



John R. Kasich, Governor
 Mary Taylor, Lt. Governor
 Craig W. Butler, Director

9/16/2014

Mr. Frank Cmar
 CIL ISOTOPE SEPARATIONS, INC.
 1689 BURNETT DRIVE
 XENIA, OH 45385

Certified Mail

| | |
|-----|------------------------------------|
| No | TOXIC REVIEW |
| Yes | SYNTHETIC MINOR TO AVOID MAJOR NSR |
| No | CEMS |
| No | MACT/GACT |
| No | NSPS |
| No | NESHAPS |
| No | NETTING |
| No | MODELING SUBMITTED |
| Yes | SYNTHETIC MINOR TO AVOID TITLE V |
| Yes | FEDERALLY ENFORCABLE PTIO (FEPTIO) |
| No | SYNTHETIC MINOR TO AVOID MAJOR GHG |

RE: FINALAIR POLLUTION PERMIT-TO-INSTALL AND OPERATE

Facility ID: 0829100409
 Permit Number: P0116466
 Permit Type: OAC Chapter 3745-31 Modification
 County: Greene

Dear Permit Holder:

Enclosed please find a final Ohio Environmental Protection Agency (EPA) Air Pollution Permit-to-Install and Operate (PTIO) which will allow you to install, modify, and/or operate the described emissions unit(s) in the manner indicated in the permit. Because this permit contains conditions and restrictions, please read it very carefully. In this letter you will find the information on the following topics:

- **How to appeal this permit**
- **How to save money, reduce pollution and reduce energy consumption**
- **How to give us feedback on your permitting experience**
- **How to get an electronic copy of your permit**

How to appeal this permit

The issuance of this PTIO is a final action of the Director and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of \$70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Director within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
 77 South High Street, 17th Floor
 Columbus, OH 43215

How to save money, reduce pollution and reduce energy consumption

The Ohio EPA is encouraging companies to investigate pollution prevention and energy conservation. Not only will this reduce pollution and energy consumption, but it can also save you money. If you would like to learn ways you can save money while protecting the environment, please contact our Office of Compliance Assistance and Pollution Prevention at (614) 644-3469. Additionally, all or a portion of the capital expenditures related to installing air pollution control equipment under this permit may be eligible for financing and State tax exemptions through the Ohio Air Quality Development Authority (OAQDA) under Ohio Revised Code Section 3706. For more information, see the OAQDA website: www.ohioairquality.org/clean_air

How to give us feedback on your permitting experience

Please complete a survey at www.epa.ohio.gov/survey.aspx and give us feedback on your permitting experience. We value your opinion.

How to get an electronic copy of your permit

This permit can be accessed electronically via the eBusiness Center: Air Services in Microsoft Word format or in Adobe PDF on the Division of Air Pollution Control (DAPC) Web page, www.epa.ohio.gov/dapc by clicking the "Search for Permits" link under the Permitting topic on the Programs tab.

If you have any questions, please contact Regional Air Pollution Control Agency at (937)225-4435 or the Office of Compliance Assistance and Pollution Prevention at (614) 644-3469.

Sincerely,



Erica R. Engel-Ishida, Interim Manager
Permit Issuance and Data Management Section, DAPC

Cc: RAPCA



FINAL

**Division of Air Pollution Control
Permit-to-Install and Operate
for
CIL ISOTOPE SEPARATIONS, INC.**

| | |
|----------------|----------------------------------|
| Facility ID: | 0829100409 |
| Permit Number: | P0116466 |
| Permit Type: | OAC Chapter 3745-31 Modification |
| Issued: | 9/16/2014 |
| Effective: | 9/16/2014 |
| Expiration: | 9/16/2019 |



Division of Air Pollution Control
Permit-to-Install and Operate
for
CIL ISOTOPE SEPARATIONS, INC.

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Authorization

Facility ID: 0829100409
Application Number(s): A0050294, A0051350
Permit Number: P0116466
Permit Description: FEPTIO modification for a carbon-13 distillation process to increase production and install CO emissions controls to avoid Title V and PSD permitting.
Permit Type: OAC Chapter 3745-31 Modification
Permit Fee: \$200.00
Issue Date: 9/16/2014
Effective Date: 9/16/2014
Expiration Date: 9/16/2019
Permit Evaluation Report (PER) Annual Date: July 1 - June 30, Due Aug 15

This document constitutes issuance to:

CIL ISOTOPE SEPARATIONS, INC.
1689 BURNETT DRIVE
Xenia, OH 45385

of a Permit-to-Install and Operate for the emissions unit(s) identified on the following page.

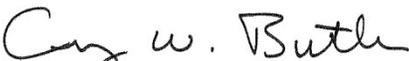
Ohio Environmental Protection Agency (EPA) District Office or local air agency responsible for processing and administering your permit:

Regional Air Pollution Control Agency
117 South Main Street
Dayton, OH 45422-1280
(937)225-4435

The above named entity is hereby granted this Permit-to-Install and Operate for the air contaminant source(s) (emissions unit(s)) listed in this section pursuant to Chapter 3745-31 of the Ohio Administrative Code. Issuance of this permit does not constitute expressed or implied approval or agreement that, if constructed or modified in accordance with the plans included in the application, the described emissions unit(s) will operate in compliance with applicable State and federal laws and regulations.

This permit is granted subject to the conditions attached hereto.

Ohio Environmental Protection Agency


Craig W. Butler
Director



Final Permit-to-Install and Operate
CIL ISOTOPE SEPARATIONS, INC.
Permit Number: P0116466
Facility ID: 0829100409
Effective Date: 9/16/2014

Authorization (continued)

Permit Number: P0116466

Permit Description: FEPTIO modification for a carbon-13 distillation process to increase production and install CO emissions controls to avoid Title V and PSD permitting.

Permits for the following Emissions Unit(s) or groups of Emissions Units are in this document as indicated below:

| | |
|-----------------------------------|-----------------------|
| Emissions Unit ID: | P001 |
| Company Equipment ID: | Distill. Column, C-13 |
| Superseded Permit Number: | P0113324 |
| General Permit Category and Type: | Not Applicable |



Final Permit-to-Install and Operate
CIL ISOTOPE SEPARATIONS, INC.
Permit Number: P0116466
Facility ID: 0829100409
Effective Date: 9/16/2014

A. Standard Terms and Conditions



1. What does this permit-to-install and operate ("PTIO") allow me to do?

This permit allows you to install and operate the emissions unit(s) identified in this PTIO. You must install and operate the unit(s) in accordance with the application you submitted and all the terms and conditions contained in this PTIO, including emission limits and those terms that ensure compliance with the emission limits (for example, operating, recordkeeping and monitoring requirements).

2. Who is responsible for complying with this permit?

The person identified on the "Authorization" page, above, is responsible for complying with this permit until the permit is revoked, terminated, or transferred. "Person" means a person, firm, corporation, association, or partnership. The words "you," "your," or "permittee" refer to the "person" identified on the "Authorization" page above.

The permit applies only to the emissions unit(s) identified in the permit. If you install or modify any other equipment that requires an air permit, you must apply for an additional PTIO(s) for these sources.

3. What records must I keep under this permit?

You must keep all records required by this permit, including monitoring data, test results, strip-chart recordings, calibration data, maintenance records, and any other record required by this permit for five years from the date the record was created. You can keep these records electronically, provided they can be made available to Ohio EPA during an inspection at the facility. Failure to make requested records available to Ohio EPA upon request is a violation of this permit requirement.

4. What are my permit fees and when do I pay them?

There are two fees associated with permitted air contaminant sources in Ohio:

PTIO fee. This one-time fee is based on a fee schedule in accordance with Ohio Revised Code (ORC) section 3745.11, or based on a time and materials charge for permit application review and permit processing if required by the Director.

You will be sent an invoice for this fee after you receive this PTIO and payment is due within 30 days of the invoice date. You are required to pay the fee for this PTIO even if you do not install or modify your operations as authorized by this permit.

Annual emissions fee. Ohio EPA will assess a separate fee based on the total annual emissions from your facility. You self-report your emissions in accordance with Ohio Administrative Code (OAC) Chapter 3745-78. This fee assessed is based on a fee schedule in ORC section 3745.11 and funds Ohio EPA's permit compliance oversight activities. For facilities that are permitted as synthetic minor sources, the fee schedule is adjusted annually for inflation. Ohio EPA will notify you when it is time to report your emissions and to pay your annual emission fees.

5. When does my PTIO expire, and when do I need to submit my renewal application?

This permit expires on the date identified at the beginning of this permit document (see "Authorization" page above) and you must submit a renewal application to renew the permit. Ohio EPA will send a renewal notice to you approximately six months prior to the expiration date of this permit. However, it is



very important that you submit a complete renewal permit application (postmarked prior to expiration of this permit) even if you do not receive the renewal notice.

If a complete renewal application is submitted before the expiration date, Ohio EPA considers this a timely application for purposes of ORC section 119.06, and you are authorized to continue operating the emissions unit(s) covered by this permit beyond the expiration date of this permit until final action is taken by Ohio EPA on the renewal application.

6. What happens to this permit if my project is delayed or I do not install or modify my source?

This PTIO expires 18 months after the issue date identified on the "Authorization" page above unless otherwise specified if you have not (1) started constructing the new or modified emission sources identified in this permit, or (2) entered into a binding contract to undertake such construction. This deadline can be extended by up to 12 months, provided you apply to Ohio EPA for this extension within a reasonable time before the 18-month period has ended and you can show good cause for any such extension.

7. What reports must I submit under this permit?

An annual permit evaluation report (PER) is required in addition to any malfunction reporting required by OAC rule 3745-15-06 or other specific rule-based reporting requirement identified in this permit. Your PER due date is identified in the Authorization section of this permit.

8. If I am required to obtain a Title V operating permit in the future, what happens to the operating provisions and PER obligations under this permit?

If you are required to obtain a Title V permit under OAC Chapter 3745-77 in the future, the permit-to-operate portion of this permit will be superseded by the issued Title V permit. From the effective date of the Title V permit forward, this PTIO will effectively become a PTI (permit-to-install) in accordance with OAC rule 3745-31-02(B). The following terms and conditions of this permit will no longer be applicable after issuance of the Title V permit: Section B, Term 1.b) and Section C, for each emissions unit, Term a)(2).

The PER requirements in this permit remain effective until the date the Title V permit is issued and is effective, and cease to apply after the effective date of the Title V permit. The final PER obligation will cover operations up to the effective date of the Title V permit and must be submitted on or before the submission deadline identified in this permit on the last day prior to the effective date of the Title V permit.

9. What are my obligations when I perform scheduled maintenance on air pollution control equipment?

You must perform scheduled maintenance of air pollution control equipment in accordance with OAC rule 3745-15-06(A). If scheduled maintenance requires shutting down or bypassing any air pollution control equipment, you must also shut down the emissions unit(s) served by the air pollution control equipment during maintenance, unless the conditions of OAC rule 3745-15-06(A)(3) are met. Any emissions that exceed permitted amount(s) under this permit (unless specifically exempted by rule) must be reported as deviations in the annual permit evaluation report (PER), including nonexempt excess emissions that occur during approved scheduled maintenance.



10. Do I have to report malfunctions of emissions units or air pollution control equipment? If so, how must I report?

If you have a reportable malfunction of any emissions unit(s) or any associated air pollution control system, you must report this to the [DO/LAA] in accordance with OAC rule 3745-15-06(B). Malfunctions that must be reported are those that result in emissions that exceed permitted emission levels. It is your responsibility to evaluate control equipment breakdowns and operational upsets to determine if a reportable malfunction has occurred.

If you have a malfunction, but determine that it is not a reportable malfunction under OAC rule 3745-15-06(B), it is recommended that you maintain records associated with control equipment breakdown or process upsets. Although it is not a requirement of this permit, Ohio EPA recommends that you maintain records for non-reportable malfunctions.

11. Can Ohio EPA or my local air agency inspect the facility where the emission unit(s) is/are located?

Yes. Under Ohio law, the Director or his authorized representative may inspect the facility, conduct tests, examine records or reports to determine compliance with air pollution laws and regulations and the terms and conditions of this permit. You must provide, within a reasonable time, any information Ohio EPA requests either verbally or in writing.

12. What happens if one or more emissions units operated under this permit is/are shut down permanently?

Ohio EPA can terminate the permit terms associated with any permanently shut down emissions unit. "Shut down" means the emissions unit has been physically removed from service or has been altered in such a way that it can no longer operate without a subsequent "modification" or "installation" as defined in OAC Chapter 3745-31.

You should notify Ohio EPA of any emissions unit that is permanently shut down by submitting a certification that identifies the date on which the emissions unit was permanently shut down. The certification must be submitted by an authorized official from the facility. You cannot continue to operate an emission unit once the certification has been submitted to Ohio EPA by the authorized official.

You must comply with all recordkeeping and reporting for any permanently shut down emissions unit in accordance with the provisions of the permit, regulations or laws that were enforceable during the period of operation, such as the requirement to submit a PER, air fee emission report, or malfunction report. You must also keep all records relating to any permanently shutdown emissions unit, generated while the emissions unit was in operation, for at least five years from the date the record was generated.

Again, you cannot resume operation of any emissions unit certified by the authorized official as being permanently shut down without first applying for and obtaining a permit pursuant to OAC Chapter 3745-31.



13. Can I transfer this permit to a new owner or operator?

You can transfer this permit to a new owner or operator. If you transfer the permit, you must follow the procedures in OAC Chapter 3745-31, including notifying Ohio EPA or the local air agency of the change in ownership or operator. Any transferee of this permit must assume the responsibilities of the transferor permit holder.

14. Does compliance with this permit constitute compliance with OAC rule 3745-15-07, "air pollution nuisance"?

This permit and OAC rule 3745-15-07 prohibit operation of the air contaminant source(s) regulated under this permit in a manner that causes a nuisance. Ohio EPA can require additional controls or modification of the requirements of this permit through enforcement orders or judicial enforcement action if, upon investigation, Ohio EPA determines existing operations are causing a nuisance.

15. What happens if a portion of this permit is determined to be invalid?

If a portion of this permit is determined to be invalid, the remainder of the terms and conditions remain valid and enforceable. The exception is where the enforceability of terms and conditions are dependent on the term or condition that was declared invalid.



Final Permit-to-Install and Operate
CIL ISOTOPE SEPARATIONS, INC.
Permit Number: P0116466
Facility ID: 0829100409
Effective Date: 9/16/2014

B. Facility-Wide Terms and Conditions



1. This permit document constitutes a permit-to-install issued in accordance with ORC 3704.03(F) and a permit-to-operate issued in accordance with ORC 3704.03(G).
 - a) For the purpose of a permit-to-install document, the facility-wide terms and conditions identified below are federally enforceable with the exception of those listed below which are enforceable under state law only.
 - (1) None.
 - b) For the purpose of a permit-to-operate document, the facility-wide terms and conditions identified below are enforceable under state law only with the exception of those listed below which are federally enforceable.
 - (1) None.



Final Permit-to-Install and Operate
CIL ISOTOPE SEPARATIONS, INC.
Permit Number: P0116466
Facility ID: 0829100409
Effective Date: 9/16/2014

C. Emissions Unit Terms and Conditions



1. P001, Distill. Column, C-13

Operations, Property and/or Equipment Description:

Carbon-13 isotope separation by distillation of carbon monoxide with thermal incinerator

a) The following emissions unit terms and conditions are federally enforceable with the exception of those listed below which are enforceable under state law only.

(1) None.

b) Applicable Emissions Limitations and/or Control Requirements

(1) The specific operation(s), property, and/or equipment that constitute each emissions unit along with the applicable rules and/or requirements and with the applicable emissions limitations and/or control measures are identified below. Emissions from each unit shall not exceed the listed limitations, and the listed control measures shall be specified in narrative form following the table.

| | Applicable Rules/Requirements | Applicable Emissions Limitations/Control Measures |
|----|--|--|
| a. | OAC rule 3745-31-05(A)(3) ORC 3704.03(T) | The carbon monoxide (CO) emissions from this emissions unit shall be vented to a thermal incinerator that reduces CO emissions by 98% on a weight basis. See b)(2)a and b)(2)b. |
| b. | OAC rule 3745-31-05(D) (synthetic minor to avoid title V) | The CO emissions from this emissions unit shall not exceed 90.0 tons per year on a rolling 12-month basis. |

(2) Additional Terms and Conditions

a. There will be periods of time when the thermal incinerator is shut down for maintenance or repair when CO emissions will not be captured and controlled. During periods when CO emissions are not being captured and the thermal incinerator is not in use, the actual CO emissions are assumed to equal to the 73.5 pounds per hour maximum process rate for the distillation process.

b. The PTIO application for this emissions unit was evaluated based on the actual materials and design parameters of the emissions unit's exhaust system, as specified by the permittee. The Ohio EPA acceptable incremental impact limitation to maintain attainment with the National Ambient Air Quality Standards (NAAQS) for CO, as described in Ohio EPA Engineering Guide 69, was applied to this emissions unit. Air emissions dispersion modeling was performed using SCREEN3, based on the predicted 1-hour and 8-hour ground level concentration results, a minimum stack height of 43 feet above grade will be required during periods when CO emissions are not controlled by the thermal incinerator to comply with the Ohio EPA acceptable incremental impact for the CO NAAQS.



- c) Operational Restrictions
 - (1) The periods of operation when uncontrolled CO emissions are vented from this process shall not exceed 2,449 hours on a rolling 12-month basis.
- d) Monitoring and/or Recordkeeping Requirements
 - (1) The permittee shall collect and record the following information each month for this emissions unit:
 - a. The CO distillation process rate, in tons;
 - b. The time, in hours, that the CO distillation process was in operation;
 - c. The time, in hours, that CO emissions were vented to the thermal incinerator;
 - d. The time, in hours, that CO emissions were vented uncontrolled to the atmosphere;
 - e. The monthly CO emissions rate, in pounds or tons, based on the following calculation;
 - i. Multiply the hours of operation while venting to the thermal incinerator (from d)(1)c.) by 1.5 pounds of CO for each hour that the process vented to the thermal incinerator;
 - ii. Multiply the hours of operation while venting uncontrolled to the atmosphere (from d)(1)d.) by 73.5 pounds of CO for each hour that CO was vented directly to the atmosphere;
 - iii. The sum of d)(1)e.i. and d)(1)e.ii. above.
 - f. The rolling 12-month CO emissions rate, in tons (the sum of the monthly emissions rates calculated according to d)(1)e. for the previous 12 months).
- e) Reporting Requirements
 - (1) The permittee shall submit quarterly deviation (excursion) reports that identify:
 - a. any exceedances of the rolling 12-month CO emissions limitation;
 - b. any month when the rolling 12-month uncontrolled CO emissions exceeded 2,249 hours;
 - c. the probable cause of each deviation (excursion);
 - d. any corrective actions that were taken to remedy the deviations (excursions) or prevent future deviations (excursions); and
 - e. the magnitude and duration of each deviation (excursion).



If no deviations (excursions) occurred during a calendar quarter, the permittee shall submit a report that states that no deviations (excursions) occurred during the quarter.

The quarterly reports shall be submitted, electronically through Ohio EPA Air Services, each year by January 31 (covering October to December), April 30 (covering January to March), July 31 (covering April to June), and October 31 (covering July to September), unless an alternative schedule has been established and approved by the Director (the appropriate District Office or local air agency).

- (2) The permittee shall submit an annual Permit Evaluation Report (PER) to the Ohio EPA. The PER must be submitted by the due date identified in the Authorization section of this permit. The PER shall cover a reporting period of no more than twelve months for each air contaminant source identified in this permit.
- (3) The permittee shall submit annual reports which specify the CO emissions rate, in tons, from this emissions unit. These reports shall be submitted by April 15 of each year and shall cover the previous calendar year. This reporting requirement may be satisfied by including and identifying the specific emission data for each emissions unit in the annual Synthetic Minor Title V Fee Emissions Report.

All applications, notifications or reports required by terms and conditions in this permit to be submitted or "reported in writing" are to be submitted to Ohio EPA through the Ohio EPA's eBusiness Center: Air Services web service ("Air Services"). Ohio EPA will accept hard copy submittals on an as-needed basis if the permittee cannot submit the required documents through the Ohio EPA eBusiness Center. In the event of an alternative hard copy submission in lieu of the eBusiness Center, the post-marked date or the date the document is delivered in person will be recognized as the date submitted. Electronic submission of applications, notifications, or reports required to be submitted to Ohio EPA fulfills the requirement to submit the required information to the Director, the District Office or Local Air Agency, and/or any other individual or organization specifically identified as an additional recipient identified in this permit unless otherwise specified. Consistent with OAC rule 3745-15-03, the required application, notification or report is considered to be "submitted" on the date the submission is successful using a valid electronic signature. Signature by the signatory authority may be represented as provided through procedures established in Air Services.

f) **Testing Requirements**

- (1) Compliance with the Emissions Limitations specified in b) shall be determined in accordance with the following methods:

- a. Emissions Limitation –

The CO emissions from this emissions unit shall be vented to a thermal incinerator that reduces CO emissions by 98% on a weight basis.



Applicable Compliance Method -

Compliance is based on the guaranteed destruction efficiency listed in the design specifications of the ABUTECH 20 medium temperature thermal incinerator dated April 16, 2014.

If requested, compliance will be based on the results of emissions testing according to U.S. EPA Reference Method 10. The inlet to the thermal incinerator is the CO exhaust from the distillation process and has a CO concentration in excess of 99% by weight. Therefore, CO measurements at the thermal incinerator inlet are not necessary. The thermal incinerator inlet CO concentration will be based on the CO production rate for the distillation process during testing.

b. Emissions Limitation –

The CO emissions from this emissions unit shall not exceed 90.0 tons per year on a rolling 12-month basis.

Applicable Compliance Method -

Compliance will be based on the record keeping requirements of d)(1).

g) Miscellaneous Requirements

(1) None.