TECHNICAL EVALUATION
&
PRELIMINARY DETERMINATION

APPLICANT

Sewell Products of Florida, LLC
909 Magnolia Avenue
Auburndale, FL 33823

dba KIK Custom Products

Facility ID No. 1050443

PROJECT

Project No. 1050443-001-AC
Application for Minor Air Construction Permit
Project Name: HCl Bottling Line

COUNTY

Polk County, Florida

PERMITTING AUTHORITY

Florida Department of Environmental Protection
Air Resource Management
Southwest District Office
Temple Terrace, Florida 33637-7600

March 6, 2012
Revised April 17, 2012

TECHNICAL EVALUATION AND PRELIMINARY DETERMINATION

Prepared by David Zell

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GENERAL PROJECT INFORMATION

Air Pollution Regulations

Projects at stationary sources with the potential to emit air pollution are subject to the applicable environmental laws specified in Section 403 of the Florida Statutes (F.S.). The statutes authorize the Department of Environmental Protection (Department) to establish regulations regarding air quality as part of the Florida Administrative Code (F.A.C.), which includes the following applicable chapters: 62-4 (Permits); 62-204 (Air Pollution Control – General Provisions); 62-210 (Stationary Sources – General Requirements); 62-212 (Stationary Sources – Preconstruction Review); 62-213 (Operation Permits for Major Sources of Air Pollution); 62-296 (Stationary Sources - Emission Standards); and 62-297 (Stationary Sources – Emissions Monitoring). Specifically, air construction permits are required pursuant to Rules 62-4, 62-210 and 62-212, F.A.C.

In addition, the U. S. Environmental Protection Agency (EPA) establishes air quality regulations in Title 40 of the Code of Federal Regulations (CFR). Part 60 specifies New Source Performance Standards (NSPS) for numerous industrial categories. Part 61 specifies National Emission Standards for Hazardous Air Pollutants (NESHAP) based on specific pollutants. Part 63 specifies NESHAP based on the Maximum Achievable Control Technology (MACT) for numerous industrial categories. The Department adopts these federal regulations on a quarterly basis in Rule 62-204.800, F.A.C.

Glossary of Common Terms

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

I. Project Description:

A. Applicant:

Mr. Roger Barney, General Manager
Sewell Products of Florida, LLC
909 Magnolia Avenue
Auburndale, FL 33823

B. Professional Engineer:

Mr. Kevin Miller, P.E.
U.S. Compliance Corporation
4350 Baker Road, Suite 100
Minnetonka, MN 55343

C. Project Location:

The existing KIK Custom Products facility is located in Polk County at 909 Magnolia Avenue, in Auburndale, Florida *(see location map and photo of facility below).*

D. Project Summary:

The proposed project is construction of a new HCl Solution Bottling Line at this existing facility. Operations consist of HCl (hydrochloric acid) solution unloading (from railcars and trucks), storage, and bottling (container filling), as further described in the permit. Vapor emissions from each of these operations will be controlled by two (2)high efficiency high efficiency wet scrubbers.

E. Application Information:

Application Received and Complete on: 02/15/2012

II. Rule Applicability

This project is subject to the preconstruction review requirements of Chapter 403, Florida Statutes and Chapters 62-204 through 62-297, Florida Administrative Code (F.A.C.), as indicated below.

Subject to:	Y/N	Comments
Rule 62-210.300, F.A.C. - Permits Required	Y	subject to general permitting requirements
Rule 62-212.400, F.A.C. - Prevention of Significant Deterioration	N	facility is not a PSD major source, nor does this project itself trigger PSD review
Rule 62-296.320(4), F.A.C. - General Particulate Emission Limiting Standards	N	particulate matter emissions from this emission source will be insignificant
Rules 62-296.320(1) and (2), F.A.C. - General Pollutant Emission Limiting Standards (VOCs and Odor)	Y	HCl handling operations are a potential source of odors
Rule 62-296.401-470, F.A.C. - Stationary Source Emission Standards	N	there is no applicable source category
Rule 62-296.500, F.A.C. - Reasonably Available Control Technology (VOC)	N	Polk County is not an air quality maintenance area for ozone , and project is not a source of VOC emissions
Rule 62-296.700, F.A.C. - Reasonably Available Control Technology (PM)	N	this is a new source, therefore not subject to PM RACT rule
Rule 62-204.800, F.A.C. - Standards of Performance for New Stationary Sources (NSPS)	N	there is no applicable source category

Subject to:	Y/N	Comments
Rule 62-204.800, F.A.C. National Emission Standard for Hazardous Air Pollutants (NESHAPS – 40 CFR 61)	N	there is no applicable source category
Rule 62-204.800, F.A.C. National Emission Standard for Hazardous Air Pollutants for Source Categories a.k.a. MACT (NESHAPS – 40 CFR 63)	N	there is no applicable source category
Chapter 62-213, F.A.C. - Operation Permits for Major Sources of Air Pollution	N	facility is a synthetic non-Title V source
Rule 62-297.310, F.A.C. - General Compliance Test Requirements, F.A.C.	N	no compliance testing is required

III. Summary of Emissions

(Note - All emissions from this project will be HCl, which is a HAP. HCl Bottling Line production is limited to 5 x 10^6 gallons/year.)

EU No. 002 - HCl Solution Bottling Operations (Container Filling) – w/vapor emissions controlled by Scrubber 2

Based on limiting production to 5,000,000 gallons of HCl solution/year (equivalent to 24,000 tons/year), and a permit application emission factor of 1.8 pounds HCl emissions/ton of HCl (36% HCl) produced (from AP-42, Section 8.6, for HCl production – likely a conservative over-estimate for this container filling activity*) before-control potential emissions are estimated at 21.6 TPY. Potential HCl emissions after control (i.e., from the scrubber exhaust stacks after control by the scrubbers assumed at 99%) are estimated at 0.23 tons per year.

(* Emission Factor Note – A search for a permit for an HCl handling facility by Cindy Zhang-Torres resulted in a permit issued by the State of Washington for a facility which included HCl solution production and loading. This permit references an after control emission factor for HCl solution loading of 0.0001 lb/ton of 36% HCl solution. With their estimated control efficiency of 99.97%, this would correspond to a before controls Ef of 0.33 lbs/ton of 36% HCl solution for HCl loading. This is significantly lower than the above Ef of 1.8 lb/ton of 36% HCl solution. Based on this State Washington permit Ef, estimated potential emissions from the Sewell Products bottling operations would be ≤ 4.0 TPY before controls and < 0.04 TPY after controls (lower concentration HCl solution (31.45% HCl solution being bottled) would be expected to have a lower Ef and lower potential emissions).

EU No. 001 – HCl Truck/Railcar Unloading and HCl Storage Tanks (five (5) – three (3) HCl Storage tanks and two (2) Dilution HCl Tanks) w/vapor emissions controlled by common Scrubber 1

The permit application states that emissions from the five (5) storage tanks are expected to be negligible. However, the permit for an HCl production facility from the State of Washington *(see above Emission Factor Note)* estimated tank emissions from five (5) tanks for a 88,000 tons HCl solution/year facility using the tanks AP-42 Section 7.1 procedures, and the before control potential tank emissions were 2.52 TPY. Scaling this down for the Sewell Products facility (limited to 5 x 10^6 gallons/yr which is equivalent to 24,000 tons/yr (@9.6 lbs/gal)), the potential emissions from the five tanks at Sewell Products could be estimated at 0.687 TPY before control and 0.007 TPY after control (99% scrubber efficiency).

The emissions from the tanks would be HCl which is HAP, and the Rule 62-210.300(3)(b)1., F.A.C. generic emission unit exemption level is 0.5 TPY for an individual HAP. Based on the storage tanks potential emissions of 0.687 TPY they are not exempt from permitting and included in the permit as EU No. 001.

Emissions from Trucks/Railcars During HCl Solution – w/vapor emissions controlled by Scrubber 1

The permit application does not specifically address potential emissions from this activity. The application does state that emissions from the five (5) storage tanks are expected to be negligible. Since this activity only includes vapor emissions from the trucks or railcars themselves, and only during times of actual unloading, these emissions would be significantly less than the storage tank emissions.

Total Estimated HCl Emissions From the New HCl Bottling Line

Potential HCl Emissions Before Control – 0.687 TPY (EU No. 001) + 21.6 TPY (or <4.0 TPY) (EU No. 002) + < 0.5 TPY (Exempt truck/railcar unloading) = < 22.8 TPY (or <5.19 TPY)

Potential HCl Emissions After Control = < 22.8 TPY (or < 5.19 TPY) x (1-0.99) = < 0.23 TPY (or < 0.052 TPY)

IV. Conclusions

The emission limits proposed by the applicant will meet all of the requirements of Chapters 62-204 through 297, F.A.C.

The General and Specific Conditions listed in the proposed permit (attached) will assure compliance with all the applicable requirements of Chapters 62-204 through 297, F.A.C.

V. Preliminary Determination

The Department makes a preliminary determination that the proposed project will comply with all applicable state and federal air pollution regulations as conditioned by the draft permit. This determination is based on a technical review of the complete application, reasonable assurances provided by the applicant, and the conditions specified in the draft permit. Additional details of this analysis may be obtained by contacting the project engineer at the Florida Department of Environmental Protection Air Resource Management, Southwest District 13051 North Telecom Parkway, Temple Terrace, Florida 33637-7600.

Pursuant to Section 403.087, Florida Statutes and Section 62-4.070, Florida Administrative Code, the Department hereby gives notice of its intent to issue a permit to construct the aforementioned air pollution source in accordance with the draft permit and its conditions as stipulated (see attached).