INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
NANCY A. MALOLEY, Commissioner

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

February 2, 1989

VIA CERTIFIED MAIL P 446 477 486

Bristol Myers USPNG
2400 West Lloyd Expressway
Evansville, Indiana 47721-0001

Attention: Mr. E. G. Swenson

Re: 327 IAC Article 3 Construction Permit Application
Plans and Specifications for
Wastewater Improvements
Bristol-Myers USPNG
Permit Approval No. 1842
Evansville, Indiana

Gentlemen:

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. 1842), which applies to the construction of the above-referenced proposed water pollution treatment/control facility to be located at 2400 West Lloyd Expressway in Evansville, 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, reporting and testing 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 Commissioner 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.

Plans and specifications were prepared by Sverdrup Corporation, and submitted for review on December 1, 1988.

Any questions concerning this permit may be addressed to Mr. Levy Soliven of our staff at AC 317/232-8658.

Sincerely,

Charles B. Bardonner
Assistant Commissioner
Office of Water Management

LS/dj

Project No. I-1294

Enclosures

cc: Evansville-Vanderburgh County Health Department
Sverdrup Corporation
Evansville Water & Sewer Utility
Indiana State Department of Highways

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

DECISION OF APPROVAL

Bristol-Myers USPNG, 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 2400 West Lloyd Expressway in Evansville, 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 February 20, 19 89. 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 construct this water pollution treatment/control facility shall expire at midnight February 1, 1990. In order to receive authorization to construct 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 2nd day of February, 19 89, for the Indiana Department of Environmental Management.

Charles B Bardonner

Charles B. Bardonner
Assistant Commissioner
Office of Water Management

WATER POLLUTION TREATMENT/CONTROL FACILITY DESCRIPTION

Bristol-Myers USPNG is engaged in the manufacture of pharmaceutical and nutritional products. The manufacturing operations include blending, filling, packaging, and shipping of both pharmaceuticals and nutritionals. Process wastewater is presently discharged to the City of Evansville sanitary sewer system through discharge points referred to the as 001 sewer, the 002 sewer, and the 003 sewer.

The company proposed to install wastewater improvement facilities in order to provide better and more consistent control of pH and BOD/TSS discharges to the City of Evansville West Side Wastewater Treatment Plant. The wastewater facilities will include the installation of a lift station and force main to divert approximately 2.5 MGD peak flow from 001 sewer to 003 sewer; equalization and then neutralization of the pumped flow from the 001 sewer by the addition of sodium hydroxide and carbon dioxide; and combination of the neutralized 001 sewer flow with the 003 sewer flow to provide better pH control of the 003 sewer. In addition, the project will implement in-house waste minimization and piping modifications to include the diversion of high pH streams from 002 sewer to the 001 sewer, and the collection of high BOD/TSS in a strong waste tank with controlled discharge either to the sewer, or off-site for disposal.

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. Sewer to water main separation distances must comply with Section 29 of the Recommended Standards for Sewage Works, 1978 Revised Edition.

4. The infiltration/exfiltration for the subject sewer system shall not exceed 200 gallons per inch of diameter per mile of sewer in a 24-hour period.

5. The results of the infiltration/exfiltration test and/or force main leakage test on the completed sewer must be submitted to this office within three months of completion of construction.

6. Air relief valves shall be installed at high points in the force main.

7. All force main must be tested (two-hour minimum) at 150% of design working pressure for leakage. Leakage (gallons per hour) shall be less than ((# of joints) (d in inches) $(psi)^{1/2}$)/3700. Test procedures from the appropriate AWWA specifications for pressure pipe may be used as an alternate.

8. 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.

9. The company shall comply with the requirements of the municipal sewer use ordinance and pretreatment program.

10. The company shall notify the Department of Environmental Management of the date of start-up and completion of the proposed project.

11. The name of the certified operator (Class D) in responsible charge shall be submitted to this office.

Failure to submit test results within the allotted time period or 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; or

   c. Failure to identify persons or parties who may be potentially affected by the issuance of this permit.

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 to the Commissioner of the Indiana Department of Environmental Management 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.

Summary
327 IAC Article 3 Construction Permit
Bristol-Myers USPNG
Evansville, Indiana

Engineer: Sverdrup Corporation
801 North Eleventh
St. Louis, Missouri 63101

Receiving STP: Evansville West Side Wastewater Treatment Plant

Discussion: Bristol-Myers USPNG is engaged in the manufacture of pharmaceutical and nutritional products. The manufacturing operations include blending, filling, packaging, and shipping of both pharmaceuticals and nutritionals. Process wastewater is presently discharged to the City of Evansville sanitary sewer system through discharge points referred to the as 001 sewer, the 002 sewer, and the 003 sewer.

The company proposed to install wastewater improvement facilities in order to provide better and more consistent control of pH and BOD/TSS discharges to the City of Evansville West Side Wastewater Treatment Plant. The wastewater facilities will include the installation of a lift station and force main to divert approximately 2.5 MGD peak flow from 001 sewer to 003 sewer; equalization and then neutralization of the pumped flow from the 001 sewer by the addition of sodium hydroxide and carbon dioxide; and combination of the neutralized 001 sewer flow with the 003 sewer flow to provide better pH control of the 003 sewer. In addition, the project will implement in-house waste minimization and piping modifications to include the diversion of high pH streams from 002 sewer to the 001 sewer, and the collection of high BOD/TSS in a strong waste tank with controlled discharge either to the sewer, or off-site for disposal.

The details of the treatment system are as follows:

I. Design Data

A. Flow

Sewer	Current	After Project Completion
001	500-800 gpm ave.	0
002	500 gpm ave.	500 gpm ave.
003	200 gpm ave.	700-1,000 gpm ave.

B. Influent Characteristics (pH)

001 sewer diversion: 2-12
002 sewer: 5-11
003 sewer: 2-9

C. Expected Effluent Characteristics

1. BOD and TSS are expected to be less than 1,000 mg/l*
2. pH: 5-11

*Note: Currently the company is surcharged by the City of Evansville for the excess BOD and TSS concentrations

II. Treatment Units

A. Lift Station, 33C

1. Location: northeast corner of Building 33C
2. Type of pump: submersible
3. Number of pumps: four (3 operating, 1 standby)
4. Capacity of each pump: 583 gpm at 38' TDH
5. Volume of the wet well: 1,200 gallons (active)
6. Detention time in the wet well: 1.0 minute @ average flow rate
7. Valves in discharge line: a knife gate and a check valve are provided in the discharge line for each pump
8. Ventilation: natural
9. Standby power: none provided; however, the plant is fed by a reliable dual electrical feed system resulting in minimal downtime. Wastewater will flow by gravity to the present-day 001 sewer discharge point in the event of power failure
10. Alarm: high and low wet well levels are connected to the plant monitoring system
11. Bypass or overflow: during heavy rainfall events, the 33C wastewater flow will not be pumped to avoid surcharging problems. In this case the entire flow will be bypassed to the present-day discharge point. As noted above, the same will happen in the event of a power failure
12. Discharge to the equalization tank via 12-inch diameter force main

B. Force Main and Sewers

1. Type of sewer material: VCP for the gravity sewer and HDPE for the force main
2. Diameter and length of sewer/force main: 1,600 feet of 12" force main and 300 feet of 18" gravity sewer
3. Stream, highway and railroad crossings: the force main will be encased in reinforced concrete where it passes beneath plant roadways. No stream, public highway, or railroad crossing exist

4. Water main protection: gravity sewer and force main pass beneath water mains. Sewer crossings have a minimum vertical separation of five feet. Vertical separations for the force main are 18 inches

C. Equalization Tank

1. Number of units: one FRP below-grade tank with double wall construction
2. Dimensions of unit: 12 ft nominal dia. x 21 ft overall straight side horizontal length
3. Working volume of unit: 13,000 gallons
4. Retention time: 7.4 minutes @ 1,749 gpm peak flow; 18.6 minutes @ 700 gpm average flow
5. Agitation: 1.5 Hp submersible mixer
6. Chemical feed: carbon dioxide gas (under extreme pH conditions)
7. Effluent from the equalization will flow by gravity into the neutralization tank

D. Neutralization Tank

1. Number of units: one FRP below-grade tank with double wall construction
2. Dimensions of unit: 12 ft nominal dia. x 21 ft overall straight side horizontal length
3. Working volume of unit: 13,000 gallons
4. Retention time: 7.4 minutes @ 1,749 gpm
5. Agitation: 1.5 Hp submersible mixer
6. Controls: a pH probe located in the neutralization tank which is connected to a pH controller that modulates the flow of sodium hydroxide and carbon dioxide to the neutralization tank
7. Type of chemical used: carbon dioxide gas and a 20% solution of sodium hydroxide
8. Number and size of chemical feed pumps: two sodium hydroxide pumps each with a capacity of 0-42 gallons/hour; three carbon dioxide vaporizers each with a capacity of 700 pounds/hour
9. Size of chemical storage tank: the carbon dioxide tank is a 14 ton receiver for liquid carbon dioxide storage; the sodium hydroxide tank has a capacity of 1,500 gallons
10. Capacity of spill storage space: the sodium hydroxide storage tank is to be provided with a spill storage volume of 1,900 gallons
11. Daily chemical consumption expected: 1,100 pounds/day of carbon dioxide, and 112 pounds/day of sodium hydroxide (55 gpd at a 20% concentration)
12. Discharge to the sewer 003

E. Strong Waste Collection Tank

1. Number of units: one all-welded cylindrical stainless steel storage silo which is above-ground
2. Dimensions of unit: 12 ft inside dia. x 51 ft high
3. Working volume of unit: 40,000 gallons
4. Retention time: variable
5. Collection system: strong BOD/TSS wastes are collected by a system of collection piping and either permanent or portable pumps
6. Metering pumps: two metering pumps sized for 0 to 5 gpm to bleed the strong BOD/TSS wastes to either lift station 33C or north sewer (002 sewer), thus limiting peak BOD/TSS concentrations in the dicharges
7. One 75 gpm pump to fill trucks for transporting strong BOD/TSS off-site for disposal

F. Miscellaneous

1. Laboratory equipment: a small wastewater laboratory with equipment to enable wastewater pH titrations and pH probe calibrations to be performed
2. Safety equipment: the chemical feed/unloading area will be equipped with an emergency eyewash/shower station. A telephone, panic button, carbon dioxide monitoring system, and fire protection system are provided in the building and will be tied to the plant security and maintenance computerized plant automation system
3. The wastewater neutralization facility will be located within the plant security fence. The carbon dioxide storage receiver will be enclosed within a separate fenced area
4. Flow meters: flumes (either Parshall or Palmer-Bowlus) and level measuring instrumentation are provided at each of the three discharge points. The flow meters are equipped with indicating, transmitting, totalizing, and recording capabilities

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 before 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 federl or state pretreatment standards or requirements promulgated subsequent to the date of this approval.

D. The company shall comply with the requirements of the municipal sewer use ordinance and pretreatment program.

E. The company shall notify the Department of Environmental Management of the date of start-up and completion of the proposed project.

F. The name of the certified operator (Class D) in responsible charge shall be submitted to this office.

G. Sewer to water main separation distances must comply with Section 29 of the Recommended Standards for Sewage Works, 1978 Revised Edition.

H. The infiltration/exfiltration for the subject sewer system shall not exceed 200 gallons per inch of diameter per mile of sewer in a 24-hour period.

I. The results of the infiltration/exfiltration test and/or force main leakage test on the completed sewer must be submitted to this office within three months of completion of construction.

J. Air relief valves shall be installed at high points in the force main.

K. All force main must be tested (two-hour minimum) at 150% of design working pressure for leakage. Leakage (gallons per hour) shall be less than ((# of joints) (d in inches) $(psi)^{1/2}$)/3700. Test procedures from the appropriate AWWA specifications for pressure pipe may be used as an alternate.