Nitrous Oxide Corp.
**Facility ID No.:** 0330089
Escambia County

Air Operation Permit
**Permit No.:** 0330089-006-AO

Permitting and Compliance Authority
Department of Environmental Protection
Northwest District Office
160 W Government Street, Suite 308
Pensacola, FL 32502-5740
Telephone: 850.595.8300
Fax: 850.595.8096

Air Operation Permit
**Permit No.:** 0330089-006-AO

## Table of Contents


| Section | Page Number |
|---|---|
| Placard Page | 1 |
| I. Facility Information | 2 |
| A. Facility Description. | |
| B. Summary of Emissions Unit ID No(s). and Brief Description(s). | |
| C. Relevant Documents. | |
| II. Facility-wide Conditions | 3 |
| III. Emissions Unit(s) and Conditions | |
| A. EU 001/ EU 002 Vents from Process Separators No. 1/No. 2 | 5 |
| Appendices: | |
| Appendix G-1, General Conditions | |
| Appendix CP-1, Compliance Plan dated March 2012 | |

# Florida Department of Environmental Protection

Northwest District
160 W Government Street, Suite 308
Pensacola, Florida 32502-5740

Rick Scott
Governor

Jennifer Carroll
Lt. Governor

Herschel T. Vinyard Jr.
Secretary

**Permittee:**
Nitrous Oxide Corp.

**Permit No.:** 0330089-006-AO
**Facility ID No.:** 0330089
**SIC No(s).:** 28, 2834
**Project:** Air Operation Permit

This permit is for the operation of the Nitrous Oxide Corp. located at 650 Chemstrand Road in Pensacola, Escambia County; UTM Coordinates: Zone 16, 475.8 km East and 3384.6 km North; Latitude: 30° 35' 30" North and Longitude: 87° 14' 58" West.

STATEMENT OF BASIS: This air operation permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.) and Florida Administrative Code (F.A.C.) Chapters 62-4 and 62-210. The above named permittee is hereby authorized to perform the work or operate the facility shown on the application and approved drawing(s), plans, and other documents, attached hereto or on file with the permitting authority, in accordance with the terms and conditions of this permit.

**Effective Date:** January 10, 2013
**Renewal Application Due Date:** November 11, 2017
**Expiration Date:** January 10, 2018

**FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**/s/**

**J. Charles Harp**
**Program Administrator**
**Waste Management/Air Resources**
**Northwest District**

JCH/ha/c

**Section I. Facility Information.**

This is a renewal of permit 0330089-005-AO, effective March 7, 2008.

**Subsection A. Facility Description.**

This facility consists of a gas separation plant that utilizes a waste gas stream from Ascend to produce nitrous oxide ($N_2O$). The waste gas stream from Ascend is first scrubbed to remove $NO_x$, and then the $N_2O$ is extracted. The extracted $N_2O$ then is further purified, compressed, dried and liquefied for storage and distribution. The scrubber wastewater is returned to Ascend as dilute nitric acid for proper disposal. Atmospheric emissions from the gas separation plant occur from two vents (Emissions Units 001 and 002) and consist mainly of $N_2$, $CO_2$, $NO_x$ and CO.

This facility is a minor facility with no source-specific emission limitations. The facility's original construction permit AC17-52925 did not have any specific emission limitations, but did require the facility to verify the construction application's emission estimates during each permit renewal. Also, since the issuance of construction permit AC17-52925, the facility has made some equipment and operational improvements that allowed for an increase in the operational rate without an increase in the facility's original emission estimates. The facility's original operation rate of 9,000 pounds of Ascend stack gas per hour was increased to 13,500 and finally to 14,500 pounds per hour. These rate increases were changed through minor modifications to the facility's operation permits, since the facility was able to demonstrate that the original emission estimates would not be exceeded.

Based on the permit application received December 31, 2012, this facility is not a major source of hazardous air pollutants (HAP).

**Subsection B. Summary of Emissions Unit ID Nos. and Brief Descriptions.**

| E.U. ID No. | Brief Description |
|---|---|
| 001 | Vent from Process Separator No. 1 |
| 002 | Vent from Process Separator No. 2 |

***Please reference the Permit No., Facility ID No., and appropriate Emissions Unit(s) ID No(s). on all correspondence, test report submittals, applications, etc.***

**Subsection C. Relevant Documents.**

The documents listed below are not a part of this permit; however, they are specifically related to this permitting action.

<u>These documents are on file with permitting authority:</u>
Permit Application received December 31, 2012

**Section II. Facility-wide Conditions.**

**The following conditions apply facility-wide:**

**1.** G-1, General Conditions, is a part of this permit.

**2.** General Pollutant Emission Limiting Standards. Objectionable Odor Prohibited. The permittee shall not cause, suffer, allow, or permit the discharge of air pollutants that cause or contribute to an objectionable odor. [Rule 62-296.320(2), F.A.C.]

**3.** General Particulate Emission Limiting Standards. General Visible Emissions Standard. Except for emissions units that are subject to a particulate matter or opacity limit set forth or established by rule and reflected by conditions in this permit, no person shall cause, let, permit, suffer or allow to be discharged into the atmosphere the emissions of air pollutants from any activity, the density of which is equal to or greater than that designated as Number 1 on the Ringelmann Chart (20 percent opacity). EPA Method 9 is the method of compliance pursuant to Chapter 62-297, F.A.C. [Rules 62-296.320(4)(b)1. & 4., F.A.C.]

**4.** Special Compliance Tests. When the Department, after investigation, has good reason (such as complaints, increased visible emissions or questionable maintenance of control equipment) to believe that any applicable emission standards contained in a Department rule or in a permit issued pursuant to those rules is being violated, it may require the owner or operator of the emissions unit to conduct compliance tests that identify the nature and quantity of pollutant emissions from the emissions unit and to provide a report on the results of said tests to the Department. Notification of compliance testing and completed test reports may be submitted by electronic mail to nwdair@dep.state.fl.us. [Rule 62-297.310(7)(b), F.A.C.]

5. Asbestos. This permit does not authorize any demolition or renovation of the facility or its parts or components which involves asbestos removal. This permit does not constitute a waiver of any of the requirements of Chapter 62-257, F.A.C., and 40 CFR 61 subpart M, National Emission Standard for Asbestos, adopted and incorporated by reference in Rule 62-204.800, F.A.C. Compliance with Chapter 62-257, F.A.C., and 40 CFR 61 subpart M, section 61.145, is required for any asbestos demolition or renovation at the source. [40 CFR 61; Rule 62-204.800, F.A.C.; and, Chapter 62-257, F.A.C.]

**6.** General Pollutant Emission Limiting Standards. Volatile Organic Compounds (VOC) Emissions or Organic Solvents (OS) Emissions. The permittee shall allow no person to store, pump, handle, process, load, unload or use in any process or installation, VOC or OS without applying known and existing vapor emission control devices or systems deemed necessary and ordered by the Department. *Nothing is deemed necessary and ordered at this time*. [Rule 62-296.320(1), F.A.C.]

7. No person shall cause, let, permit, suffer or allow the emissions of unconfined particulate matter from any activity, including vehicular movement; transportation of materials; construction, alteration, demolition or wrecking; or industrially related activities such as loading, unloading, storing or handling; without taking reasonable precautions to prevent such emissions. Reasonable precautions to prevent emissions of unconfined particulate matter at this facility include: *Nothing was deemed necessary and ordered at this time*. [Rule 62-296.320(4)(c), F.A.C.]

8. Sixty days prior to the expiration date of this operation permit, the Permittee shall submit four permit renewal applications using the current version of the renewal form along with the processing fee established in Rule 62-4.050(4), F.A.C., to the Northwest District office of the Department. You can

obtain a permit application form or apply for permit renewal electronically at the following web address: http://www.dep.state.fl.us/air/emission/permitting.htm. [Rule 62-4.090, F.A.C.]

**9.** The permittee shall submit all compliance related notifications and reports required of this permit to the Department's Northwest District office:

Department of Environmental Protection
Northwest District Office
160 W Government Street, Suite 308
Pensacola, Florida 32502-5740
Telephone: 850.595.8300; Fax: 850.595.8096

Notification of compliance testing and completed test reports may be submitted by electronic mail to nwdair@dep.state.fl.us.

10. The Department telephone number for reporting problems, malfunctions or exceedances under this permit is 850.595.0578, day or night, and for emergencies involving a significant threat to human health or the environment is 800.320.0519. For routine business, telephone 850.595.8300 during normal working hours. [Rules 62-210.700 and 62-4.130, F.A.C.]

**Section III. Emissions Unit(s) and Conditions.**

**Subsection A. This section addresses the following emissions units.**

| E.U. ID No. | Brief Description |
|---|---|
| 001 | Vent from Process Separator No. 1 |
| 002 | Vent from Process Separator No. 2 |

The waste gas stream from Ascend is first scrubbed to remove $NO_x$, and then the $N_2O$ is extracted. The extracted $N_2O$ then is further purified, compressed, dried and liquefied for storage and distribution. The scrubber wastewater is returned to Ascend as dilute nitric acid for proper disposal. Atmospheric emissions from the gas separation plant occur from two vents (Emissions Units 001 and 002) and consist mainly of $N_2$, $CO_2$, $NO_x$ and CO.

**The following specific conditions apply to the emissions units listed above:**

**Essential Potential to Emit (PTE) Parameters**

**A.1.** Capacity. The facility maximum operating rate shall not exceed 14,500 pounds per hour of Ascend stack gas inflow. [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

**A.2.** Hours of Operation. This emissions unit is allowed to operate continuously, i.e., 8,760 hours/year. [Rules 62-4.160(2) and 62-210.200(PTE), F.A.C.]

**Emission Limitations and Standards**
The facility is required to verify the construction application's emission estimates during each permit renewal.

**A.3.** The maximum allowable emission rate for each pollutant is as follows:

| Pollutant | Emission Rate | | Basis |
|---|---|---|---|
| | lbs/hour | tons/year | |
| CO | 10.64 | 46.6 | Permit Application Requested Limit |
| NOx | 0.33 | 1.45 | Permit Application Requested Limit |

[Rule 62-4.070, F.A.C., and permit AC17-52925]

**Test Methods and Procedures**

**A.4.a.** Required Testing. Compliance tests shall be performed for Carbon Monoxide (CO) and Nitrogen Oxides (NOx) to provide reasonable assurance that the source is capable of compliance at the permitted maximum operating rate. Such tests shall be scheduled once, every five years, within the 12-month period prior to expiration of this permit. These tests are required to show reasonable consistency with the emission estimates represented by the facility. Tests shall be conducted at both discharge vents in accordance with Nitrous Oxide Corporation's standard operating procedures for Draeger Tubes. Flow rates of feed and emission gases shall be measured as a part of the emission test. The Department shall be notified at least 15 days prior to testing to allow witnessing. Results shall be submitted to the Department within 45 days after testing. Notification of compliance testing and completed test reports may be submitted by electronic mail to nwdair@dep.state.fl.us. [Rules 62-4.070 and 62-297.310(7), F.A.C., and permit AC17-52925]

**A.4.b.** Test Reports. The test reports shall comply with applicable portions of Rule 62-297.310, F.A.C., Test Reports. The Department can require special compliance tests in accordance with Rule 62-297.310(7), F.A.C. Other test methods and alternate compliance procedures may be used only after prior Departmental approval has been obtained in writing. The Permittee shall identify the pollutant average for each specific emissions unit. The emissions unit shall be identified by its DEP Emissions Unit ID Number. [Rules 62-297.310(7) and 62-297.620(1), F.A.C.]

**A.4.c.** Testing at Capacity. Testing of emissions shall be conducted with the source operating at capacity. Capacity is defined as 90-100% of rated capacity. If it is impractical to test at capacity, sources may be tested at less than capacity; in this case subsequent source operation is limited to 110% of the test load until a new test is conducted. Once the unit is so limited, operation at higher capacities is allowed for no more than 15 days for purposes of additional compliance testing to regain the rated capacity in the permit, with prior notification to the Department. [Rules 62-297.310(2) and 62-4.070, F.A.C.]

**Monitoring of Operations**

**A.5.** The facility shall continuously monitor operation in accordance with Nitrous Oxide Corp.'s Facility Monitoring and Leak Detection Plan identified as "Appendix CP-1." [Rule 62-4.070, F.A.C., and Appendix CP-1]

**Recordkeeping and Reporting Requirements**

**A.6.** The permittee shall record and maintain records of the operating rate, in pounds per hour, of Ascend stack gas inflow. The rate shall be recorded hourly and averaged daily. Records of the hourly operating rate and daily average shall be maintained and made available for inspection by the Department. These records shall be maintained by the facility for a minimum of two years following the date of such record. [Rules 62-4.070, F.A.C, and permit AC17-52925]

1. The terms, conditions, requirements, limitations, and restrictions set forth in this permit are "permit conditions", and are binding and enforceable pursuant to Sections 403.141, 403.727, or 403.859 through 403.861, Florida Statutes. The permittee is placed on notice that the Department will review this permit periodically and may initiate enforcement action for any violation of these conditions.

2. This permit is valid only for the specific processes and operations applied for and indicated in the approved drawings or exhibits. Any unauthorized deviation from the approved drawings, exhibits, specifications, or conditions of this permit may constitute grounds for revocation and enforcement action by the Department.

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Neither does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit is not a waiver of or approval of any other Department permit that may be required for other aspects of the total project which are not addressed in the permit.

4. This permit conveys no title to land or water, does not constitute State recognition or acknowledgment of title, and does not constitute authority for the use of submerged lands unless herein provided and the necessary title or leasehold interests have been obtained from the State. Only the Trustees of the Internal Improvement Trust Fund may express State opinion as to title.

5. This permit does not relieve the permittee from liability for harm or injury to human health or welfare, animal, or plant life, or property caused by the construction or operation of this permitted source, or from penalties therefore; nor does it allow the permittee to cause pollution in contravention of Florida Statutes and Department rules, unless specifically authorized by an order from the Department.

6. The permittee shall properly operate and maintain the facility and systems of treatment and control (and related appurtenances) that are installed and used by the permittee to achieve compliance with the conditions of this permit, are required by Department rules. This provision includes the operation of backup or auxiliary facilities or similar systems when necessary to achieve compliance with the conditions of the permit and when required by Department rules.

7. The permittee, by accepting this permit, specifically agrees to allow authorized Department personnel, upon presentation of credentials or other documents as may be required by law and at reasonable times, access to the premises where the permitted activity is located or conducted for the purpose of:

a. Have access to and copy any records that must be kept under conditions of this permit;
b. Inspect the facility, equipment, practices, or operations regulated or required under this permit; and,
c. Sample or monitor any substances or parameters at any location reasonably necessary to assure compliance with this permit or Department rules.

Reasonable time may depend on the nature of the concern being investigated.

8. If, for any reason, the permittee does not comply with or will be unable to comply with any condition or limitation specified in this permit, the permittee shall immediately provide the Department with the following information:

a. A description of and cause of noncompliance; and
b. The period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate, and prevent recurrence of the noncompliance. The permittee shall be responsible for any and all damages that may result and may be subject to enforcement action by the Department for penalties or for revocation of this permit.

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source which are submitted to the Department may be used by the Department as evidence in any enforcement case involving the permitted source arising under the Florida Statutes or Department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes. Such evidence shall only be used to the extent it is consistent with Florida Rules of Civil Procedure and appropriate evidentiary rules.

10. The permittee agrees to comply with changes in Department rules and Florida Statutes after a reasonable time for compliance, provided however, the permittee does not waive any other rights granted by Florida Statutes or Department rules.

11. This permit is transferable only upon Department approval in accordance with Florida Administrative Code Rules 62-4.120 and 62-730.300, as applicable. The permittee shall be liable for any noncompliance of the permitted activity until the Department approves the transfer.

12. This permit or a copy thereof shall be kept at the work site of the permitted activity.

13. The permittee shall comply with the following:

a. Upon request, the permittee shall furnish all records and plans required under Department rules. During enforcement actions, the retention period for all records will be extended automatically unless otherwise stipulated by the Department.

b. The permittee shall hold at the facility or other location designated by this permit records of all monitoring information (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) required by the permit, copies of all reports required by this permit, and records of all data used to complete the application for this permit. These materials shall be retained at least three years from the date of the sample, measurement, report or application unless otherwise specified by Department rule.

c. Records of monitoring information shall include:
- the date, exact place, and time of sampling or measurement;
- the person responsible for performing the sampling or measurements;
- the dates analyses were performed;
- the person responsible for performing the analyses;
- the analytical techniques or methods used;
- the results of such analyses.

14. When requested by the Department, the permittee shall within a reasonable time furnish any information required by law which is needed to determine compliance with the permit. If the permittee becomes aware the relevant facts were not submitted or were incorrect in the permit application or in any report to the Department, such facts or information shall be corrected promptly.