



Pennsylvania Department of Environmental Protection

400 Waterfront Drive
Pittsburgh, PA 15222-4745
September 30, 1999

Southwest Regional Office

412-442-4000
Fax 412-442-4194

CERTIFIED MAIL NO. Z 368 087 495

Clark Mitchell
Director of Environmental Affairs
Envirotrol, Inc.
432 Green Street
PO Box 61
Sewickley, PA 15143-0061

Re: Envirotrol, Inc.
Darlington Township
Beaver County
I.D. No. PAD987270725
APS No. 17489
Authorization No. 39587

Dear Mr. Mitchell:

Enclosed is a minor modification to Solid Waste Permit No. PAD987270725 for the operation of Envirotrol, Inc. Darlington Facility, issued in accordance with Article V of the Solid Waste Management Act, 35 P.S. Sections 6018.101, et seq.

This modification approves the storage and treatment of spent hazardous waste petroleum refinery catalysts and chemically impregnated spent activated carbon containing sulfur, as further detailed in the enclosed permit modification form and modified permit.

Compliance with the terms and conditions set forth in the permit is mandatory. You have the right to file an appeal as to these terms and conditions.

Any person aggrieved by this action may appeal, pursuant to Section 4 of the Environmental Hearing Board Act, 35 P.S. Section 7514, and the Administrative Agency Law, 2 Pa. C.S., Chapter 5A, to the Environmental Hearing Board, Second Floor, Rachel Carson State Office Building, 400 Market Street, P.O. Box 8457, Harrisburg, PA 17105-8457, 717-787-3483. TDD users may contact the Board through the Pennsylvania Relay Service, 800-654-5984. Appeals must be filed with the Environmental Hearing Board within 30 days of receipt of written notice of this action unless the appropriate statute

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
WASTE MANAGEMENT

PERMIT MODIFICATION
FOR
HAZARDOUS WASTE TREATMENT, STORAGE, AND/OR DISPOSAL FACILITY

Permit No. PAD987270725

Modification Date September 30, 1999

Expiration Date September 3, 2006

Pursuant to the Pennsylvania Solid Waste Management Act, Solid Waste Permit No. PAD987270725 for the Envirotrol, Inc. Darlington Facility located at 118 Park Road, Darlington, PA 16115, Beaver County, PA, is modified (as a Class 1 Minor Modification) in response to a request made on February 1, 1999 and amended on March 19, 1999 and July 9, 1999 as follows:

1. The scope of the permit has been changed to reflect Envirotrol's operations as thermal treatment for recycling, not exclusively regeneration. This change reflects Envirotrol's demonstration that wastes they manage (spent carbon, alumina and catalyst) can be treated and legitimately recycled for use in applications other than the original application (e.g., carbon used in applications needing a carbon fuel source, alumina in steel manufacturing and catalyst for vanadium and nickel reclaimers).
2. Permit Conditions III.A and IV.A have been modified to authorize the management of hazardous waste spent refinery catalyst (Hazardous Waste Codes K171 and K172, hazardous for ignitability, benzene and arsenic characteristics) and nonhazardous spent refinery catalyst. Envirotrol accepted such waste before the U.S. Environmental Protection Agency (USEPA) listed the catalyst from hydrotreating and hydrorefining operations at petroleum refineries as hazardous, effective February 8, 1999.
3. Permit Conditions II.B and II.N have been modified to address waste testing and reporting requirements and address restrictions for accepting spent refinery catalyst and chemically impregnated spent activated carbon containing organic sulfur. The Department of Environmental Protection (DEP) suspended authorization for Envirotrol accepting the latter waste in December 1997 due to an incident involving heat generation within a lot of this carbon (which is typically not classified as hazardous) in storage. Envirotrol has since modified its waste analysis procedures (including the use of an exotherm - the property of sudden temperature increase-potential test) to better screen such carbons for self-heating potential. The new waste analysis procedures will also be utilized to screen spent catalysts that are also capable of heat generation and which may be ignitable.



FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

**DEPARTMENT OF ENVIRONMENTAL PROTECTION
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4. The Waste Analysis Plan, Attachment 1 to the permit, is being modified to include spent activated carbon identified with Hazardous Waste Codes K169 (from crude oil storage tank sediment from petroleum refinery operations) and K170 (from clarified slurry oil tank sediment and/or in-line filter/separation solids from petroleum refinery operations). These wastes were classified as hazardous by the USEPA effective February 8, 1999. The Plan also includes spent activated carbon that may be identified with the K171 and K172 waste codes.
5. The Waste Analysis Plan has been modified to reflect the acceptance of spent refinery catalyst and chemically impregnated spent activated carbons containing organic sulfur as well as the new waste screening procedures (including the exotherm potential test) and changes to the spent carbon identification sheets (including the identification of these catalysts and carbon categories). The spent carbon identification sheets no longer have to be notarized since DEP's May 1, 1999 revision to its hazardous waste regulations allow for alternate procedures to the Module 1 application procedure (upon which the spent carbon identification sheet reporting, submittal and approval procedure is based).
6. The Ignitable, Reactive and Incompatible Waste Management Plan, Attachment 5 to the permit, has been modified to include waste management procedures for the spent catalysts and chemically impregnated carbon containing organic sulfur.
7. The permit has been modified in its entirety to reflect the May 1, 1999 hazardous waste regulations change. That change involved the deletion of most of the old DEP hazardous waste regulations and the incorporation by reference of most of the U.S. Environmental Protection Agency's hazardous waste regulations. The permit now identifies the appropriate citation from the adopted federal regulation, where it has been incorporated by reference into DEP's regulations and any additional specific DEP regulatory citation. In many cases, specific regulatory citations have been eliminated from the permit conditions since facility operation requirements are covered by approved plans (attached to the permit) and/or are otherwise covered by regulation. Several conditions have been rewritten to minimize redundancy or to reflect the adopted federal regulatory language.
8. Permit Condition II.K has been modified to require reporting of wastes accepted that are not part of a reciprocal regeneration agreement (for closure cost estimate - bonding purposes).

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9. Permit Condition II.L has been modified to reflect the new insurance coverage amounts required by the adopted federal regulations.
10. Four drawings relating to Container Storage Area 3 (construction completed in late 1998) are included at Permit Condition II.S. References to Container Storage Area 3 and Tank Area 1 have been removed since these areas have been constructed/retrofitted.
11. The effective date of the permit is being changed to reflect this modification.

No other changes have been made to the September 3, 1996 permit as amended on September 13, 1996, July 21, 1997 and January 14, 1999.

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF LAND RECYCLING AND WASTE MANAGEMENT

**PERMIT
FOR
HAZARDOUS WASTE TREATMENT, STORAGE, AND/OR DISPOSAL FACILITY**

Permit No. PAD987270725
Date Issued SEPTEMBER 30, 1999
Date Expired SEPTEMBER 3, 2006

Under the provisions of the Pennsylvania Solid Waste Management Act of July 7, 1980, Act 97, a permit for hazardous waste treatment, storage, and/or disposal facility in (municipality) DARLINGTON TWP in the County of BEAVER is granted to (applicant) ENVIROTROL, INC (address) 432 GREEN STREET, P O BOX 61
SEWICKLEY, PA 15143-0061

This permit is applicable to the facility named as ENVIROTROL, INC. - DARLINGTON FACILITY,
118 PARK ROAD, DARLINGTON, PA 16115 and described as:

HAZARDOUS WASTE STORAGE AND TREATMENT AND RESIDUAL WASTE PROCESSING.
CONTAINER AND TANK STORAGE/TREATMENT RELATING TO SPENT PENDING THERMAL
TREATMENT FOR RECYCLING IN ROTARY KILNS.

This permit is subject to modification, amendment and supplement by the Department of Environmental Protection and is further subject to revocation or suspension by the Department of Environmental Protection for any violation of the applicable laws or the rules and regulations adopted thereunder, for failure to comply in whole or in part with the conditions of this permit and the provisions set forth in the application no. PAD987270725 which is made a part hereof, or for causing any condition inimical to the public health, safety or welfare.

See attachment for waste limitations and/or special conditions


FOR THE DEPARTMENT OF ENVIRONMENTAL PROTECTION

PART V - THERMAL TREATMENT

A. CONSTRUCTION

The Permittee shall construct and maintain Kilns 5, 7 and 8 in accordance with the attached plans and specifications, Attachments 8 and 9.

The Permittee shall not feed wastes to these units until compliance with Permit Conditions I.K and V.A.1 through 3 (concerning certification of construction or modification) has been attained and an Air Quality plan approval or permit has been obtained for the construction and/or operation of these units.

1. Construction Practices. The Permittee shall use best engineering construction practices during all phases of installation and construction.
2. Quality Control Measures. The Permittee shall use the quality control measures and tests specified in Attachment 9 to ensure that installation and construction conform to the design materials and construction specifications set forth in this permit. Each new kiln and kiln feed hopper shall be supported by a suitable foundation with a demonstrated adequate bearing capacity.
3. Professional Engineer Certification. The Permittee shall obtain a written certificate from a registered professional engineer for each phase of installation or construction. Each such certification shall be submitted to the Department in accordance with Permit Condition I.K.

B. MAINTENANCE

The Permittee shall maintain Kilns 1-4, 6 and 5, 7, 8 (when constructed) in accordance with the attached design plans and specifications, Attachment 8.

C. LIMITATION ON WASTES

The Permittee may thermally treat only the wastes specified in Permit Conditions III.A and IV.A, for the purposes of recycling.

D. ANALYSIS OF NEW WASTES

The Permittee shall analyze any type of waste which has not been previously treated as required by 40 CFR §265.375 (incorporated by reference at 25 Pa. Code Chapter 265a) and Attachment 1 to establish and maintain appropriate operating conditions and to determine the type of pollutants which might be emitted.

E. OPERATING CONDITIONS

Before adding waste to the kilns, the Permittee shall bring the kilns to steady state conditions of operation including operating temperature using auxiliary fuel only as described in Attachment 8.

1. At steady state conditions, kiln operating temperature will be maintained at no greater than 1900°F unless documentation is provided (and approved by the Department) that demonstrates that higher kiln temperatures are required for reactivated product quality; associated afterburners shall be operated at no less than 1750°F. and no greater than 2200°F.
2. Waste feed rate (not regenerated sorbent production rate) shall not exceed the following (based on maximum allowable moisture content of 60%/wt):
 - Kiln 1 - 4,800 pounds per hour;
 - Kiln 2 - 2,400 pounds per hour;
 - Kiln 3 - 2,400 pounds per hour;
 - Kiln 4 - 800 pounds per hour;
 - Kiln 5 - 5,000 pounds per hour;
 - Kiln 6 - 3,000 pounds per hour;
 - Kiln 7 - 3,000 pounds per hour;
 - Kiln 8 - 3,000 pounds per hour.
3. Opacity of the stack gas plume shall not be in excess of the standards set forth in 25 Pa. Code § 123.41 when measured in accordance with the techniques specified in 25 Pa. Code § 123.43, unless otherwise specified by any Air Quality Permit or Plan Approval. Metals emissions from the combined operation of the kilns shall not exceed the rates specified in any Air Quality Permit or Plan Approval for antimony, arsenic, beryllium, cadmium, chromium, lead, mercury and thallium. The Permittee shall not exceed any carbon monoxide limit established in any Air Quality Permit or Plan Approval.
4. During start-up and shut-down of a kiln, wastes shall not be fed into the kiln unless the kiln is operating within the specified operating conditions and achieves a steady state condition.
5. The Permittee shall control fugitive emissions from the kiln by maintaining negative pressure in the kiln. The Permittee shall maintain the fugitive emission controls on the kiln feed hoppers and other equipment identified in Attachment 10.

6. The Permittee shall cease operation of the kilns when changes in waste feed or kiln design or operating conditions exceed limits designated in this permit. By-pass dampers shall not open due solely to low flow conditions for prequench, separator or venturi liquor systems.
7. Kilns are to be fired by natural gas or other fuel (except waste-derived fuel), provided that use of such fuel will be in compliance with any Air Quality Permit or Plan Approval.
8. No modifications to the air pollution control equipment, kiln feed system, or reactant steam source (including addition of a spray dryer system and a waste heat boiler) may be made without approval from the Department.

F. WASTE FEED CUT-OFF

The Permittee shall maintain the following waste feed cut-off/interlock systems in good operating condition and as otherwise specified in the American Industrial Research System (AIRS) maintenance list included in Attachment 2 in order to function as indicated below:

- Afterburner low temperature sensor shall activate at temperatures less than 1800°F. Waste feed shall be automatically shut off if temperature is at 1750°F for 15 minutes or is less than 1750°F.
- Afterburner low oxygen sensor shall activate at less than 3% oxygen. Waste feed shall automatically shut off if oxygen level is below 3% for 15 minutes.
- Scrubber recycle liquor pH monitor shall activate if the pH is less than 6.4 and shall automatically shut off feed if the pH is below 6.4 for 15 minutes.
- Exhaust fan shutdown shall activate waste feed cut-off.
- Prequench vessel high outlet temperature sensor shall activate waste feed cut-off at temperatures above 200°F.
- Venturi scrubber high outlet temperature sensor shall activate waste feed cut-off at temperatures above 200°F.
- Exhaust fan inlet temperature sensor shall activate waste feed cut-off at temperatures above 200°F.
- Prequench vessel liquor low flow and pressure sensors shall activate waste feed cut-off when the pressure is at or below 5 PSI or 100 GPM for 15 minutes.
- Venturi scrubber liquor low flow and pressure sensors shall activate waste feed cut-off when the flow rate is at or below 45 GPM for 15 minutes.

- Packed column liquor low flow and pressure sensors shall activate waste feed cut-off when the flow rate is at 75 GPM for 15 minutes. Waste feed shall be automatically shut off if packed column liquor flow rate is less than 75 GPM.
- Open by-pass dampers from a kiln/afterburner system shall automatically cause the shut off of waste feed to that kiln(s).
- Waste feed to a kiln shall be manually shut off if the kiln is observed to be operating at greater than atmospheric pressure.
- Waste shall be fed to the kilns only when the complete waste feed cut off system is operational and all waste feed cut off monitors are calibrated. Manual feed to the kilns may be allowed with prior Department approval, provided the Permittee demonstrate in writing that all conditions triggering waste feed cut off will be monitored and feed can be manually cut off according to the permit standards for automatic waste feed cut off.

G. FACILITY MONITORING

The Permittee shall monitor the thermal treatment process and record the data as outlined in Attachment 2, relating to inspections, and as follows:

1. The Permittee shall submit to the Department for review and approval plans for the following:
 - a) installation (into a data logger and the automatic waste feed cut-off system) of a backup continuous oxygen monitor and written procedures for switch over to the backup system in case of primary monitor failure; and,
 - b) installation of backup inputs for the temperature and oxygen monitors into the existing automatic data loggers (Molytek for Kiln/afterburner 6 backup recording and Kiln 6 computer for Kiln/afterburner systems 1/4, 2 and 3 backup recording).

Until the Department approves the plans/procedures identified above, the Permittee may continue 15 minute temperature and oxygen readings with hand held meters and manually record the data on at least an hourly basis when temperature thermocouples, the existing oxygen monitor and/or the automatic data loggers fail. Upon Department approval of the plans identified above, they will automatically become part of this permit. At such time kiln afterburner temperature and oxygen shall be monitored continuously while waste is being processed and the data recorded continuously while waste is being processed.

2. Stack plume hourly during daylight hours for color and opacity. Opacity shall meet Permit Condition V.E.3; color shall be noted on the inspection log.
3. Kilns and kiln feed systems shall be inspected at least daily for leaks, spills and fugitive emissions. Waste feed cut-off controls shall also be inspected at least daily to assure proper operation.

4. The Permittee shall monitor overall feed rate to the kilns in accordance with the procedure described in its December 19, 1996 document (included in Attachment 2 - Inspection Plan). Additionally, the Permittee shall monitor metal feed rate to the kilns in accordance with any approved revisions to Attachment 1 - Waste Analysis Plan - required to be submitted in accordance with Permit Condition II.B.3 so as to ensure compliance with the metals emission rates referenced in Permit Condition V.E.3.
5. The Permittee shall inspect and test the afterburner oxygen and temperature system daily via hand held meters or other Department approved methods to ensure proper function.
6. The Permittee shall perform kiln manometer observation during waste processing and hourly data recording.
7. Any additional monitoring required by an Air Quality Plan Approval or permit.

A continuous monitor is one which continuously samples the regulated parameter without interruption, evaluates the detector response at least once every 15 seconds, and computes an average value at least every 60 seconds.

H. EQUIPMENT MAINTENANCE

The Permittee shall maintain the thermal treatment facility equipment in operable condition and shall ensure that such equipment is of adequate capacity and performance capability so that facility operation will not be interrupted during normal working periods and so that the facility operation is in accordance with this permit and the AIRS maintenance list included in Attachment 2. The AIRS list shall be revised as the Permittee retrofits or expands its thermal treatment facilities. Additionally, venturi scrubber flow meters and separator liquor flow meters shall be inspected at least monthly and any material build-up shall be removed. Also, water sprays shall be activated at least twice per day to remove salt build-up on the exhaust fans and water sprays in the venturi scrubber and prequench vessel will be inspected at least monthly for proper operation. The Permittee shall conduct semi-annual inspections of slurry feed control valves and screw conveyors, unless the AIRS maintenance program requires more frequent inspections.

I. STANDBY EQUIPMENT

The Permittee shall maintain standby equipment on-site or readily available and in good operating condition for use in the event of a major equipment breakdown including the following:

1. Dual pumping wells and industrial park water tie-in for scrubber liquor makeup water.
2. Dual exhaust fans at a combined minimum 69,600 acfm capacity with knife gate selector switch.
3. Packed-column absorption tower and prequench vessel backup, installed pumps.

4. Backup fan transformer to be maintained in conjunction with the use of two exhaust fans associated with two scrubber systems.

J. ODOR AND NOISE CONTROL

The Permittee shall conduct odor and noise control procedures as required by the Odor and Noise Control Plan, Attachment 10. The Permittee shall also maintain sound dampening equipment on the scrubber stack exhaust fan and dust collector blower in good operating condition.

K. WASTE TRACKING

The Permittee shall minimize or eliminate the tracking of waste by equipment or machinery within and outside the site.

L. RECORDKEEPING/REPORTING

1. The Permittee shall maintain records of monitoring, inspection and waste feed cut off events as specified in Permit Conditions V.F and V.G plus bypass events and monitoring required under any Air Quality Plan Approval for Department review. Inspections required in Permit Condition V.H. shall also be maintained. The Permittee shall also maintain records of waste feed rate, waste generated from the thermal treatment process and air pollution control system (and their disposition) and records of regenerated material disposition. The Permittee shall maintain records ensuring that wastes sent off-site for treatment or disposal have been properly tested to conform, as appropriate, to the Federal land disposal restriction requirements.
2. The Permittee shall submit reports to the Department within 30 calendar days of a scrubber system bypass event that describes the event, duration, cause, results of investigation and corrective action taken plus a description of operational conditions during the event that includes afterburner temperatures and type of waste that was being processed during the event (hazardous or residual, chlorinated or not, with gross chlorine and sulfur content identified).
3. The Permittee shall submit a comprehensive reassessment report of the scrubber bypass system every three years (starting in 2001) to determine overall system operation and areas for improvement.