



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

105 South Meridian Street
P.O. Box 6015
Indianapolis 46206-6015
Telephone 317/232-8603

February 19, 1991

VIA CERTIFIED MAIL P 124 439 684

Mr. Byron C. Doran, President
Warsaw Black Oxide, Inc.
310 South Walnut Street
Burket, Indiana 46508

Re: 327 IAC Article 3 Construction Permit
Application
Plans and Specifications for
Wastewater Treatment System
Improvements
Warsaw Black Oxide, Inc.
Permit Approval No. 1979
Burket, Indiana

Dear Mr. Doran:

The application, plans and specifications, and supporting documents for the above-referenced project have been reviewed and processed in accordance with rules adopted under 327 IAC Article 3. Enclosed is the Construction Permit (Approval No. 1979), which applies to the construction of the above-referenced proposed water pollution treatment/control facility to be located at 310 South Walnut Street in Burket, Indiana.

Please review the enclosed permit carefully and become familiar with its terms and conditions. In addition, it is imperative that the applicant, consulting architect/engineer (A/E), inspector, and contractor are aware of these terms, conditions, and reporting requirements.

It should be noted that any person affected or aggrieved by the agency's decision in authorizing the construction of the above-referenced facility may, within eighteen (18) days from date of mailing, appeal by filing a request with the Technical Secretary of the Water Board of the Indiana Department of Environmental Management for an adjudicatory hearing in accordance with IC 4-21.5-3-7 and IC 13-7-10-2.5. The procedure for appeal is outlined in more detail in Part III of the attached construction permit. Pursuant to IC 4-21.5-3-5(d), the appointed Administrative Law Judge will provide parties who request review with notice of pre-hearing conferences, preliminary hearings, hearings, stays or orders disposing of all proceedings. Non-parties may receive such notices without intervening in the proceeding by providing the agency with a written request which describes the subject of the notice requested with reasonable particularity, and is delivered to the agency at least seven (7) days prior to the date that notice is given.

An Equal Opportunity Employer

Plans and specifications were prepared by Chemical Recovery Systems, Inc., and the company staff, and submitted for review on December 31, 1990.

Any technical/engineering questions concerning this permit may be addressed to Mr. Levy Soliven of our staff at AC 317/232-8658. Legal questions or questions concerning appeal procedures should be addressed to the Office of Legal Counsel, at AC 317/232-8493.

Sincerely,



David P. Nelsen
Assistant Commissioner
Office of Water Management

LS/jcr

Project No. I-1441

Enclosures

cc: Kosciusko County Health Department
Mike Nelson
Eva Eherenman
Richard Woods
Chemical Recovery Systems, Inc.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AUTHORIZATION FOR CONSTRUCTION OF
WATER POLLUTION TREATMENT/CONTROL FACILITY
UNDER 327 IAC ARTICLE 3

DECISION OF APPROVAL

Warsaw Black Oxide, Inc., in accordance with the provisions of IC 13-7-10 and 327 IAC Article 3 is authorized, only upon the effective date of this permit, to construct the water pollution treatment/control facility located at 310 South Walnut Street in Burket, Indiana. The permittee is required to comply with requirements set forth in Parts I, II and III hereof.

NOTICE OF EFFECTIVE DATE
CONSTRUCTION PROHIBITED UNTIL EFFECTIVE DATE OF PERMIT

Pursuant to IC 13-7-10-2.5(b), IC 4-21.5-3-5(f), and IC 4-21.5-3-5(h), this permit shall become effective on March 9, 1991. Commencement of construction is prohibited until the effective date of the permit. If a petition for review and a petition for stay of effectiveness are filed before the effective date of the permit, any part of the permit within the scope of the petition for stay is stayed an additional fifteen (15) days from the effective date of this permit. The portions of the permit for which a petition for stay has been filed will take effect at the expiration of the additional fifteen (15) day period, unless or until an Administrative Law Judge stays the permit in whole or in part.

NOTICE OF EXPIRATION DATE

This permit and the authorization to initiate construction of this pollution treatment/control facility shall expire at midnight March 1, 1992. In order to receive authorization to begin construction beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management at least sixty (60) days prior to the expiration date.

Signed this 19th day of February, 1991, for the Indiana Department of Environmental Management.



David P. Nelsen
Assistant Commissioner
Office of Water Management

WATER POLLUTION TREATMENT/CONTROL FACILITY DESCRIPTION

Warsaw Black Oxide, Inc., is engaged in the plating of wheel rims, tubing, fasteners and miscellaneous parts. Industrial wastewater generated is collected and treated in a continuous flow treatment system consisting of cyanide destruction, chromium reduction, neutralization, flocculation, clarification, sludge thickening, sludge dewatering, sand filtration, and final effluent polishing process.

In order to comply with the NPDES Permit No. IN 0004278 discharge limits concerning cadmium, chromium and cyanide, Warsaw Black Oxide, Inc., proposes to install additional treatment/control units to improve the efficiency of the present system. The proposed treatment/control units will include a 2,780-gallon chrome reduction tank, two collection pits, a stagnant holding tank, a "Retec" electrowinning reclamation system for cadmium, a 6,780-gallon two-stage cyanide destruction tank, process controls, and associated pumps. The treated wastewater will be discharged to the main central wastewater treatment system for further treatment.

CONDITIONS AND LIMITATIONS TO THE AUTHORIZATION FOR
CONSTRUCTION OF WATER POLLUTION TREATMENT/CONTROL FACILITY

During the period beginning on the effective date of this permit and extending until the expiration date, the permittee is authorized to construct the above described water pollution treatment/control facility. Such construction shall conform to all provisions of State Rule 327 IAC Article 3 and the following specific provisions:

PART I

SPECIFIC CONDITIONS AND LIMITATIONS TO THE CONSTRUCTION PERMIT

Unless specific authorization is otherwise provided under the permit, the permittee shall comply with the following conditions:

1. All local permits, including zoning, shall be obtained before construction is begun on this project.
2. If pollution or nuisance conditions are created, immediate corrective action will be taken by the permittee.
3. Plans for construction in a floodway must be submitted to the Department of Natural Resources for consideration of approval prior to the start of construction.
4. Additional treatment facilities will be installed if the proposed facilities fail to provide adequate control or if necessary for compliance with more stringent Federal or State pretreatment standards or requirements promulgated subsequent to the date of this approval.

5. The Company shall notify the Department of Environmental Management of the date of completion of the proposed project.
6. Technical supervision, by a certified operator, shall be provided for operation and control of the wastewater treatment facilities and monthly reports of operation shall be submitted to the Department of Environmental Management.
7. The method and system of sludge disposal shall be approved by the Office of Solid and Hazardous Waste Management of the Department of Environmental Management in accordance with Solid Waste Board requirements.

Failure to meet guidelines as set forth in the above conditions could be subject to enforcement proceedings as provided by 327 IAC 3-5-3.

PART II

GENERAL CONDITIONS

1. No significant or material changes in the scope of the plans or construction of this project shall be made unless the following provisions are met:
 - a. Request for permit modification is made 60 days in advance of the proposed significant or material changes in the scope of the plans or construction;
 - b. Submit a detailed statement of such proposed changes;
 - c. Submit revised plans and specifications including a revised design summary; and
 - d. Obtain a revised construction permit from this agency.
2. This permit may be modified, suspended, or revoked for cause including, but not limited to the following:
 - a. Violation of any term or conditions of this permit;
 - b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts.
3. Nothing herein shall be construed as guaranteeing that the proposed water pollution treatment/control facility shall meet standards, limitations or requirements of this or any other agency of state or federal government, as this agency has no direct control over the actual construction and/or operation of the proposed project.

PART III

APPEALS PROCEDURE

Anyone wishing to challenge this agency's decision for authorizing the construction of this facility may do so, provided that a petition for administrative review is filed as required by IC 4-21.5-3-7. The petition must be submitted within eighteen (18) days of the date of mailing of this permit notification. The petition must include facts demonstrating that you are either the applicant, a person aggrieved or adversely affected by this decision, or otherwise entitled to review by law. Additionally, IC 13-7-10-2.5 requires that your petition include:

1. The name and address of the person making the request;
2. The interest of the person making the request;
3. Identification of any persons represented by the person making the request;
4. The reasons, with particularity, for the request;
5. The issues, with particularity, proposed for consideration at the hearing; and
6. Identification of the permit terms and conditions which, in the judgement of the person making the request, would be appropriate in the case in question to satisfy the requirements of the law governing permits of the type granted or denied by the Assistant Commissioner's action.
7. Pursuant to IC 4-21.5-3-1(f), any document serving as a petition for review or review and stay must be filed with Kathy Prosser, Technical Secretary of the Water Pollution Control Board. Filing of such a document is complete on the earliest of the following dates:
 - a. The date on which the petition is delivered to the Office of the Technical Secretary of the Water Pollution Control Board, located at 105 South Meridian Street, P.O. Box 6167, Indianapolis, Indiana 46206-6167;
 - b. The date of the postmark on the envelope containing the petition, if the petition is mailed by United States mail; or
 - c. The date on which the petition is deposited with a private carrier, as shown by a receipt issued by the carrier, if the petition is sent by private carrier.

Design Summary
327 IAC Article 3 Construction Permit
Warsaw Black Oxide
Burket, Indiana

Type of Waste: Plating Wastewater

Receiving Stream: Williamson Ditch, thence to Palestine Lake, thence to Trimble Creek to Tippecanoe River

Stream Uses: Aquatic Life

Discussion: Warsaw Black Oxide, Inc., is engaged in the plating of wheel rims, tubing, fasteners and miscellaneous parts. Industrial wastewater generated is collected and treated in a continuous flow treatment system consisting of cyanide destruction, chromium reduction, neutralization, flocculation, clarification, sludge thickening, sludge dewatering, sand filtration, and final effluent polishing process.

In order to comply with the NPDES Permit No. IN 0004278 discharge limits concerning cadmium, chromium and cyanide, Warsaw Black Oxide, Inc., proposes to install additional treatment/control units to improve the efficiency of the present system. The proposed treatment/control units will include a 2,780-gallon chrome reduction tank, two collection pits, a stagnant holding tank, a "Retec" electrowinning reclamation system for cadmium, a 6,780-gallon two-stage cyanide destruction tank, process controls, and associated pumps. The treated wastewater will be discharged to the main central wastewater treatment system for further treatment.

The details of the proposed modifications are as follows:

I. Design Data

A. Influent Wastewater Characteristics

1. Cadmium: 5-10 mg/l
2. Chromium, hexavalent: 0-3 mg/l
3. Chromium, trivalent: 5-10 mg/l
4. Cyanide: 10-25 mg/l

B. Expected Effluent Characteristics (In conformance with NPDES Permit No. IN 0004278 discharge limits)

1. Cadmium: 0.02 mg/l
2. Chromium, hexavalent: 0.05 mg/l
3. Chromium, total: 0.25 mg/l

4. Cyanide: 0.025 mg/l

II. Improvements to the Existing Treatment System

A. Chrome Reduction System

1. Flow: 1,500 gpd
2. Installation of new equipments/units
 - a. One 2,780-gallon capacity FRP circular chrome reduction tank (7' dia. x 10' deep)
 - b. Two 96" x 98" x 54" deep collection pits with 3 coats of "tarset" with PVC lining.
 - c. Two Marcor transfer and/or circulation pumps
 - d. One Cole-Palmer ORP unit, Model 5660
3. The Company had been treating (reducing) the spent conversion coating solutions and stagnant rinses individually. The proposed new system will provide a means of treating these solutions at one central location. The chrome-bearing waste rinses will be collected in two separate collection pits and then be pumped into the chrome reduction tank. The pH will be adjusted to 3 or less through sodium bisulfite addition. After one hour of mixing, the reduced solution will be metered to the existing main wastewater collection pit for further treatment.
4. Engineer: Mr. Ted Heemstra
Chemical Recovery Systems, Inc.
Fort Wayne, Indiana

B. Cadmium Plating System

1. Flow: 2,000 gpd
2. Installation of new equipments/units
 - a. "Retec" electrowinning reclamation system for cadmium including recirculating pump
 - b. One stagnant rinse tank (36" x 36" x 20" deep) holds approximately 80 gallons of rinsewater
3. The existing cadmium plating line includes four plating barrels which are never rinsed. Parts are transferred into each barrel, and plated parts are dumped into a dry sump tank.

4. The "Retec" unit will function as follows: From the dry sump tank, parts will be rinsed into a stagnant rinse tank. From this tank, the cadmium laden rinse will be circulated continuously through the "Retec" electrowinning system back to the stagnant tank again. The cadmium is plated out on six reticulate mesh anodes, each measuring 16" x 18". Once each month, the cadmium plated out on the anodes can be returned to the cadmium plating tank.
5. The stagnant rinse tank will be recirculated at 2 volumes per hour.
6. Parts will then be rinsed in 2 separate rinses, each consisting of 2 counterflowing rinses. These rinses then flow to the cyanide destruction system.
7. Consultant: Bill Pomeroy
Midsco, Inc.
Dearborn, Michigan

C. Cyanide Destruction System

1. Flow: 4,500 gpd (2,500 gpd from two automatic low-cyanide zinc machines and 2,000 gpd from cadmium barrel line)
2. Installation of new equipment/units
 - a. One 6,780-gallon mild steel cyanide destruction tank (18' x 6.6' x 8.5' deep) coated with three separate applications of "Tarsel"
 - b. Two signet digital ORP units with probes and alarms
 - c. One acid metering pump
 - d. One caustic metering pump
 - e. Four circulating pumps
3. The cyanide bearing wastewaters are collected in a central pit and then intermittently pumped to the existing cyanide destruction system.
4. The new system is composed of a 6,780-gallon coated tank and will replace the existing cyanide destruction system. This tank has two stages, each consisting of four compartments in series, with a baffled system of down and under, up and over flow-through. In the first stage, pH will be adjusted to 11, and chlorine will be injected. This is accomplished by a circulating pump pumping through the injector chlorination system. pH and chlorine levels will be controlled by means of a Signet digital pH and ORP monitoring system.

This flow-through system then reaches the second stage. In the second stage the pH is dropped to 8.5 and an ORP unit is used

to provide extra chlorine, if necessary. It has the same type of pH and ORP controls and circulating pump as the first stage. Additional circulating pump re-circulate the solution continuously in each stage to provide proper mixing and reactions.

With a total daily flow of approximately 4,500 gallons, the cyanide destruction tank will provide a total retention (reaction) time of approximately 36 hours. The treated wastewater then flows to the existing main central wastewater treatment system for further treatment.

5. Consultant: Tom Martin
Delta Chemicals and Equipment, Inc.
Indianapolis, Indiana

III. Recommendations - That the 327 IAC Article 3 Construction Permit application be approved with the following conditions:

- A. All local permits, including zoning, shall be obtained immediate construction is begun on this project.
- B. If pollution or nuisance conditions are created, immediate corrective action will be taken by the permittee.
- C. Additional treatment facilities will be installed if the proposed facilities fail to provide adequate control or if necessary for compliance with more stringent federal or state pretreatment standards or requirements promulgated subsequent to the date of this approval.
- D. The Company shall notify the Department of Environmental Management of the date of completion of the proposed project.
- E. Technical supervision, by a certified operator, shall be provided for operation and control of the wastewater treatment facilities and monthly reports of operation must be submitted to the Department of Environmental Management.
- F. Plans for construction in a floodway must be submitted to the Department of Natural Resources for consideration of approval prior to the start of construction.
- G. The method and system of sludge disposal shall be approved by the Office of Solid and Hazardous Waste Management of the Department of Environmental Management in accordance with Solid Waste Board requirements.