



# FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Southwest District Office  
13051 North Telecom Parkway  
Temple Terrace, Florida 33637-0926

RICK SCOTT  
GOVERNOR

CARLOS LOPEZ-CANTERA  
LT. GOVERNOR

JONATHAN P. STEVERSON  
SECRETARY

## FINAL PERMIT

### PERMITTEE

Solicore, Inc.  
2700 Interstate Drive  
Lakeland, FL 33805

Air Permit No. 1050410-003-AO  
Permit Expires: 02/09/2020  
Minor Air Operation Permit  
Project: Air Operation Permit Renewal

Authorized Representative:  
Mr. Ken Kull, EHS Manager

This is the final permit to renew Air Operation Permit No. 1050410-002-AO for a flexible solid-state miniature battery manufacturing process (Standard Industrial Classification No. 3691). The facility is located in Polk County at 2700 Interstate Drive, Lakeland, Florida. The UTM coordinates are Zone 17, 403.96 km East, and 3106.31 km North.

This final permit is organized by the following sections:

- Section 1. General Information
- Section 2. Administrative Requirements and Facility-wide Specific
- Section 3. Emissions Unit Specific Conditions
- Section 4. Appendices

Due to the technical nature of the project, the permit contains numerous acronyms and abbreviations, which are defined in Appendix A of Section 4 of this permit.

This air pollution permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). The permittee is authorized to conduct the proposed work in accordance with the conditions of this permit.

A person whose substantial interests are affected by the proposed permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, F.S. Petitions filed by the applicant or any of the parties listed below must be filed within 14 days of receipt of this final permit. A petitioner shall mail a copy of the petition to the applicant at the address indicated above, at the time of filing. A petition for administrative hearing must contain the information set forth below and must be filed (received) with the Agency Clerk in the Office of General Counsel, 3900 Commonwealth Boulevard, MS 35, Tallahassee, Florida 32399-3000, [Agency.Clerk@dep.state.fl.us](mailto:Agency.Clerk@dep.state.fl.us), before the deadline. The failure of any person to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the approval of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

A petition that disputes the material facts on which the Permitting Authority's action is based must contain the following information: (a) The name and address of each agency affected and each agency's file or identification number, if known; (b) The name, address, any email address, telephone number and any facsimile number of the petitioner; the name, address, any email address, telephone number, and any facsimile number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination; (c) A statement of when and how each petitioner received notice of the agency action or proposed decision; (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate; (e) A concise

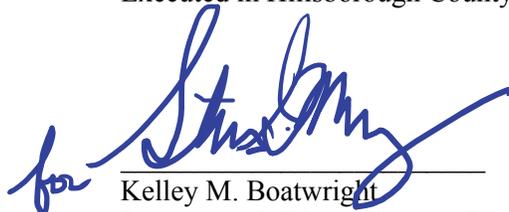
statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action; (f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action including an explanation of how the alleged facts relate to the specific rules or statutes; and, (g) A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the agency to take with respect to the agency's proposed action. A petition that does not dispute the material facts upon which the Permitting Authority's action is based shall state that no such facts are in dispute and otherwise shall contain the same information as set forth above, as required by Rule 28-106.301, F.A.C.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the Permitting Authority's final action may be different from the position taken by it in this final permit. Persons whose substantial interests will be affected by any such final decision of the Permitting Authority on the application have the right to petition to become a party to the proceeding, in accordance with the requirements set forth above.

Mediation is not available in this proceeding.

Any party to this order has the right to seek judicial review of it under section 120.68 of the Florida Statutes, by filing a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel, 3900 Commonwealth Boulevard, Mail Station #35, Tallahassee, Florida 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice must be filed within thirty days after this order is filed with the clerk of the Department.

Executed in Hillsborough County, Florida



Kelley M. Boatwright  
Permitting & Waste Cleanup Program Administrator  
Southwest District

02/09/2015

Effective Date

**CERTIFICATE OF SERVICE**

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Permit and the Appendices) was sent by electronic mail (or a link to these documents made available electronically on a publicly accessible server) with received receipt requested before the close of business on the date indicated below to the persons listed below.

Ken Kull, EHS Manager, Solicore, Inc. ([kkull@solicore.com](mailto:kkull@solicore.com))

Danielle. D. Henry, SWD CAP Manager ([Danielle.D.Henry@dep.state.fl.us](mailto:Danielle.D.Henry@dep.state.fl.us))

Cynthia Falandysz, SWD CAP Program ([cynthia.falandysz@dep.state.fl.us](mailto:cynthia.falandysz@dep.state.fl.us))

Clerk Stamp

**FILING AND ACKNOWLEDGMENT FILED**, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

  
\_\_\_\_\_  
(Clerk)

02/09/2015  
(Date)

**SECTION 1. GENERAL INFORMATION (FINAL)**

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**FACILITY DESCRIPTION**

The flexible solid-state miniature battery manufacturing process at the facility employs constituent chemicals that are volatile organic compounds (VOCs). The manufacturing process is similar to semiconductor manufacturing in the sense that the substrate, aluminum foil, is received on reels. Various constituent layers are then applied to the substrate.

The facility is synthetic minor for the pollutant volatile organic compounds (VOC).

Portions of the manufacturing processes and drawings contained in the facility's documents on file with the Department are considered confidential pursuant to Section 403.111(1), Florida Statutes.

|                         |  |
|-------------------------|--|
| Facility ID No. 1050410 |  |
| <b>EU ID No.</b>        | <b>Emissions Unit Description</b>                            |
| 001                     | Flexible Solid-State Miniature Battery Manufacturing Process |

***NOTE:** Please reference the Permit No., Facility ID, and Emission Unit ID in all correspondence, test report submittals, applications, etc.*

**Exempt Emission Units/Activities**

- One of the layers applied to the substrate includes a polymer, which is manufactured at the facility. During the manufacturing of the polymer and the battery manufacturing process, emissions of hazardous air pollutants, such as formaldehyde, methanol, phthalic anhydride, and hydrochloric acid, may be emitted in exempt quantities. [Rule 62-210.310(3)(b)1., F.A.C.]
- The following six (6) natural gas fired heaters (furnaces) associated with the facility's dehumidification process pursuant to Rule 62-210.300(3)(a)9., F.A.C.:

| Furnace No. | Maximum Heat Input Rate (BTU/hour) |
|-------------|------------------------------------|
| 1           | 400,000                            |
| 2           | 400,000                            |
| 3           | 250,000                            |
| 4           | 250,000                            |
| 5           | 250,000                            |
| 6           | 250,000                            |

**FACILITY REGULATORY CLASSIFICATION**

- The facility is not a major source of hazardous air pollutants (HAPs).
- The facility has no units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is not a Title V major source of air pollution in accordance with Chapter 62-213, F.A.C.
- The facility is not a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.
- This facility is a synthetic non-Title V source for the pollutant Volatile Organic Compounds (VOC).

**SECTION 1. GENERAL INFORMATION (FINAL)**

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**PERMIT HISTORY/AFFECTED PERMITS**

This permit replaces Operation Permit No. 1050410-002-AO.

**SECTION 2. ADMINISTRATIVE REQUIREMENTS AND FACILITY-WIDE SPECIFIC CONDITIONS  
(FINAL)**

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1. Permitting Authority - The permitting authority for this project is the Florida Department of Environmental Protection (Department), Southwest District Office's Air and Solid Waste Permitting Program. The mailing address, phone number and e-mail address is:

Florida Department of Environmental Protection  
Southwest District Office  
Air and Solid Waste Permitting Program  
13051 North Telecom Parkway  
Temple Terrace, Florida 33637-0926  
Telephone: 813-470-5700  
E-mail: SWD\_Air\_Permitting@dep.state.fl.us

All documents related to applications for permits shall be submitted to the above e-mail address and/or address.

2. Compliance Authority - The compliance authority for this project is the Florida Department of Environmental Protection (Department), Southwest District Office's Compliance Assurance Program. The mailing address, phone number and e-mail address is:

Florida Department of Environmental Protection  
Southwest District Office  
Compliance Assurance Program  
13051 North Telecom Parkway  
Temple Terrace, Florida 33637-0926  
Telephone: 813-470-5700  
E-mail: SWD\_Air@dep.state.fl.us

3. Appendices - The following Appendices are attached as part of this permit:

- a. Appendix A. Citation Formats and Glossary of Common Terms;
- b. Appendix B. General Conditions;
- c. Appendix C. Common Conditions; and
- d. Appendix D. Common Testing Requirements.

4. Applicable Regulations, Forms and Application Procedures - Unless otherwise specified in this permit, the construction and operation of the subject emissions units shall be in accordance with the capacities and specifications stated in the application. The facility is subject to all applicable provisions of: Chapter 403, F.S.; and Chapters 62-4, 62-204, 62-210, 62-212, 62-213, 62-296 and 62-297, F.A.C. Issuance of this permit does not relieve the permittee from compliance with any applicable federal, state, or local permitting or regulations.

5. New or Additional Conditions - For good cause shown and after notice and an administrative hearing, if requested, the Department may require the permittee to conform to new or additional conditions. The Department shall allow the permittee a reasonable time to conform to the new or additional conditions, and on application of the permittee, the Department may grant additional time.  
[Rule 62-4.080, F.A.C.]

6. Modifications - Unless otherwise exempt by rule, the permittee shall not initiate any construction, reconstruction, or modification at the facility and shall not install/modify any pollution control device at the

**SECTION 2. ADMINISTRATIVE REQUIREMENTS AND FACILITY-WIDE SPECIFIC CONDITIONS  
(FINAL)**

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facility without obtaining prior authorization from the Department. Modification is defined as: Any physical change or changes in the method of operations or addition to a facility that would result in an increase in the actual emissions of any air pollutant subject to air regulations, including any not previously emitted, from any emission unit or facility.

[Rules 62-210.200 - Definition of "Modification" and 62-210.300(1)(a), F.A.C.]

7. Annual Operating Report - On or before **April 1** of each year, the permittee shall submit a completed DEP Form 62-210.900(5), "Annual Operating Report for Air Pollutant Emitting Facility" (AOR) for the preceding calendar year. The report may be submitted electronically in accordance with the instructions received with the AOR package sent by the Department, or a hardcopy may be sent to the Compliance Authority.  
[Rule 62-210.370(3), F.A.C.]
  
8. Operation Permit Renewal Application - A completed application for renewal of the operation permit shall be submitted to the Permitting Authority no later than 60 days prior to the expiration date of this operation permit. To properly apply for an operation permit, the applicant shall submit the following:
  - a. the appropriate permit application form (*see current version of Rule 62-210.900, F.A.C. (Forms and Instructions), and/or FDEP Division of Air Resource Management website at: <http://www.dep.state.fl.us/air/>*);
  - b. the appropriate operation permit application fee from Rule 62-4.050(4)(a), F.A.C.; and
  - c. copies of the most recent month of records/logs specified in Specific Condition No. A.5.[Rules 62-4.030, 62-4.050, 62-4.070(3), 62-4.090, 62-210.300(2), and 62-210.900, F.A.C.]

**FACILITY-WIDE SPECIFIC CONDITIONS**

9. General Standards - VOC Emissions or OS Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, volatile organic compounds (VOC) or organic solvents (OS) without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. The permittee shall comply with the following:
  - a. All equipment, pipes, hoses, lids, fittings, etc., shall be operated and maintained in such a manner as to minimize leaks, fugitive emission, and spills of paints and solvent materials that contain VOC and/or OS.
  - b. All solvents from solvent washings that contain VOC and/or OS shall be directed into containers that prevent evaporation into the atmosphere.

[Rule 62-296.320(1), F.A.C. and Construction Permit No. 1050410-001-AC]

## SECTION 3. EMISSION UNIT SPECIFIC CONDITIONS (FINAL)

### A. EU No. 001 – Flexible Solid-State Miniature Battery Manufacturing Process

This section of the permit addresses the following emissions unit (EU).

| EU ID No. | Emissions Unit Description  |
|-----------|---|
| 001       | <b><u>Flexible Solid-State Miniature Battery Manufacturing Process</u></b> - The battery manufacturing process employs constituent chemicals that are volatile organic compounds (VOC). The manufacturing process is similar to semiconductor manufacturing in the sense that the substrate, aluminum foil, is received on reels. Various constituent layers are then applied to the substrate. |

#### PERFORMANCE RESTRICTIONS

- A.1.** Battery Production Requirements: This emission unit shall not produce more than 105,462,000 batteries per any consecutive 12-month period.  
[Rule 62-210.200(PTE), F.A.C. and Construction Permit No. 1050410-001-AC]
- A.2.** Hours of Operation - The hours of operation are not limited (8760 hours per year).  
[Rules 62-4.070(3) and 62-210.200(PTE), F.A.C.]
- A.3.** Permitted Capacity Requirements: This emission unit is allowed to operate the following equipment:
- Polymer Synthesis – RHE Handel Engineering 30 liter polymer reactor.
  - Binder Mixing – DPM-4 Ross Mixer (shared with Polymer Matrix Electrolyte Mixing).
  - Cathode Mixing – NTK Mixer and Q6 Attritor.
  - Polymer Matrix Electrolyte Mixing – DPM-4 Ross Mixer (shared with Binder Mixing).
  - Cathode Coating – Alliance 12”9 oven reverse roll comma coater (also used for Polymer Matrix Electrolyte Coating).
  - Battery Assembly – Custom automated battery assembly machine.

[Rule 62-4.070(3), F.A.C.]

*{Permitting note: The Permit Capacity Requirements listed in Specific Condition No. A.3. were specified in permit application 1050410-002-AO dated 01/28/2010.}*

#### EMISSIONS STANDARDS

- A.4.** VOC Emission Limitation: Emissions of VOCs from this emission unit shall not exceed 97 tons per any consecutive 12-month period.  
[Rule 62-210.200(PTE), F.A.C.; Construction Permit 1050410-001-AC]

### SECTION 3. EMISSION UNIT SPECIFIC CONDITIONS (FINAL)

#### A. EU No. 001 – Flexible Solid-State Miniature Battery Manufacturing Process

##### RECORDKEEPING REQUIREMENTS

**A.5.** Monthly Recordkeeping Requirements: In order to demonstrate compliance with the limitations of Specific Condition Nos. A.1. and A.4., the permittee shall monthly record the following:

- a. Facility Name, Facility ID No. (1050410), Emission Unit ID No. (001).
- b. Month/Year
- c. For each battery size, record the number of batteries produced.
- d. The total combined number of batteries produced for the most recent consecutive 12-month period.
- e. The monthly\* total VOC emissions, in tons per month.

\* If the total VOC emissions for a consecutive 12-month period are equal to or more than 88 tons, the records shall then be required to be kept daily until the most recent consecutive 12-month total of VOC emissions is below 88 tons. Each day's record shall contain the VOC emissions for that day, in tons. Each day's records shall also sum the previous 11 months and the current month's cumulative daily VOC emissions, in tons.

- f. A cumulative total of the VOC emissions for the most recent consecutive 12-month period (tons per consecutive 12-month period).

Supporting documentation (e.g., SDS or MSDS, "As Supplied" sheets, "As Applied" sheets, purchase orders, inventory records, production records, etc.) for the records shall include sufficient information to determine VOC emissions.

[Rule 62-4.070(3), F.A.C. and Construction Permit No. 1050410-001-AC]

**A.6.** Records Retention: The records, required by Specific Condition No. A.5., shall be recorded in a permanent form suitable for inspection by the Department upon request, and shall be retained at the facility for a minimum of the most recent three (3) year period. The monthly records shall be completed by the end of the following month and daily records (if required) shall be completed by end of the following third business day.

[Rules 62-4.070(3) and 62-4.160, F.A.C. and Construction Permit No. 1050410-001-AC]