081.G, 5-23-1010.F)

The Permittee shall not use used oil, used oil fuel, hazardous waste, and hazardous waste fuel (as defined in federal, state, or county codes and rules) without first obtaining a separate permit or an appropriate permit revision.

F. Nitrogen Oxides Emission

1. Boilers [PGCAQCD Reg. 7-3-5.1.B approved as a SIP element at 43 FR 50531 (11/15/78)] (Code §5-22-970)

The steam boilers shall not emit more than 0.20 pounds of nitrogen oxides, maximum two-hour average, calculated as nitrogen dioxide, per million Btu heat input when gaseous fossil fuel is fired.

G. Standards for Cathode and Anode Slurry Material Handling and Mixing, Subpart CCCCCCC ***[Federally enforceable 40 CFR §63.11601.(a).(1), (2) & (5)]***

Facility must comply with the following standards at all times:

1. Dry pigments and solids that contain compounds of cadmium, chromium, lead, or nickel shall be added, and a capture system that minimizes fugitive particulate emissions shall be operated during the addition of dry pigments and solids that contain compounds of cadmium, chromium, lead, or nickel to a process vessel or to the grinding and milling process.

2. Particulate emissions shall be captured and routed to a particulate control device during the addition of dry pigments and solids that contain compounds of cadmium, chromium, lead, or nickel to a process vessel. This requirement does not apply to pigments and other solids that are in paste, slurry, or liquid form.

3. The visible emissions from the particulate control device exhaust must not exceed 10-percent opacity for particulate control devices that vent to the atmosphere. This requirement does not apply to particulate control devices that do not vent to the atmosphere.

H. Miscellaneous Chemical Use - Solvent Cleaning Performance Standards (Codes §§5-15-620.A, C and H)

1. Any person who uses a solvent degreaser/cleaner shall equip it with the following:

a. A leak free container (degreaser) for the solvents and the articles being cleaned.

b. An apparatus or non-porous cover which prevents the solvent from evaporating when not processing work in the degreaser. A cover is not required for a remote reservoir cleaner using unheated solvent.
c. A facility for draining cleaned parts such that the drained solvent is returned to the container.
d. A permanent, conspicuous label which summarizes operating requirements contained in Section §4.G.3 below.

2. A cold degreaser/ cleaner without a remote reservoir shall be equipped with the following as applicable:
   a. A freeboard height of not less than 6 in. (15.2 cm) and a cover for a cold degreaser/cleaner using only non-agitated, low volatility solvent(s).
   b. A cold degreaser using solvents which are not low volatility solvents or which are agitated or are heated above 120ºF (50ºC) shall have internal drainage and:
      i. Have a freeboard ratio of 0.75 or greater; or
      ii. A water cover may be used to meet the freeboard requirement of Paragraph a. of this subdivision above if the solvent is insoluble in and denser than water; and
      iii. A cover shall be used that is of a sliding or rolling type which is designed to easily open and close without disturbing the vapor zone.
   c. A permanent, conspicuous mark shall locate the maximum allowable solvent level which conforms to the applicable freeboard requirements.
   d. In lieu of the freeboard requirements, the following may be used: An emission control system consisting of a hood or enclosure to collect emissions, which are vented to a processing device. The overall control efficiency (capture multiplied by equipment control) of the system shall not be less than 85 percent. The capture system shall have a ventilation rate no greater than 65 cfm per ft^2 (20 m^3/min-m^2) of evaporative surface, unless that rate must be changed to meet federal and State Occupational Safety and Health Administration requirements, and is approved in writing by the Control Officer.

3 Any person who employs solvent cleaning (degreasing) must conform to the following operating requirements:

   a. Operate and maintain the degreasing equipment and emission control equipment in proper working order.
   b. Do not allow nay solvent to leak from any portion of the degreasing equipment.
   c. All solvent storage, including the storage of waste solvent and waste solvent residues, shall at all times be in closed containers which are legibly labeled with their contents.
   d. Do not dispose of any solvent, including waste solvent, in such a manner as will cause or allow its evaporation into the atmosphere. Records of its disposal/recovery shall be kept in accordance with hazardous waste disposal statutes.
   e. Do not remove any device designed to cover the solvent unless processing work in the degreaser or performing maintenance on the degreaser.
   f. Drain cleaned parts for at least 15 seconds after cleaning or until dripping ceases (non-vapor degreasing only).
   g. If using a solvent spray system, use only a continuous, undivided stream (not a fine, atomized, or shower type spray) at a pressure which does not exceed 10 psig or cause liquid solvent to splash outside of the solvent container. In a conveyorized degreaser/cleaner a shower-type spray may be allowed, provided that the spraying is conducted in a totally confined space that is separated from the environment.
   h. Perform solvent agitation, where necessary, through pump recirculation or by means of a mixer. Do not use air agitation of the solvent bath. Covers shall be placed over ultrasonic cleaners when the cleaning cycle exceeds 15 seconds.
   i. Do not place porous or absorbent materials such as cloth, leather, wood or rope in or on a degreaser.
   j. For batch-loaded vapor degreasers:
      i. Workloads shall not occupy more than half of the degreaser's open-top area.

ii. The workload shall not be so massive that the vapor level drops more than 4 in. (10 cm) when the workload is removed from the vapor zone.
iii. Do not spray solvent above the vapor/air interface level.
iv. Minimize solvent carry-out by the following measures:
1. Rack parts to facilitate drainage.
2. Limit the vertical speed of mechanical hoists moving parts in and out of the degreaser to less than 2 inches per second and less than 11 ft/min (3.3 m/min). (Does not apply to hand loading)
3. Degrease the workload in the vapor zone at least 30 seconds or until condensation ceases.
4. For manual loading/unloading, tip out nay pools of solvent on the cleaned parts before removal.
5. Allow parts to dry within the degreaser until visually dry.
6. The following sequence shall be used for start-up and shut-down:
a. When staring the degreaser/cleaner, the cooling system shall be turned on before, or simultaneously with, the sump heater.
b. When shutting down, the sump heater shall be turned off before, or simultaneously with, the cooling system.

k. For open-top degreasers and conveyorized degreasers:
i. Exhaust ventilation shall not exceed 65 cfm per ft^2 (20 $m^3/min/m^2$) of degreaser opening unless necessary to comply with industrial safety requirements.
ii. Comfort fans shall not be used near degreasers.
iii. Water should not be visually detectable in the organic solvent exiting the water separator.

l. For conveyorized degreasers, a person shall minimize solvent carry-out by the following measures:
i. Rack parts to facilitate drainage.
ii. Maintain the vertical conveyor speed at less than 11 ft/min (3.3 m/min).

I. Cathode and Anode Slurry Material Handling and Mixing and EOL Marking – Minimum Standards of Performance (Code §5-24-1030.A.1.a, B, C, D, F and H)

1. No source shall cause or permit the emission of pollutants at rates greater than the following:

a. For particulate matter discharged into the atmosphere in any one hour from any unclassified process source in total quantities in excess of the amounts calculated by one of the following equations:

$E = 4.10\ P^{0.67}$ where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.
P = the process weight in tons-mass per hour.

b. Sulfur dioxide, 600 parts per million

c. Nitrogen oxides expressed as NO2, 500 parts per million.

2. The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

3. Emission limit values calculated from the applicable equations shall be rounded off to two decimal places.

4. No person shall emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.

5. Materials including solvents or other volatile compounds, paints, acids, alkalies, pesticides, fertilizers and manure shall be processed, stored, used and transported in such a manner

and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices, or equipment shall be mandatory.

6. No person shall allow hydrogen sulfide to be emitted from any location in such manner and amount that the concentration of such emissions into the ambient air at any occupied place beyond the premises on which the source is located exceeds 0.03 parts per million by volume for any averaging period of 30 minutes or more.

J. Solvent Coating and Drying and Electrolyte Assembly - Minimum Standards of Performance (Code §5-24-1030.B, C, D, F and H)

1. The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter as determined in Section §4.H.1 above.

2. Emission limit values calculated from the applicable equations shall be rounded off to two decimal places.

3. No person shall emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.

4. Materials including solvents or other volatile compounds, paints, acids, alkalies, pesticides, fertilizers and manure shall be processed, stored, used and transported in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices, or equipment shall be mandatory.

5. No person shall allow hydrogen sulfide to be emitted from any location in such manner and amount that the concentration of such emissions into the ambient air at any occupied place beyond the premises on which the source is located exceeds 0.03 parts per million by volume for any averaging period of 30 minutes or more.

K. Slitting - Minimum Standards of Performance (Code §5-24-1030.B, C, D, and H)

1. The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter as determined in §Section 4.H.1 above.

2. Emission limit values calculated from the applicable equations shall be rounded off to two decimal places.

3. No person shall emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.

4. No person shall allow hydrogen sulfide to be emitted from any location in such manner and amount that the concentration of such emissions into the ambient air at any occupied place beyond the premises on which the source is located exceeds 0.03 parts per million by volume for any averaging period of 30 minutes or more.

L. Welding - Minimum Standards of Performance (Code §5-24-1030.A.1.a, B, C, D, and H)

1. No source shall cause or permit the emission of pollutants at rates greater than the following:

b. For particulate matter discharged into the atmosphere in any one hour from any unclassified process source in total quantities in excess of the amounts calculated by one of the following equations:

$E = 4.10\ P^{0.67}$ where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.
P = the process weight in tons-mass per hour.

b. Sulfur dioxide, 600 parts per million

c. Nitrogen oxides expressed as NO2, 500 parts per million.

2. The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

3. Emission limit values calculated from the applicable equations shall be rounded off to two decimal places.

4. No person shall emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.

5. No person shall allow hydrogen sulfide to be emitted from any location in such manner and amount that the concentration of such emissions into the ambient air at any occupied place beyond the premises on which the source is located exceeds 0.03 parts per million by volume for any averaging period of 30 minutes or more.

M. Formation and NMP Tanks - Minimum Standards of Performance (Code §5-24-1030.B, C, D, F, H, and I)

1. The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter as determined in Section §4.H.1 above.

2. Emission limit values calculated from the applicable equations shall be rounded off to two decimal places.

3. No person shall emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.

4. Materials including solvents or other volatile compounds, paints, acids, alkalies, pesticides, fertilizers and manure shall be processed, stored, used and transported in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices, or equipment shall be mandatory.

5. No person shall allow hydrogen sulfide to be emitted from any location in such manner and amount that the concentration of such emissions into the ambient air at any occupied place beyond the premises on which the source is located exceeds 0.03 parts per million by volume for any averaging period of 30 minutes or more.

6. No person shall cause, allow or permit discharge from any stationary source carbon monoxide emissions without the use of complete secondary combustion of waste gases generated by any process source.

N. Cell Waste Building - Minimum Standards of Performance (Code §5-24-1030.A.1.a, B, C, D, F, H, and I)

1. No source shall cause or permit the emission of pollutants at rates greater than the following:

    a. For particulate matter discharged into the atmosphere in any one hour from any unclassified process source in total quantities in excess of the amounts calculated by one of the following equations:

        $E = 4.10\ P^{0.67}$ where:

        E = the maximum allowable particulate emissions rate in pounds-mass per hour.
        P = the process weight in tons-mass per hour.

    b. Sulfur dioxide, 600 parts per million

    c. Nitrogen oxides expressed as NO2, 500 parts per million.

2. The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

3. Emission limit values calculated from the applicable equations shall be rounded off to two decimal places.

4. No person shall emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.

5. Materials including solvents or other volatile compounds, paints, acids, alkalies, pesticides, fertilizers and manure shall be processed, stored, used and transported in such a manner and by such means that they will not evaporate, leak, escape or be otherwise discharged into the ambient air so as to cause or contribute to air pollution. Where means are available to reduce effectively the contribution to air pollution from evaporation, leakage or discharge, the installation and use of such control methods, devices, or equipment shall be mandatory.

6. No person shall allow hydrogen sulfide to be emitted from any location in such manner and amount that the concentration of such emissions into the ambient air at any occupied place beyond the premises on which the source is located exceeds 0.03 parts per million by volume for any averaging period of 30 minutes or more.

7. No person shall cause, allow or permit discharge from any stationary source carbon monoxide emissions without the use of complete secondary combustion of waste gases generated by any process source.

O. Cooling Towers - Minimum Standards of Performance (Code §5-24-1030.A.1.a, B, C, and D)

1. No source shall cause or permit the emission of pollutants at rates greater than the following:

    For particulate matter discharged into the atmosphere in any one hour from any unclassified process source in total quantities in excess of the amounts calculated by one of the following equations:

        $E = 4.10\ P^{0.67}$ where:

        E = the maximum allowable particulate emissions rate in pounds-mass per hour.
        P = the process weight in tons-mass per hour.

    b. Sulfur dioxide, 600 parts per million

    c. Nitrogen oxides expressed as NO2, 500 parts per million.

2. The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

3. Emission limit values calculated from the applicable equations shall be rounded off to two decimal places.

4. No person shall emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.

P. Particulate Emissions - Process Industries ***[Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.8 (3/31/75) approved as a SIP element at 43 FR 50531 (11/15/78)]*** (Code §5-5-190)

Permittee shall capture, to the maximum practical extent, all particulate matter resulting from operation of individual equipment comprising the complete process. Permittee not cause, suffer, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any existing process source whatsoever, except fuel-burning equipment, in total quantities in excess of the amount calculated by whichever of the following equations may be applicable:

1. For any process operating at a production process weight rate ("P") up to 30 tons-per-hour, allowable emissions ("E") shall not exceed:

$$E = 4.10\ P^{0.67} \text{ pounds-per-hour.}$$

2. For any process operating at a production process weight rates ("P") equal to or greater than 30 tons-per-hour, allowable emissions ("E") shall not exceed:

$$E = (55.0\ P^{0.11} - 40.0) \text{ pounds-per-hour.}$$

Q. Particulate Emissions - Opacity Limits

1. SIP Limitation - ***[Currently federally enforceable pursuant to PGAQCD Reg. 7-3-1.1 (6/16/80) approved as a SIP element at 47 FR 15579 (4/12/82)]*** (Code §§2-8-300. and 4-2-040.)

The opacity of any plume or effluent shall not be greater than 40 percent as determined by Reference Method 9 in the Arizona Testing Manual (ADEQ, 1992). Nothing in this limitation shall be interpreted to prevent the discharge or emission of uncontaminated aqueous steam, or uncombined water vapor, to the open air.

2. Visibility Limiting Standard ***[Federally enforceable provision, pursuant to Code §2-8-300 (as amended 5/18/05) approved as a SIP element at 47 FR 15043 (3/27/06)]*** (Code §§2-8-300. and 4-2-040.)

The opacity of any plume or effluent from any point source not subject to a New Source Performance Standard adopted under Chapter 6 of the Code, and not subject to an opacity standard in Chapter 5 of the Code, shall not be greater than 20% as determined in Method 9 in 40 CFR Part 60, Appendix A.

R. Particulate Matter Reasonable Precautions ***[Currently federally enforceable pursuant to PCAQCD Reg. 4-2-040 (10/27/04) approved as a SIP element at 75 FR 17307]***

1. Permittee shall not cause, suffer, allow, or permit a building or its appurtenances, subdivision site, driveway, parking area, vacant lot or sales lot, or an urban or suburban open area to be constructed, used, altered, repaired, demolished, cleared, or leveled, or the earth to be moved or excavated, or fill dirt to be deposited, without taking reasonable precautions to effectively prevent fugitive dust from becoming airborne.

2. Permittee shall not cause, suffer, allow, or permit a vacant lot, or an urban or suburban open area, to be driven over or used by motor vehicles, such as but not limited to all-terrain vehicles, trucks, cars, cycles, bikes, or buggies, without taking reasonable precautions to effectively prevent fugitive dust from becoming airborne.

3. Permittee shall not disturb or remove soil or natural cover from any area without taking reasonable precautions to effectively prevent fugitive dust from becoming airborne.

4. Permittee shall not crush, screen, handle or convey materials or cause, suffer, allow or permit material to be stacked, piled or otherwise stored without taking reasonable precautions to effectively prevent fugitive dust from becoming airborne.

5. Stacking and reclaiming machinery utilized at storage piles shall be operated at all times with a minimum fall of material and in such a manner, or with the use of spray bars and wetting agents, as to prevent excessive amounts of particulate matter from becoming airborne. Other reasonable precautions shall be taken, as necessary, to effectively prevent fugitive dust from becoming airborne.

6. Permittee shall not cause, suffer, allow or permit transportation of materials likely to give rise to fugitive dust without taking reasonable precautions to prevent fugitive dust from becoming airborne. Earth and other material that is tracked out or transported by trucking and earth moving equipment on paved streets shall be removed by the party or person responsible for such deposits.

S. Surface Stabilization ***[Federally enforceable pursuant to Code §4-1-030 (10/28/15) approved as a SIP element at 82 FR 20267 (5/1/17)]***

1. Permittee shall not cause or allow visible fugitive dust emissions from open areas / vacant lots (areas not being utilized for an activity) to exceed 20% opacity based on EPA Method 9 or the continuous plume or intermittent plume methods listed in PCAQCD Code §4-9-340.

2. Permittee shall erect barriers or no trespassing signs upon evidence of trespass on open areas / vacant lots.

3. Permittee shall stabilize any open area / vacant lot greater than 1.0 acre that has 0.5 acre or more of disturbed surface and sign up for the Pinal County Dust Control forecast within 30 days of discovery. The open area / vacant lot shall be stabilized the day leading up to and the day that is forecast to be high risk for dust emissions.

4. Permittee shall not remove vegetation from open areas / vacant lots without applying dust suppressants before and during the weed abatement. Track out onto paved surfaces must be prevented or eliminated and dust suppressants must be applied following weed abatement to stabilize the entire surface.

5. Stabilization of open areas / vacant lots is determined by the drop ball, threshold friction velocity, flat vegetation or standing vegetation methods listed in PCAQCD Code 4-9-320.

6. Permittee shall not cause or allow visible fugitive dust emissions from unpaved lots (areas being utilized for an activity) greater than 5000 square feet to exceed 20% opacity based on EPA Method 9 or the continuous plume or intermittent plume methods listed in PCAQCD Code §4-9-340.

7. Permittee shall not allow silt loading equal to or greater than 0.33 oz/ft^2 or allow the silt content to exceed 8% on unpaved lots greater than 5000 square feet.

8. Permittee shall stabilize unpaved lots greater than 5000 square feet by paving, applying a dust suppressant or graveling.

9. Permittee shall clean up track out on a paved public roadway that exceeds 50 feet within 24 hours of discovery and limit opacity to 20% or less while using a rotary brush or broom.

10. Permittee shall make a record of the control measures applied.

T. General Maintenance Obligation ***[Federally Enforceable Provision pursuant to code §3-1-081.E (9/5/01) approved as a SIP element at 66 FR 63166 (12/5/01)]***

At all times, including periods of start-up, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate the permitted facility including associated air pollution control equipment in a manner consistent with good air pollution control practice for minimizing emissions.

5. Compliance Demonstration

A. Initial Performance Testing (Code §3-1-170)

Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup of such facility, the owner or operator shall conduct the performance test on the following control equipment to quantify PM10, VOC, and HAPs emissions using standard approved EPA test methods or equivalent test methods as approved by the District. All the performance tests shall be run at the maximum practical production load possible:

1. PM10 Control Equipment

The PM10 control equipment listed in Section §4.C.3 of this permit.

2. VOCs and HAPs Control Equipment

The VOCs and HAPs control equipment listed in Section §4.D.4 of this permit.

3. Test Protocol

Test protocols shall be submitted to the District at least thirty (30) days prior to the test.

4. Performance Test Notice

Notice of any performance test required by this permit shall be submitted to the District at least thirty days (30) days prior to running the test.

5. Test Report

A copy of each test report shall be submitted to the District for approval within forty-five (45) days after the test. The test report shall indicate:

a. PM10 emission rates in pounds/hour, as well as in tons per year.
b. VOC emission rates in pounds/hour, as well as in tons per year.
c. HAPS (combined & single) emission rates in pounds/hour, as well as in tons per year.
d. PM10 control efficiency of the dust collectors/fume collectors.
e. VOC and HAP control/capture efficiency of the adsorption column (A/C) towers.

6. Subsequent Performance Tests

If the results of the initial tests show compliance with the permit requirements and limits, subsequent tests shall be performed within five (5) years of the previous performance tests. If the results show violation of the permit requirements, then the tests shall be conducted on an annual basis, until compliance is achieved, at that point the permittee may resume testing every five years.

B. Hydrogen Sulfide (H_2S) Performance Testing

1. Initial Hydrogen Sulfide Testing

Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup of such facility, the owner or operator shall analyze the H_2S levels by one of the following methods. The following analysis shall be performed at locations representing the nearest possible occupied places beyond the premises on which the source of H_2S is located, even if the occupied spaces have not been built yet.

a. Conduct a test to monitor the H2S levels, or
b. Conduct an air dispersion modeling analysis to determine H2S concentration levels.

2. Test Protocol

A test protocol for testing H_2S emissions shall be submitted to the district for approval at least thirty days before the actual testing.

3. Modeling Protocol

A modeling protocol shall be submitted to the district for approval at least thirty days before the actual modeling.

4. Test Reports

Permittee shall submit the testing or modeling report to the district detailing the results of the analysis within 30 days of the completion of the demonstration.

5. Subsequent Performance Tests

If the average H_2S concentration from the initial testing or modeling is less than 0.03 ppmv, then the testing or modeling shall be performed once every five years. If results indicate that the H_2S concentration is greater than 0.03 ppmv, then permittee shall perform a semi-annual testing or modeling until compliance is achieved.

C. National Ambient Air Quality Standards (NAAQS) Impact Modeling (Code §3-1-150)

Within ninety (90) days of issuance of this permit, permittee shall conduct an air quality impact analysis of the criteria pollutants, including hazardous air pollutants (HAPS) and toxics. Protocol of the analysis shall be submitted for approval by the department before the final analysis is conducted. The results of the analysis shall be submitted to the department for approval. Depending on the results of the analysis, this permit may be reopened to insert additional emission limitations and or, testing and monitoring requirements.

D. Calculation of Monthly VOC, HAP, and PM10 Emissions ***[Federally enforceable provision, pursuant to Code §3-1-081 (9/5/01) approved as a SIP element at 66 FR 63166 (12/5/01)]***

1. Calculation of Monthly VOC Emissions

   Monthly VOC emissions shall be calculated from the following processes, utilizing the emission rates as determined from the most recent performance testing until subsequent testing is performed and new emission rates are calculated:

   a. Solvent Coating and Drying
   b. Formation
   c. EOL Marking
   d. Cell Waste Building

2. Calculation of Monthly HAP Emissions

   Monthly HAP (combined and single) emissions shall be calculated from the following processes, utilizing the emission rates as determined from the most recent performance testing until subsequent testing is performed and new emission rates are calculated:

   a. Cathode and Anode Slurry Material Handling and Mixing
   b. Slitting
   c. Assembly (Welding)

3. Calculation of Monthly VOC and HAP Emissions from the Solvents

   Monthly VOC and HAP emissions from the miscellaneous use of solvents shall be calculated, and the results of the calculations shall be used to determine total facility VOC and HAP emissions.

4. Calculation of Monthly PM10 Emissions

   Monthly PM10 emissions shall be calculated from the following processes, utilizing the emission rates as determined from the most recent performance testing until subsequent testing is performed and new emission rates are calculated:

   a. Cathode and Anode Slurry Material Handling and Mixing
   b. Slitting
   c. Assembly (Welding)

E. NESHAP Initial Monitoring, Subpart CCCCCCC for Cathode and Anode Slurry Material Handling and Mixing, ***[Federally enforceable 40 CFR §63.11602.(a).(1).(ii), (iii) & (iv)]***

Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but no later than 180 days after initial startup of such facility, the owner or operator shall demonstrated compliance by conducting the following inspection and monitoring activities:

1. For each dry particulate control system, you must visually inspect the system ductwork and dry particulate control unit for leaks. You must also inspect the inside of each dry particulate control unit for structural integrity and condition.

2. An initial inspection of the internal components of a wet or dry particulate control system is not required if there is a record that an inspection meeting the requirements of this subsection has been performed within the past 12 months and any maintenance actions have been resolved.

3. For each particulate control device, you must conduct a visible emission test consisting of three 1-minute test runs using Method 203C (40 CFR part 51, appendix M). The visible

emission test runs must be performed during the addition of dry pigments and solids containing compounds of cadmium, chromium, lead, or nickel to a process vessel or to the grinding and milling equipment. If the average test results of the visible emissions test runs indicate an opacity greater than the applicable limitation in § 63.11601(a), you must take corrective action and retest within 15 days.

F. NESHAP Subsequent Monitoring, Subpart CCCCCCC for Cathode and Anode Slurry Material Handling and Mixing, ***[Federally enforceable 40 CFR §63.11602.(a).(2).(ii), (iii, ((iv) & (b)]***

1. Following the initial inspections, you must perform periodic inspections of each PM control device according to the following requirements. You must record the results of each inspection according to this section and perform corrective action where necessary. You must also conduct tests according to the requirements and record results according to this section.

   a. You must inspect and maintain each dry particulate control unit according to the following:

      i. Conduct weekly visual inspections of nay flexible ductwork for leaks.

      ii. Conduct inspections of the rigid, stationary ductwork for leaks, and the interior of the wet control system (if applicable) to determine the structural integrity and condition of the control equipment every 12 months.

   b. For each particulate control device, you must conduct a 5-minute visual determination of emissions from the particulate control device every 3 months using Method 22 (40 CFR part 60, appendix A-7). The visible emission test must be performed during the addition of dry pigments and solids containing compounds of cadmium, chromium, lead, or nickel to a process vessel or to the grinding and milling equipment. If visible emissions are observed for two minutes of the required 5-minute observation period, you must conduct a Method 203C (40 CFR part 51, appendix M) test within 15 days of the time when visible emissions were observed. The Method 203C test will consist of three 1-minute test runs and must be performed during the addition of dry pigments and solids containing compounds of cadmium, chromium, lead, or nickel HAP to a process vessel or to the grinding and milling equipment. If the Method 203C test runs indicates an opacity greater than the limitation, you must comply with the following requirements:

      i. You must take corrective action and retest using Method 203C within 15 days. The Method 203C test will consist of three 1-minute test runs and must be performed during the addition of dry pigments and solids containing compounds of cadmium, chromium, lead, or nickel to a process vessel or to the grinding and milling equipment. You must continue to take corrective action and retest each 15 days until a Method 203C test indicates an opacity equal to or less than the limitation in Section §4.G.3 of this permit.

      ii. You must prepare a deviation report in accordance with Section §5.J.2.iv of this permit for each instance in which the Method 203C opacity results were greater than the limitation in Section §4.G.3 of this permit.

      iii. You must resume the visible determinations of emissions from the particulate control device in accordance with paragraph (a)(2)(iii) of this section 3 months after the previous visible determination.

G. Regular Emissions Monitoring (Code §3-1-081)

1. Non-instrumental Emissions Monitoring - Particulate Matter ***[Federally enforceable provision, pursuant to Code §3-1-084 (8/11/94)]***

a. Since the emissions authorized under this permit constitute a direct function of the material throughput at the source, the Permittee shall maintain records of the material produced in the following processes:

i. Total electrode slurry produced (batches)
ii.. Total electrode material coated/slit (ft.)
iii. Total weld volume (mm^3)

b. Since the use of dust collectors are required to limit the emissions authorized under this permit, the Permittee shall inspect the dust collectors and the final exhaust fan at least once per day to determine they are operating properly. Records of these inspections shall be maintained.

c. On at least a semi-annual basis during operations, Permittee shall conduct a visual opacity screening on each stack. The individual conducting the opacity screen need not be a certified opacity observer, and the screening need not conform to any EPA reference method. If visible emission from a unit is observed, Permittee shall have a full Method 9 opacity test performed by a certified opacity observer, and shall provide a copy of the resulting report to the District within 10 operating days for that unit. Submission of such a report may constitute cause to reopen this permit to add additional testing and/or control requirements.

2. Non-instrumental Emissions Monitoring - Volatile Organic Compounds (Code §§3-1-081.A.4, 3-1-083)

a. As a surrogate means of monitoring emissions of volatile organic compounds, permittee shall maintain records of the material produced in the following processes:

i. Amount of VOC material used in solvent coating and drying (gallons)
ii. Amount of electrolyte used in the electrolyte filling process (tons)
iii. Chemical components (composition %) used in the electrolyte filling process
iv. Number of cells processed through formation (degassing) process
v. Amount of domino ink used in the EOL marking process (gallons)
vi. Amount of electrolyte solution used in the cell waste building (gallons)
vii. Amount of cells processed through cell waste building (gas formed)
viii. Amount of miscellaneous chemicals used (gallons)

3. Non-instrumental Emissions Monitoring – Hazardous Air Pollutants (Code §§3-1-081.A.4, 3-1-083)

a. As a surrogate means of monitoring emissions of hazardous air pollutants, permittee shall maintain records of the material produced in the following processes:

i. Total electrode slurry produced (batches)
ii. Total electrode material coated/slit (ft.)
iii. Total weld volume (mm^3)
iv. Amount of cells processed through cell waste building (gas formed)
v. Amount of miscellaneous chemicals used (gallons)

4. Non-instrumental Emissions Monitoring - Carbon Monoxide and Oxides of Nitrogen (Code §§3-1-081.A.4, 3-1-083)

a. As s surrogate means to monitor emissions of nitrogen oxides and carbon monoxide, permittee shall maintain records of natural gas consumed by the boilers.

H. NSPS Recordkeeping Requirements, Subpart Dc ***[Federally enforceable 40 CFR §60.48c.(a).(1), (g).(2)]***

1. Permitee shall comply with the notification requirements in accordance with Section §60.48c.(a).(1).

2. Permittee shall record and maintain the amount of natural gas combusted during each calendar month.

I. Cathode and Anode Slurry Material Handling and Mixing NESHAP Recordkeeping Requirements, Subpart CCCCCCC ***[Federally enforceable 40 CFR §63.11602.(b), §63.11603.(c) & (d)]***

1. Permittee shall record the following information for each inspection and testing activity:

   a. The date, place, and time;
   b. Person conducting the activity;
   c. Technique or method used;
   d. Operating conditions during the activity;
   e. Results; and
   f. Description of corrective actions taken.

2. Permittee shall maintain the following records for five years after the date of each recorded action:

   a. As required in § 63.10(b)(2)(xiv), you must keep a copy of each notification that you submitted, and all documentation supporting any Notification of Applicability and Notification of Compliance Status that you submitted.

   b. You must keep a copy of each Annual Compliance Certification Report prepared in accordance with Section §5.J of this permit..

   c. You must keep records of all inspections and tests as required by Section §5.H of this permit.

   d. Your records must be in a form suitable and readily available for expeditious review, according to § 63.10(b)(1).

   e. You must keep each record onsite for at least 2 years after the date of each recorded action according to § 63.10(b)(1). You may keep the records offsite for the remaining 3 years.

J. Recordkeeping ***[Federally enforceable provision, pursuant to Code §3-1-084 (8/11/94)]*** (Code §3-1-083)

Permittee shall maintain records of:

1. All information required pursuant to any federally enforceable provision of this permit, recorded in a permanent form suitable for inspection.

2. The occurrence and duration of any start-up, shutdown or malfunction in the operation of the permitted facility or any air pollution control equipment. For purposes of this provision, a "shut-down" means a cessation of operations at the entire facility for more than seven days, and a "start-up" constitutes the reactivation of the facility after a "shut-down."

3. Permittee shall record the weight in tons of asphalt produced in a permanent logbook for inclusion in the semi-annual report.

4. Permittee shall maintain records, in gallons of diesel fuel consumed by the heater.

K. Cathode and Anode Slurry Material Handling and Mixing NESHAP Annual Compliance Certification Report, Subpart CCCCCCC ***[Federally enforceable 40 CFR §63.11603.(b))]***

Permittee shall prepare an annual compliance certification report according to the following requirements. This report does not need to be submitted unless a deviation from the requirement of this subpart has occurred. When a deviation from the requirements of this subpart has occurred, the annual compliance certification report must be submitted along with the deviation report.

1. Each annual compliance certification report shall be prepared and, if applicable shall be Submitted according to the following dates:

   i. The first annual compliance certification report must cover the first annual reporting period which begins the day of the compliance date and ends on December 31.

   ii. Each subsequent annual compliance certification report must cover the annual reporting period from January 1 through December 31.

   iii. Each annual compliance certification report must be prepared no later than January 31 and kept in a readily-accessible location for inspector review. If a deviation has occurred during the year, each annual compliance certification report must be submitted along with the deviation report, and postmarked no later than February 15.

2. The annual compliance certification report must contain the following information:

   i. Company name and address;

   ii. A statement in accordance with § 63.9(h) of the General Provisions that is signed by a responsible official with that official's name, title, phone number, e-mail address and signature, certifying the truth, accuracy, and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart;

   iii. Date of report and beginning and ending dates of the reporting period. The reporting period is the 12-month period beginning on January 1 and ending on December 31; and

   iv. If a deviation has occurred during the reporting period, you must include a description of deviations from the applicable requirements, the time periods during which the deviations occurred, and the corrective actions taken. This deviation report must be submitted along with your annual compliance certification report, as required by Section §5.J.1.iii of this permit.

L. Compliance Reporting ***[Federally enforceable provision, pursuant to Code §3-1-084 (8/11/94)]*** (Code §3-1-083.A)

1. Emissions Reporting

   In order to demonstrate compliance with the provisions of this permit, the Permittee shall submit a semi-annual report containing a summary of the information required to be recorded pursuant to this permit, which summary shall clearly show that Permittee has complied with the operational and emissions limitations under this permit. All instances of deviations from permit requirements shall be clearly identified in such reports. For brevity, such deviation reports may incorporate by reference any written supplemental upset reports filed by Permittee during the reporting period. The report

shall be submitted to the District within 30 days after the end of each calendar half. Appendix A of this permit is a form which may be used for the report.

M. Annual Regular Compliance/Compliance Progress Certification (Code §3-1-083.A.4.)

Permittee shall annually submit a certification of compliance with the provisions of this permit. The certification shall:

1. Be signed by a responsible official, namely the proprietor, a general partner, the president, secretary, treasurer or vice-president of the corporation, or such other person as may be approved by the Control Officer as an administrative amendment to this permit;

2. Identify each term or condition of the permit that is the basis of the certification;

3. Verify the compliance status with respect to each such term or condition;

4. Verify whether compliance with respect to each such term or condition has been continuous or intermittent;

5. Identify the permit provision, or other, compliance mechanism upon which the certification is based; and

6. Be postmarked within thirty (30) days of the start of each calendar year.

6. Other Reporting Obligations

A. Deviations from Permit Requirements (Code §3-1-081.A.5.b.)

Permittee shall report any deviation from the requirements of this permit along with the probable cause for such deviation, and any corrective actions or preventative measures taken to the District within ten days of the earlier of date the Permittee learned, or should have learned, of the deviation unless earlier notification is required by the provisions of this permit.

B. Annual Emissions Inventory [Code §3-1-103. (Nov. '93)]

Permittee shall complete and submit to the District an annual emissions inventory, disclosing actual emissions for the preceding calendar year. Submittal of the form set forth in Appendix A of this permit fulfills this requirement.

7. Fee Payment (Code §3-7-600.)

As an essential obligation under this permit, a permit fee shall be assessed by the District and paid by Permittee in accord with the provisions of Code Chapter 3, Article 7, as they may exist at the time the fee is due. The permit fee shall be due annually on or before the anniversary date of the issuance of an individual permit, or formal grant of approval to operate under a general permit, or at such other time as may be designated now or hereafter by rule. The District will notify the Permittee of the amount to be due, as well as the specific date on which the fee is due.

8. General Conditions

A. Term (Code §3-1-089)

This permit shall have a term of five (5) years, measured from the date of issuance.

B. Basic Obligation (Code §3-1-081.)

Permittee shall operate in compliance with all conditions of this permit, the Pinal County Air Quality Control District ("the District") Code of Regulations ("Code"), and all State and Federal laws, statutes, and codes relating to air quality that apply to these facilities. Any permit

noncompliance is grounds for enforcement action; for a permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application and may additionally constitute a violation of the CAA.

C. Duty to Supplement Application (Code §§3-1-050.H., 3-1-081.A.8.e., 3-1-087.A.1.c., 3-1-110.)

Even after the issuance of this permit, a Permittee, who as an applicant who failed to include all relevant facts, or who submitted incorrect information in an application, shall, upon becoming aware of such failure or incorrect submittal, promptly submit a supplement to the application, correcting such failure or incorrect submittal. In addition, Permittee shall furnish to the District within thirty days any information that the Control Officer may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit or to determine compliance with this permit and/or the Code.

D. Right to Enter (Code §§ 3-1-132, 8-1-050)

Authorized representatives of the District shall, upon presentation of proper credentials and a showing that the District representative is equipped with certain safety equipment, namely a hard hat, be allowed:

1. To enter upon the premises where the source is located or in which any records are required to be kept under the terms and conditions of this permit;

2. To inspect any equipment, operation, or method required in this permit; and

3. To sample emissions from the source.

E. Transfer of Ownership (Code §3-1-090)

This permit may be transferred from one person to another by notifying the District at least 30 days in advance of the transfer. The notice shall contain all the information and items required by Code § 3-1-090. The transfer may take place if not denied by the District within 10 days of the receipt of the transfer notification.

F. Posting of Permit (Code §3-1-100)

Permittee shall firmly affix the permit, an approved facsimile of the permit, or other approved identification bearing the permit number, upon such building, structure, facility or installation for which the permit was issued. In the event that such building, structure, facility or installation is so constructed or operated that the permit cannot be so placed, the permit shall be mounted so as to be clearly visible in an accessible place within a reasonable distance of the equipment or maintained readily available at all times on the operating premises.

G. Permit Revocation for Cause (Code §3-1-140)

The Director of the District ("Director") may revoke this permit for cause, which cause shall include occurrence of any of the following:

1. The Director has reasonable cause to believe that the permit was obtained by fraud or material misrepresentation;

2. Permittee failed to disclose a material fact required by the permit application form or a regulation applicable to the permit;

3. The terms and conditions of the permit have been or are being violated.

H. Certification of Truth, Accuracy, and Completeness (Code § 3-1-175.)

Any application form, report, or compliance certification submitted pursuant to the Code shall contain certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under Chapter 3 of the Code shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

I. Permit Expiration and Renewal (Code §3-1-089)

Expiration of this permit will terminate the facility's right to operate unless either a timely application for renewal has been submitted in accordance with §§3-1-050, 3-1-055 and 3-1-060, or a substitute application for a general permit under §3-5-490. For Class I permit renewals, a timely application is one that is submitted at least 6 months, but not greater than 18 months prior to the date of the permit expiration. For Class II or Class III permit renewals, a timely application is one that is submitted at least 3 months, but not greater than 12 months prior to the date of permit expiration.

J. Severability (Code §3-1-081.A.7)

The provisions of this permit are severable, and if any provision of this permit is held invalid the remainder of this permit shall not be affected thereby.

K. Permit Shield (Code § 3-1-102.)

1. Compliance with the terms of this permit shall be deemed compliance with any applicable requirement identified in this permit.

2. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

L. Permit Revisions (Code Chapter 3, Article 2)

1. This permit may be revised, reopened, revoked and reissued, or terminated for cause. Other than as expressly provided in Code Chapter 3, Article 2, the filing of a request by the permittee for a permit revision, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.

2. The permittee shall furnish to the Control Officer, within a reasonable time, any information that the Control officer may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit or to determine compliance with the permit.

3. Permit amendments, permit revisions, and changes made without a permit revision shall conform to the requirements in Article 2, Chapter 3, of the Code.

4. Should this source become subject to a standard promulgated by the Administrator pursuant to CAA §112(d), then Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard. (Code §3-1-050.C.5)

5. Revision to Permit Provisions Designated as Federally Enforceable Pursuant to Code §3-1-084 ***[Federally enforceable provision, pursuant to Code §3-1-084 (8/11/94)]***

As an express condition of preserving the federal enforceability of any provision of this permit designated "federally enforceable" pursuant to Code §3-1-084, Permittee shall not make any facility allowed change that would contravene such provision, until thirty (30) days after the Permittee has previously furnished notice of the proposed change to the District and to the Administrator, to thereby allow the Administrator opportunity to comment upon the continued "federal enforceability" of the subject provision after the proposed change.

M. Permit Re-opening (Code §3-1-087)

1. This permit shall be reopened if either:

a. The Control Officer determines that it contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of it;

b. The Control Officer determines that it needs to be revised or revoked to assure compliance with the applicable requirements; or

c. The EPA makes a material objection to any of those federally enforceable designations under Code §3-1-084 after the normal EPA review period is ended.

2. If this permit must be reopened or revised, the District will notify the permittee in accord with Code §3-1-087.A.3.

N. Record Retention (Code §3-1-083.A.2.b)

Permittee shall retain for a period of five (5) years all documents required under this permit, including reports, monitoring data, support information, calibration and maintenance records, and all original recordings or physical records of required continuous monitoring instrumentation.

O. Scope of License Conferred (Code §3-1-081.)

This permit does not convey any property rights of any sort, or any exclusive privilege.

P. Excess Emission Reports; Emergency Provision (Code §3-1-081.E, Code §8-1-030)

1. To the extent Permittee may wish to offer a showing in mitigation of any potential penalty, underlying upset events resulting in excess emissions shall reported as follows:

a. The permittee shall report to the Control Officer any emissions in excess of the limits established by this permit. Such report shall be in two parts:

i. Notifications by telephone or facsimile within 24 hours or the next business day, whichever is later, of the time when the owner or operator first learned of the occurrence of excess emissions, including all available information required under subparagraph b. below.

ii. Detailed written notification within 3 working days of the initial occurrence containing the information required under subparagraph b. below.

b. The excess emissions report shall contain the following information:

i. The identity of each stack or other emission point where the excess emissions occurred.

ii. The magnitude of the excess emissions expressed in the units of the applicable limitation.

iii. The time and duration or expected duration of the excess emissions.

iv. The identity of the equipment from which the excess emissions occurred.

v. The nature and cause of such emissions.

vi. If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions.

vii. The steps that were or are being taken to limit the excess emissions. To the extent this permit defines procedures governing operations during periods of start-up or malfunction, the report shall contain a list of steps taken to comply with this permit.

viii. To the extent excess emissions are continuous or recurring, the initial notification shall include an estimate of the time the excess emissions will continue. Continued excess emissions beyond the estimated date will require an additional notification.

2. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

3. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of the following subparagraph are met.

4. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The permitted facility was at the time being properly operated;

c. During the period of emergency the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and

d. The permittee submitted notice of the emergency to the Control Officer by certified mail or hand delivery within 2 working days of the time when emissions limitations were exceeded due to emergency. The notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.

9. Facility Specific Data

A. Equipment

Equipment/processes for which emissions are allowed by this permit is as follows:

1. Material Handling and Mixing (Cathode and Anode)
2. Solvent Coating and Drying
3. Slitting
4. Assembly - Electrolyte
5. Assembly - Welding
6. Formation
7. EOL Marking
8. Cell Waste Building

9. Miscellaneous Chemical Use
10. Natural Gas Boilers (6) – 21.82 MMBtu/hr. each
11. NMP Tanks
12. Cooling Towers

B. Insignificant Activities

1. Diesel and fuel storage tanks with capacity of 40,000 gallons or less.
2. Lab equipment used for chemical and physical analyses.
3. Repair maintenance, including normal landscaping, janitorial activities, building maintenance, and repair or maintenance shop activities.
4. Hand-held equipment, including equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning, machining, outing, sanding, surface grinding of precision parts, metals, plastics, and masonry.

C. Emissions Inventory Table

Emission Point	**Pollutants**	**Emission Rates (Tons/Yr.)**
Material Handling and Mixing (Cathode and Anode)	Particulate Matter (PM_{10})	0.14
	Hazardous Air Pollutants (HAPs)	0.06
Solvent Coating and Drying	Volatile Organic Compounds (VOCs)	6.22
Slitting	Particulate Matter (PM_{10})	0.1
	Hazardous Air Pollutants (HAPs)	0.07
Assembly – Electrolyte	Volatile Organic Compounds (VOCs)	< 0.1
Assembly – Welding	Particulate Matter (PM_{10})	5.82
	Hazardous Air Pollutants (HAPs)	5.20
Formation	Volatile Organic Compounds (VOCs)	8.97
	Carbon Monoxide (CO)	1.83
EOL Marking	Particulate Matter (PM_{10})	< 0.1
	Volatile Organic Compounds (VOCs)	0.02
Cell Waste Building	Volatile Organic Compounds (VOCs)	15.37
	Hazardous Air Pollutants (HAPs)	0.45
	Carbon Monoxide (CO)	0.01
Miscellaneous Chemical Use	Volatile Organic Compounds (VOCs)	11.97
Natural Gas Boilers (6)	Nitrogen Oxides (NO_X)	56.23
	Carbon Monoxide (CO)	47.23

	Particulate Matter (PM_{10})	4.27
	Sulfur Dioxide (SO_X)	0.34
	Volatile Organic Compounds (VOCs)	3.09
	Hazardous Air Pollutants (HAPs)	1.06
NMP Tanks	Volatile Organic Compounds (VOCs)	0.3

Appendix A

Semi-annual Report

Permit C31387.000

Abstract

This constitutes a semi-annual report, documenting emissions and use of emission-generating materials during the subject reporting period.

Facility -

ES America, LLC
Ironwood and East Pecos Road, Section 5, Township 2 South, Range 8 East
Queen Creek, AZ

Reporting Period - January-June ____ Or July-December ____ Year_____

Material Report

Total electrode slurry produced - _____batches

Total electrode material coated/slit - _____ ft.

Total weld volume - _____mm^3

Amount of VOC material used in solvent coating and drying - _____ gallons

Amount of electrolyte used in the electrolyte filling process - _____tons

Chemical components (composition %) used in the electrolyte filling process - _____%

Number of cells processed through formation (degassing) process - _____cells

Amount of domino ink used in the EOL marking process - _____gallons

Amount of electrolyte solution used in the cell waste building- _____gallons

Amount of cells processed through cell waste building (gas formed) - _____cells

Amount of miscellaneous chemicals used - _____gallons

Natural gas combusted - _____ therms

Performance Tests

Were the initial performance tests conducted as required in Section §5.A of this permit? Yes_____ No_____

If yes, please list the date of the most recent performance tests_____

Was the initial hydrogen sulfide test conducted as required in Section §5.B of this permit?
Yes_____ No_____

If yes, please list the date of the most recent performance test_____

Compliance Report

Were monthly VOCs, HAPs, and PM10 emissions calculated as required in Section §5.C of this permit?
Yes_____ No_____

NESHAP Subpart CCCCCCC Compliance Report

Were the initial inspection and monitoring activities conducted as required in Section §5.D of this permit?
Yes_____ No_____

Were the subsequent inspection and monitoring activities conducted as required in Section §5.E of this permit?
Yes_____ No_____

Were the records for each inspection and testing activity maintained as required in Section §5.H of this permit?
Yes_____ No_____

Were the annual compliance certification reports prepared and submitted (if applicable) in accordance with Section §5.J of this permit? Yes_____ No_____

Monitoring Report

Was the visual opacity screening on stacks conducted as required in Section §5.F.1.c? Yes_____ No_____

Certification by Responsible Official

I certify that, based on information and belief formed after reasonable inquiry, that the statements and information in this report are true, accurate and complete.

Signed_____

Print Name_____

Title_____

Contact Phone Number_____

Date_____

Mail to: Pinal County Air Quality Control District
P.O. Box 987
Florence, AZ 85132, or

Email to: compliancereports@pinal.gov