STEVEN L. BESHEAR
GOVERNOR

ENERGY AND ENVIRONMENT CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
200 FAIR OAKS LANE
FRANKFORT, KENTUCKY 40601-1190
www.kentucky.gov

LEONARD K. PETERS
SECRETARY

FACT SHEET

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT TO DISCHARGE TREATED WASTEWATER INTO WATERS OF THE COMMONWEALTH

KPDES No.: KY0026611 **Permit Writer:** Dan Juett **Date:** January 7, 2009
AI No.: 3835

1. **SYNOPSIS OF APPLICATION**

a. Name and Address of Applicant

City of Somerset
P. O. Box 989
Somerset, Kentucky 42502

b. Facility Location

Otis B. Chaney Wastewater Treatment Plant
Highway 1247
Somerset, Pulaski County, Kentucky

c. Description of Applicant's Operation

City

d. Design Capacity

Existing Plant Design Flow – 3.0 MGD
Expanded Plant Design Flow – 4.4 MGD

e. Description of Existing Pollution Abatement Facilities

Existing Facilities consists of: screen/comminution, grit removal, flow metering, primary clarifiers, activated sludge, secondary clarifiers, tertiary lagoons, chlorination, and dechlorination. Sludge Solids are processed by: aerobic digestion, sludge concentration basin, drying beds, and hauled to Somerset permitted land farm for disposal. Flow Diagram is on Fact Sheet Page 13.

Expanded Plant consists of: screens, splitter box #1 for oxidation ditches, splitter box # 2 for secondary clarifiers, ultraviolet disinfection, and post aeration. Sludge Solids processed by: aerobic digestion, thickening, and hauled to city land farm for disposal. Flow Diagram is on Fact Sheet Page 14.

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f. Permitting Action

This is a reissuance of a major KPDES permit for a municipally/regional planning authority owned wastewater treatment plant serving a municipality with a proposed expanded discharge.

2. **RECEIVING WATER**

a. Name/Mile Point

Facility discharges to Pitman Creek at mile point 5.7.

b. Stream Segment Use Classification

Pursuant to 401 KAR 5:026, Section 5, Pitman Creek carries the following classifications: warm water aquatic habitat, primary contact recreation, secondary contact recreation, and domestic water supply.

c. Stream Segment Categorization

Pursuant to 401 KAR 5:030, Section 1 Pitman Creek is categorized as an "Impaired Waters". The 2008 Integrated Report to Congress on Water Quality in Kentucky lists the Pitman Creek stream segment from river mile index 4.8 to 5.95 as Impaired Waters. Impaired Use is partial support of swimming. The impairment is due to pathogens. The suspected sources are municipal point source discharges. Permit issuance does not present a water quality problem and does not contribute to the impairment conditions. A properly operated wastewater plant will not contribute to the impairment.

d. Stream Low Flow Condition

The 7-day, 10-year low flow and harmonic mean conditions of Pitman Creek are 0.1 and 4.3 cfs, respectively.

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3. REPORTED DISCHARGE AND PROPOSED LIMITS

Serial Number 001 – Sanitary Wastewater (Existing Plant Design Flow = 3.0 MGD)

Effluent Characteristics	**Reported Discharge**		**Proposed Limits**		**Applicable Water Quality Criteria and/or Effluent Guidelines**
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Effluent Flow (MGD)	1.95	2.46	Report	Report	401 KAR 5:065, Section 2(8)
Influent Flow (MGD)	2.12	2.68	Report	Report	401 KAR 5:065, Section 2(8)
Effluent $CBOD_5$ (mg/l)	6.05	17	15	22.5	401 KAR 5:031, Section 4 401 KAR 5:045, Sections 3 and 5
Influent $CBOD_5$ (mg/l)	80	107	Report	Report	401 KAR 5:065, Section 2(8)
Percent Removal $CBOD_5$ (%)	96.6	99	85 or greater		40 CFR 133.102(a)(4)
Effluent TSS (mg/l)	10.4	19	30	45	401 KAR 5:031, Section 4 401 KAR 5:045, Sections 2 and 3
Influent TSS (mg/l)	112	155	Report	Report	401 KAR 5:031, Section 4
Percent Removal TSS (%)	93.7	98	85 or greater		40 CFR 133.02(b)(3)
Fecal Coliform (N/100 ml)	26	47	Removing from permit		401 KAR 5:080, Section 1(2)(c)2
Escherichia Coli (N/100 ml)	NR	NR	130	240	401 KAR 5:031, Section 7 401 KAR 5:045, Section 4 401 KAR 5:080, Section 1(2)(c)2
Ammonia Nitrogen (as mg/l N)					
May 1 - October 31	1.71	7.28	4.0	6.0	401 KAR 5:031, Section 4
November 1 - April 30	1.88	4.62	10.0	15.0	401 KAR 5:045, Sections 3 and 5
Dissolved Oxygen (mg/l) (minimum)	8.4	11.4	Not less than 7.0		401 KAR 5:031, Section 4 401 KAR 5:045, Sections 3 and 5
pH (standard units)	7.1	7.6	6.0 (min)	9.0 (max)	401 KAR 5:031, Section 4 401 KAR 5:045, Section 4

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3. REPORTED DISCHARGE AND PROPOSED LIMITS – SANITARY FACILTY

Serial Number 001 – Sanitary Wastewater (Existing Plant Design Flow = 3.0 MGD)

Effluent Characteristics	**Reported Discharge**		**Proposed Limits**		**Applicable Water Quality Criteria and/or Effluent Guidelines**
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Total Residual Chlorine (mg/l)	<0.01	<0.01	0.010	0.019	401 KAR 5:065, Section 2(12)(b)
Total Phosphorus (mg/l)	4.32	6.3	Report	Report	401 KAR 5:065, Section 2(8)
Total Nitrogen (mg/l)	N/A	N/A	Report	Report	401 KAR 5:065, Section 2(8)
Chronic Toxicity (TU_C)	N/A	1.03	N/A	1.00	401 KAR 5:029, Section 4 401 KAR 5:031, Sections 2 and 4

The data contained under the reported discharge columns is not from the renewal application, but rather from the analysis of the DMR data that has been reported during the term of the previous permit.

The abbreviation $CBOD_5$ means Carbonaceous Biochemical Oxygen Demand (5-day).
The abbreviation TSS means Total Suspended Solids.
The abbreviation N/A means not applicable.
The abbreviation NR means not reported on the Discharge Monitoring Report (DMR).
The effluent limitations for $CBOD_5$ and TSS are Monthly (30 day) and Weekly (7 day) Averages.
The effluent limitations for *Escherichia Coli* are thirty (30) day and seven (7) day Geometric Means.
Total Nitrogen is to be reported as the summation of the analytical results for Total Nitrates, Total Nitrites, and Total Kjeldahl Nitrogen.

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3. REPORTED DISCHARGE AND PROPOSED LIMITS

Serial Number 001 – Sanitary Wastewater (Proposed Expanded Plant Design Flow = 4.4 MGD)

Effluent Characteristics	**Reported Discharge**		**Proposed Limits**		**Applicable Water Quality Criteria and/or Effluent Guidelines**
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Effluent Flow (MGD)	N/A	N/A	Report	Report	401 KAR 5:065, Section 2(8)
Influent Flow (MGD)	N/A	N/A	Report	Report	401 KAR 5:065, Section 2(8)
Effluent $CBOD_5$ (mg/l)	N/A	N/A	10	15	401 KAR 5:031, Section 4 401 KAR 5:045, Sections 3 and 5
Influent $CBOD_5$ (mg/l)	N/A	N/A	Report	Report	401 KAR 5:065, Section 2(8)
Percent Removal $CBOD_5$ (%)	N/A	N/A	85 or greater		40 CFR 133.102(a)(4)
Effluent TSS (mg/l)	N/A	N/A	30	45	401 KAR 5:031, Section 4 401 KAR 5:045, Sections 2 and 3
Influent TSS (mg/l)	N/A	N/A	Report	Report	401 KAR 5:031, Section 4
Percent Removal TSS (%)	N/A	N/A	85 or greater		40 CFR 133.02(b)(3)
Escherichia Coli (N/100 ml)	N/A	N/A	130	240	401 KAR 5:031, Section 7 401 KAR 5:045, Section 4 401 KAR 5:080, Section 1(2)(c)2
Ammonia Nitrogen (as mg/l N)					
May 1 - October 31	N/A	N/A	3.0	4.5	401 KAR 5:031, Section 4
November 1 - April 30	N/A	N/A	7.0	10.5	401 KAR 5:045, Sections 3 and 5
Dissolved Oxygen (mg/l) (minimum)	N/A	N/A	Not less than 7.0		401 KAR 5:031, Section 4 401 KAR 5:045, Sections 3 and 5
pH (standard units)	N/A	N/A	6.0 (min)	9.0 (max)	401 KAR 5:031, Section 4 401 KAR 5:045, Section 4

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3. REPORTED DISCHARGE AND PROPOSED LIMITS – SANITARY FACILTY

Serial Number 001 – Sanitary Wastewater (Proposed Expanded Plant Design Flow = 4.4 MGD)

Effluent Characteristics	**Reported Discharge**		**Proposed Limits**		**Applicable Water Quality Criteria and/or Effluent Guidelines**
	Monthly Average	Daily Maximum	Monthly Average	Daily Maximum	
Total Phosphorus (mg/l)	N/A	N/A	Report	Report	401 KAR 5:065, Section 2(8)
Total Nitrogen (mg/l)	N/A	N/A	Report	Report	401 KAR 5:065, Section 2(8)
Chronic Toxicity (TU_C)	N/A	N/A	N/A	1.00	401 KAR 5:029, Section 4 401 KAR 5:031, Sections 2 and 4

The data contained under the reported discharge columns is not from the renewal application, but rather from the analysis of the DMR data that has been reported during the term of the previous permit.

The abbreviation $CBOD_5$ means Carbonaceous Biochemical Oxygen Demand (5-day).
The abbreviation TSS means Total Suspended Solids.
The abbreviation N/A means not applicable.
The abbreviation NR means not reported on the Discharge Monitoring Report (DMR).
The effluent limitations for $CBOD_5$ and TSS are Monthly (30 day) and Weekly (7 day) Averages.
The effluent limitations for *Escherichia Coli* are thirty (30) day and seven (7) day Geometric Means.
Total Nitrogen is to be reported as the summation of the analytical results for Total Nitrates, Total Nitrites, and Total Kjeldahl Nitrogen.

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4. **METHODOLOGY USED IN DETERMINING LIMITATIONS**

a. Serial Number

Outfall 001 Municipal Wastewater (Existing Plant Design Flow = 3.0 MGD)
Outfall 001 Municipal Wastewater (Expanded Plant Design Flow = 4.4 MGD)
Outfall 001 location does not change with the expansion of the plant.

b. Effluent Characteristics

Flow (Influent/Effluent), $CBOD_5$ (Influent/Effluent), TSS (Influent/Effluent), Fecal Coliform Bacteria, *Escherichia Coli*, pH, Ammonia Nitrogen, Dissolved Oxygen, Total Residual Chlorine (TRC), Total Phosphorus, Total Nitrogen, and Chronic Toxicity.

c. Pertinent Factors

The Otis B. Chaney Wastewater Treatment Plant is a regional facility. The Public Owned Treatment Works, POTW, is owned and operated by the City of Somerset. This facility treats municipal wastewater and has a pretreatment program.

Total Residual Chlorine monitoring and limitations do not apply to the expanded plant with the disinfection method of ultraviolet irradiation.

d. Monitoring Requirements

Influent sampling shall be conducted at the nearest accessible point in the collection system but prior to commencement of treatment.

Effluent sampling shall be conducted at the nearest point after final treatment but prior to discharge to or mixing with the receiving waters.

Effluent Flow monitoring shall be conducted continuously by recorder.

Influent Flow monitoring shall be conducted continuously by recorder.

$CBOD_5$ (Influent/Effluent) and TSS (Influent/Effluent) monitoring shall be conducted three times per week by 24 hour composite sampling.

Percent Removal shall be determined monthly by calculation.

Ammonia Nitrogen, Total Phosphorus and Total Nitrogen shall be monitored three times per week by 24 hour composite sampling.

Escherichia Coli, pH, Dissolved Oxygen and Total Residual Chlorine shall be monitored three times per week by grab sample.

Chronic Toxicity shall be monitored quarterly by three (3) 24 hour composite samples collected every other day.

e. Justification of Conditions

The Kentucky regulations cited below have been duly promulgated pursuant to the requirements of Chapter 224 of the Kentucky Revised Statutes.

Escherichia Coli and Fecal Coliform Bacteria
The limits for *Escherichia Coli* are consistent with the requirements of 401 KAR 5:031, Section 7, 401 KAR 5:045 Section 4 and 401 KAR 5:080, Section 1(2)(c) 2. The removal of Fecal Coliform Bacteria is consistent with the requirements of 401 KAR 5:080k Section 1 (2) (c)2. Although Fecal Coliform Bacteria has been used as an indicator of fecal contamination, it does contain other species that are not necessarily fecal in origin. EPA recommends *Escherichia Coli*, which is specific to fecal material from warm-blooded animals, as the best indicator of health risk from contact with recreational waters. Therefore, it is the “Best Professional Judgment “BPJ” of the Division of Water that *Escherichia Coli* replace Fecal Coliform Bacteria on this permit. Monitoring requirements are consistent with the “no less stringent” provisions of 401 KAR 5:065, Section 2 (12)(a).

Flow (Influent/Effluent)
The monitoring requirements for this parameter are consistent with the requirements of 401 KAR 5:065, Section 2(8).

Influent $CBOD_5$, Influent TSS, and Percent Removal
The monitoring requirements for influent $CBOD_5$ and influent TSS are consistent with the requirements of 401 KAR 5:065, Section 2(8). The raw influent values of these two parameters are necessary to determine compliance with the 85 percent removal requirement specified by 40 CFR 133.102 (a)(4) and (b)(3).

$CBOD_5$ and Ammonia Nitrogen
The limits for these parameters are consistent with the requirements of 401 KAR 5:031, Section 4, and 401 KAR 5:045, Sections 3 and 5. Section 4 of 5:031 establishes water quality criteria for the protection of Kentucky's waters. Section 5 of 5:045 requires biochemically degradable wastewaters to receive treatment in excess of secondary treatment if the Cabinet determines that the receiving water would not satisfy applicable water quality standards as a result of a facility discharge or discharges from multiple facilities. Monitoring requirements are consistent with the “no less stringent” provisions of 401 KAR 5:065, Section 2 (12)(a).

Total Suspended Solids
The limits for this parameter are consistent with the requirements of 401 KAR 5:031, Section 4 and 5:045, Sections 2 and 3. Section 4 of 5:031 establishes water quality criteria for the protection of Kentucky's waters. Sections 2 and 3 of 5:045 require biochemically degradable wastewaters to receive secondary treatment. Monitoring requirements are consistent with the “no less stringent” provisions of 401 KAR 5:065, Section 2 (12)(a).

pH, Total Residual Chlorine, and Dissolved Oxygen
The limits and monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:031, Section 4, 5:045, Section 4 and the “no less stringent” provisions of 401 KAR 5:065, Section 2 (12)(a). Section 4 of 5:031 establishes water quality criteria for the protection of Kentucky's waters. Section 4 of 5:045 establishes the acceptable levels of these parameters for biochemically degradable wastewaters.

Total Phosphorus and Total Nitrogen
The monitoring requirements for these parameters are consistent with the requirements of 401 KAR 5:065, Section 2(8)(a). Total Nitrogen is TKN (as N) and nitrate/nitrite (as N).

Chronic Toxicity
The requirements for this parameter are consistent with the requirements of 401 KAR 5:029, Section 4 and 401 KAR 5:031, Sections 2 and 4.

5. ANTIDEGRADATION

The conditions of 401 KAR 5:029, Section 1, have been satisfied by this permit action. In 2001 the City of Somerset submitted a new facility plan, “Addendum No. 2 to the 201 Facilities Plan for Wastewater Treatment Works”, developed in accordance with the 401 KAR 5:006. This process included the performance of an alternatives analysis and socioeconomic demonstration by the regional planning authority. Approval was given on July 20, 2001 by the State Planning and Environmental Assessment Report. On November 14, 2008 additionally, public comment was solicited; due to the project receiving funding from the Clean Water State Revolving Fund (CWSRF); and that, projects more than 5 years old require a re-evaluation for environmental determinations. Therefore, pursuant to the requirements of 401 KAR 5:030, Section 1(3)(b)5 the permittee has demonstrated compliance with these requirements of the antidegradation implementation procedures specified in 401 KAR 5:030.

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6. PROPOSED COMPLIANCE SCHEDULE FOR ATTAINING EFFLUENT LIMITATIONS

The permittee will comply with all effluent limitations by the effective date of the permit.

7. PROPOSED SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE

SLUDGE DISPOSAL

The disposal or final use of sewage sludge generated during the treatment of domestic sewage in a treatment works is subject to federal requirements specified in 40 CFR Part 503 and state requirements specified in Division of Waste Management regulations 401 KAR Chapter 45.

GENERAL PRETREATMENT REQUIREMENTS

All Publicly Owned Treatment Works (POTWs) are subject to the requirements of 401 KAR 5:057.

Publicly Owned Treatment Works (POTWs) means any device or system used in the treatment (including recycling and reclamation) of municipal sewage or industrial wastes of a liquid nature which is owned by a State or municipality. This definition includes any sewers, pipes, or other conveyances only if they convey wastewater to a POTW providing treatment.

Municipality means a city, village, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial waste, other wastes, or Indian tribe or authorized Indian tribal organization, or a designated and approved management agency under Section 208 of CWA.

Prohibited Discharges

Pursuant to 401 KAR 5:057, Section 3(2) the permittee is to prevent discharges by any user to the POTW which would cause pass-through or interference. Specific prohibitions include: (1) flammable or explosive pollutants; (2) corrosive pollutants; (3) amounts of solid or viscous pollutants which could cause an obstruction; (4) pollutants including oxygen demanding pollutants discharged at a flow rate or concentration which would interfere with the POTW; (5) heat in amounts which would inhibit biological activity, but no heat in quantities such that the temperature at the POTW treatment plant exceeds 104 ^{o}F (40 ^{o}C); (6) amounts of petroleum oil, non-biodegradable cutting oil or products of mineral oil origin that would cause pass through or interference; (7) pollutants which cause toxic gases, vapors, or fumes; and (8) trucked or hauled pollutants except at discharge points designated by the POTW.

Necessity to Develop and Implement a Pretreatment Program

Pursuant to Section 6(1) POTWs which meet one or more of the following criteria are required to develop, submit for approval, and implement specific Pretreatment Program Requirements.

1. A POTW or combination of POTWs operated by the same authority, with a total design flow greater than five (5) million gallons per day (MGD) and receiving from industrial users which pass through interfere with the operation of the POTW, or are otherwise subject to pretreatment standards.

2. A POTW with a design flow of five (5) MGD or less shall develop a pretreatment program if the cabinet determines that the nature or volume of the industrial wastewater, treatment process upsets, violation of the POTW effluent limitations, contamination of municipal sludge or other circumstances warrant to prevent interference with the POTW or pass through.

7. **PROPOSED SPECIAL CONDITIONS WHICH WILL HAVE A SIGNIFICANT IMPACT ON THE DISCHARGE**

Consistent with the requirements of 401 KAR 5:057, Section 6(1) and 401 KAR 5:080, Section 1(2)(c)2 the permittee shall conduct annual sewer user surveys to determine if conditions warrant the development and implementation of a pretreatment program. This condition is representative of the Division of Water's "Best Professional Judgment" that such surveys are necessary to demonstrate compliance with 401 KAR 5:057, Section 6(1).

APPROVED PRETREATMENT PROGRAMS

In accordance with the requirements of 401 KAR 5:057, Section 8 the Division of Water approved the Pretreatment Program developed by the permittee on October 25, 1984. Therefore pursuant to the requirements of 401 KAR 5:057, Section 6(3) the conditions of the approved pretreatment program are hereby incorporated into the permit as enforceable conditions of the permit.

Pretreatment Program Requirements

The conditions of this section of the permit are consistent with the requirements of 401 KAR 5:057, Section 6 - Pretreatment Program Requirements.

Semi-Annual Reporting

The conditions of this section of the permit are consistent with the requirements of 401 KAR 5:057, Section 9 – Reporting Requirements for POTWs and Industrial Users.

Best Management Practices (BMP) Plan

Pursuant to 401 KAR 5:065, Section 2(10), a BMP requirement shall be included: to control or abate the discharge of pollutants from ancillary areas containing toxic or hazardous substances or those substances which could result in an environmental emergency; where numeric effluent limitations are infeasible; or to carry out the purposes and intent of KRS 224. The facility has several areas where support activities occur which have a potential of the discharge of such substances through storm water runoff or spillage. Some of these areas will drain to present wastewater treatment plants, others will not.

Certified Operators

Pursuant to 401 KAR 5:010, Section 2(1) wastewater systems shall be operated under the supervision of a certified operator who holds a Kentucky Certificate equivalent to the class of system being supervised. All other operators employed by the system shall hold a Kentucky Certificate or shall be in the process of obtaining a Kentucky Certificate.

Pursuant to 401 KAR 5:010, Section 8 wastewater systems shall be classified as follows:

- Class I: Systems with a design capacity of less than or equal to 50,000 gpd
- Class II: Systems with a design capacity of more than 50,000 gpd but less than or equal to 2.0 MGD
- Class III: Systems with a design capacity of more than 2.0 MGD but less than or equal to 7.5 MGD
- Class IV: Systems with a design capacity of more than 7.5 MGD

Section 2(2) of 401 KAR 5:010 require the certified operator to be reasonably available if not physically present while the system is operating.

Section 2(3) of 401 KAR 5:010 require the Kentucky Certificate shall be displayed on the wall of wastewater system office.

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Monthly Operating Reports (MOR)

Pursuant 401 KAR 5:065, Section 2(8)3 the permit shall incorporate monitoring requirements as appropriate to assure compliance with the permit limitations. In addition to the monitoring of effluent as specified by the permit the permittee shall conduct process control monitoring on a daily basis and record the data on a Monthly Operating Report (MOR) which shall be submitted with the Discharge Monitoring Reports. Process control monitoring is that monitoring performed by the operators of the wastewater treatment plant to determine if the wastewater system is operating at its optimum efficiency. This monitoring includes but is not limited to influent and effluent quality and quantity monitoring, chemical usage, sludge monitoring including volume produced, wasted, and disposed, and monitoring of internal units such as aeration basins and oxidation ditches.

Outfall Signage

As a member of ORSANCO (Ohio River Valley Sanitation Commission) the Commonwealth of Kentucky through the Division of Water implements a requirement that the permittee post a permanent marker at each discharge point to the Ohio River. It is the Best Professional Judgment of the Division of Water, 401 KAR 5:080, Section 1(2)(c)2, that all permittees post a marker at all discharge locations and/or monitoring points. The ORSANCO requirements for the marker specify it to be at least 2 feet by 2 feet in size and a minimum of 3 feet above ground level with the Permittee Name and KPDES permit and outfall numbers in 2 inch letters. For internal monitoring points the marker shall be of sufficient size to include the outfall number in 2 inch letters and is to be posted as near as possible to the actual sampling location.

8. **PERMIT DURATION**

Five (5) years. This facility is in the Tennessee/Mississippi/Cumberland Basin Management Unit as per the Kentucky Watershed Management Framework.

9. **PERMIT INFORMATION**

The application, draft permit, fact sheet, public notice, comments received, and additional information is available from the Division of Water at 200 Fair Oaks Lane, Frankfort, Kentucky 40601.

10. **REFERENCES AND CITED DOCUMENTS**

All material and documents referenced or cited in this fact sheet are a part of the permit information as described above and are readily available at the Division of Water Central Office. Information regarding these materials may be obtained from the person listed below.

11. **CONTACT**

For further information on the draft permit or comment process, contact the individual identified on the Public Notice or the Permit Writer – Dan Juett at (502) 564-8158, extension 4894, or email Dan.Juett@ky.gov.

12. **PUBLIC NOTICE INFORMATION**

Please refer to the attached Public Notice for details regarding the procedures for a final decision, deadline for comments and other information required by 401 KAR 5:075, Section 4(2)(e).

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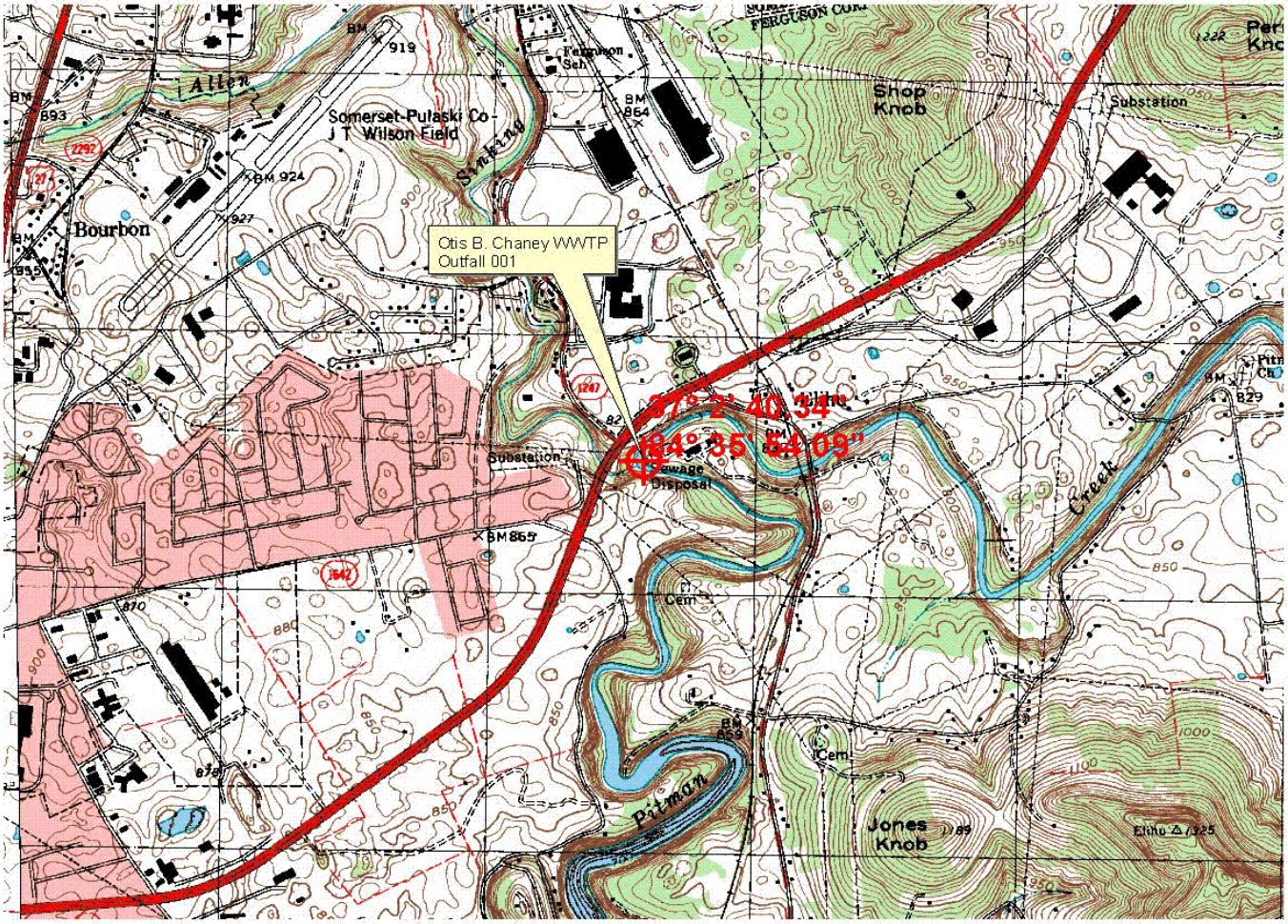
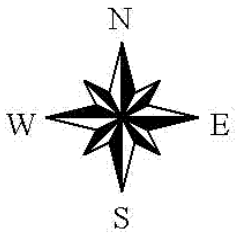
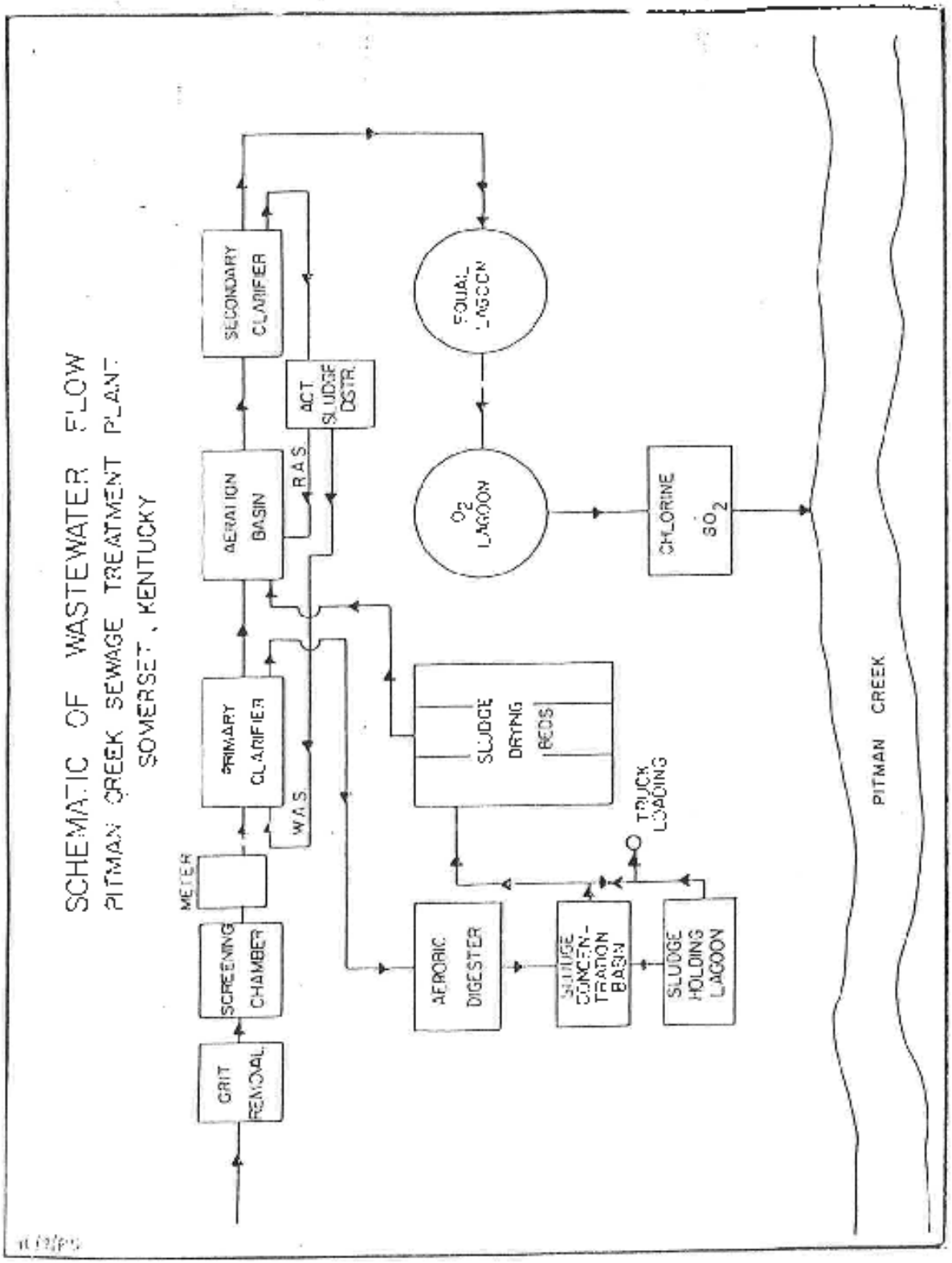
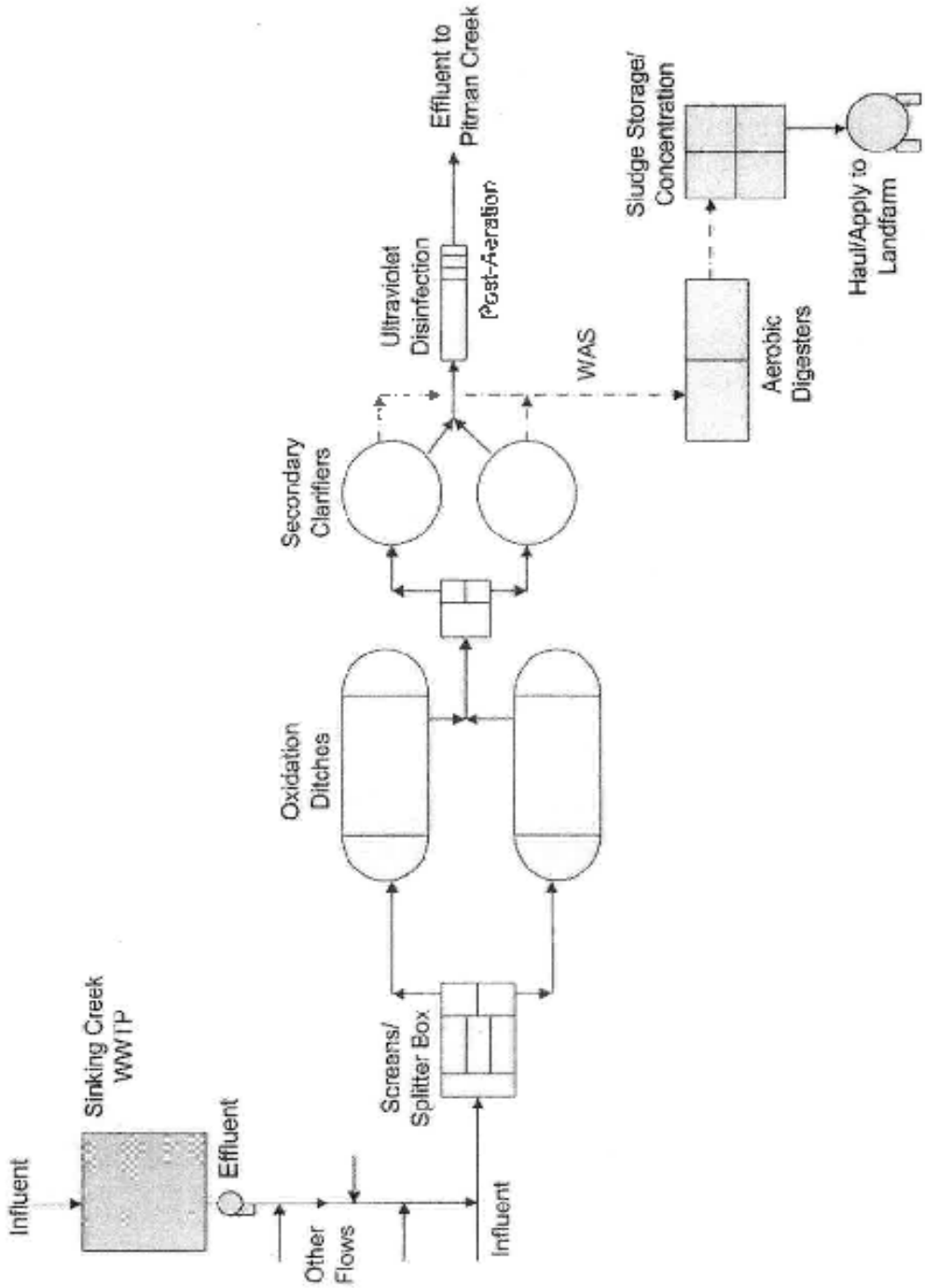
City of Somerset
Otis B. Chaney WWTP
Pitman Creek






SCHEMATIC OF WASTEWATER FLOW
PITMAN CREEK SEWAGE TREATMENT PLANT
SOMERSET, KENTUCKY
GRIT REMOVAL
SCREENING CHAMBER
METER
PRIMARY CLARIFIER
W.A.S.
AERATION BASIN
R.A.S.
ACT. SLUDGE DISTR.
SECONDARY CLARIFIER
EQUAL. LAGOON
O_2 LAGOON
CHLORINE
SO_2
SLUDGE DRYING BEDS
TRUCK LOADING
AEROBIC DIGESTER
SLUDGE CONCEN-TRATION BASIN
SLUDGE HOLDING LAGOON
PITMAN CREEK



Pitman Creek WWTP Expansion - Flow Schematic

KPDES

KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT

PERMIT NO.: KY0026611
AI NO.: 3835

AUTHORIZATION TO DISCHARGE UNDER THE KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM

Pursuant to Authority in KRS 224,

City of Somerset
P. O. Box 989
Somerset, Kentucky 42502

is authorized to discharge from a facility located at

Otis B. Chaney Wastewater Treatment Plant
Highway 1247
Somerset, Pulaski County, Kentucky

to receiving waters named

Pitman Creek at mile point 5.7

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, III, IV, and V hereof. The permit consists of this cover sheet, and Part I 3 pages, Part II 6 pages, Part III 5 pages, Part IV 3 pages, and Part V 3 pages.

This permit shall become effective on

This permit and the authorization to discharge shall expire at midnight,

Date Signed

Sandra L. Gruzesky, Director
Division of Water

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A1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: 001 – Sanitary Wastewater (Existing Plant Design Flow = 3.0 MGD)

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Effluent Flow (MGD)	Report	Report	N/A	N/A	Continuous	Recorder
Influent Flow (MGD)	Report	Report	N/A	N/A	Continuous	Recorder
Effluent $CBOD_5$ (mg/l)	375	563	15	22.5	3/Week	24 Hr Composite
Influent $CBOD_5$ (mg/l)	Report	Report	Report	Report	3/Week	24 Hr Composite
Percent Removal $CBOD_5$ (%)	N/A	N/A	85 or greater		1/Month	Calculated
Effluent TSS (mg/l)	751	1126	30	45	3/Week	24 Hr Composite
Influent TSS (mg/l)	Report	Report	Report	Report	3/Week	24 Hr Composite
Percent Removal TSS (%)	N/A	N/A	85 or greater		1/Month	Calculated
Ammonia Nitrogen (as mg/l N)						
May 1 - October 31	100	150	4.0	6.0	3/Week	24 Hr Composite
November 1 - April 30	250	375	10.0	15.0	3/Week	24 Hr Composite
Escherichia Coli (N/100 ml)	N/A	N/A	130	240	3/Week	Grab
Dissolved Oxygen (mg/l) (minimum)	N/A	N/A	Not less than 7.0		3/Week	Grab
pH (standard units)	N/A	N/A	6.0 (min)	9.0 (max)	3/Week	Grab
Total Residual Chlorine (mg/l)	N/A	N/A	0.010	0.019	3/Week	Grab
Total Phosphorus (mg/l)	N/A	N/A	Report	Report	3/Week	24 Hr Composite
Total Nitrogen (mg/l)	N/A	N/A	Report	Report	3/Week	24 Hr Composite
Chronic Toxicity (TU_C)	N/A	N/A	N/A	1.00	1/Quarter	3 24 Hr Composite

The abbreviation $CBOD_5$ means Carbonaceous Biochemical Oxygen Demand (5-day).
The abbreviation TSS means Total Suspended Solids.
The abbreviation N/A means Not Applicable.
The effluent limitations for $CBOD_5$ and TSS are Monthly (30 day) and Weekly (7 day) Averages.
The effluent limitations for *Escherichia Coli* are thirty (30) day and seven (7) day Geometric Means.
Total Nitrogen is to be reported as the summation of the analytical results for Total Nitrates, Total Nitrites, and Total Kjeldahl Nitrogen.
There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or wastestreams from other outfalls.

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A1. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning on the effective date of this permit and lasting through the term of this permit, the permittee is authorized to discharge from Outfall serial number: 001 – Sanitary Wastewater (Expanded Plant Design Flow = 4.4 MGD)

Such discharges shall be limited and monitored by the permittee as specified below:

EFFLUENT CHARACTERISTICS	DISCHARGE LIMITATIONS (lbs/day)		Other Units (Specify)		MONITORING REQUIREMENTS	
	Monthly Avg.	Daily Max.	Monthly Avg.	Daily Max.	Measurement Frequency	Sample Type
Effluent Flow (MGD)	Report	Report	N/A	N/A	Continuous	Recorder
Influent Flow (MGD)	Report	Report	N/A	N/A	Continuous	Recorder
Effluent $CBOD_5$ (mg/l)	367	550	10	15	3/Week	24 Hr Composite
Influent $CBOD_5$ (mg/l)	Report	Report	Report	Report	3/Week	24 Hr Composite
Percent Removal $CBOD_5$ (%)			85 or greater		1/Month	Calculated
Effluent TSS (mg/l)	1101	1651	30	45	3/Week	24 Hr Composite
Influent TSS (mg/l)	Report	Report	Report	Report	3/Week	24 Hr Composite
Percent Removal TSS (%)			85 or greater		1/Month	Calculated
Ammonia Nitrogen (as mg/l N)						
May 1 - October 31	110	165	3.0	4.5	3/Week	24 Hr Composite
November 1 - April 30	257	385	7.0	10.5	3/Week	24 Hr Composite
Escherichia Coli (N/100 ml)	N/A	N/A	130	240	3/Week	Grab
Dissolved Oxygen (mg/l) (minimum)	N/A	N/A	Not less than 7.0		3/Week	Grab
pH (standard units)	N/A	N/A	6.0 (min)	9.0 (max)	3/Week	Grab
Total Phosphorus (mg/l)	N/A	N/A	Report	Report	3/Week	24 Hr Composite
Total Nitrogen (mg/l)	N/A	N/A	Report	Report	3/Week	24 Hr Composite
Chronic Toxicity (TU_C)	N/A	N/A	N/A	1.00	1/Quarter	3 24 Hr Composite

The abbreviation $CBOD_5$ means Carbonaceous Biochemical Oxygen Demand (5-day).
The abbreviation TSS means Total Suspended Solids.
The abbreviation N/A means Not Applicable.
The effluent limitations for $CBOD_5$ and TSS are Monthly (30 day) and Weekly (7 day) Averages.
The effluent limitations for *Escherichia Coli* are thirty (30) day and seven (7) day Geometric Means.
Total Nitrogen is to be reported as the summation of the analytical results for Total Nitrates, Total Nitrites, and Total Kjeldahl Nitrogen.
There shall be no discharge of floating solids or visible foam or sheen in other than trace amounts.

Samples taken in compliance with the monitoring requirements specified above shall be taken at the following location: nearest accessible point prior to discharge to or mixing with the receiving waters or waste streams from other outfalls.

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B. SCHEDULE OF COMPLIANCE

The permittee shall achieve compliance with all requirements on the effective date of this permit.

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STANDARD CONDITIONS FOR KPDES PERMIT

This permit has been issued under the provisions of KRS Chapter 224 and regulations promulgated pursuant thereto. Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits or licenses required by this Cabinet and other state, federal, and local agencies.

It is the responsibility of the permittee to demonstrate compliance with permit parameter limitations by utilization of sufficiently sensitive analytical methods.

The following KPDES permit conditions apply to all discharges authorized by this permit pursuant to 401 KAR 5:065, Section 1.

(1) Duty to comply.

(a) General requirement.

The permittee shall comply with all conditions of this permit. Any permit noncompliance shall constitute a violation of KRS Chapter 224, among which shall be the following remedies: enforcement action, permit revocation, revocation and reissuance, or modification; or denial of a permit renewal application.

(b) Specific duties.

1. The permittee shall comply with effluent standards or prohibitions established under 40 CFR Part 129 as of July 1, 2001, as adopted without change, within the time provided in the federal regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

2. Any person who violates a permit condition as set forth in the KPDES administrative regulations shall be subject to penalties under KRS 224.99-010(1) and (4).

(2) Duty to reapply.

If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee shall apply for and obtain a new permit as required in 401 KAR 5:060, Section 1.

(3) Need to halt or reduce activity not a defense.

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(4) Duty to mitigate.

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

(5) Proper operation and maintenance.

The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control and related appurtenances which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also shall include adequate laboratory controls, and appropriate quality assurance procedures. This provision shall require the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only if the operation is necessary to achieve compliance with the conditions of the permit.

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(6) Permit actions.

The permit may be modified, revoked and reissued, or revoked for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or revocation, or a notification of planned changes or anticipated noncompliance, shall not stay any permit condition.

(7) Property rights.

This permit shall not convey any property rights of any kind, or any exclusive privilege.

(8) Duty to provide information.

The permittee shall furnish to the cabinet, within a reasonable time, any information which the cabinet may request to determine whether cause exists for modifying, revoking and reissuing, or revoking this permit, or to determine compliance with this permit. The permittee shall also furnish to the cabinet, upon request, copies of records required to be kept by this permit.

(9) Inspection and entry.

The permittee shall allow the cabinet, or an authorized representative, upon the presentation of credentials and other documents as may be required by law, to:

(a) Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records pertinent to the KPDES program are or may be kept;

(b) Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of this permit;

(c) Inspect at reasonable times any facilities, equipment, including monitoring and control equipment, practices, or operations regulated or required under this permit; and

(d) Sample or monitor at reasonable times, for the purposes of assuring KPDES program compliance or as otherwise authorized by KRS Chapter 224, any substances or parameters at any location.

(10) Monitoring and records.

(a) Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity.

(b) The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the date of the sample, measurement, report, or application. This period may be extended by request of the cabinet at any time.

(c) Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;
2. The individuals who performed the sampling or measurements;
3. The dates analyses were performed;
4. The individuals who performed the analyses;
5. The analytical techniques or methods used; and
6. The results of the analyses.

(d) Monitoring shall be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in the permit.

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(e) Any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under the permit shall, upon conviction, be subject to penalties under KRS 224.99-010(4).

(11) Signatory requirement.

All applications, reports, or information submitted to the cabinet shall be signed and certified as indicated in 401 KAR 5:060, Section 9. Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be subject to penalties under KRS 224.99-010(4).

(12) Reporting requirements.

(a) Planned changes.

The permittee shall give notice to the cabinet as soon as possible of any planned physical alteration or additions to the permitted facility. Notice shall be required only if:

1. The alteration or addition to a permitted facility may meet one (1) of the criteria for determining whether a facility is a new source in 401 KAR 5:080, Section 5; or

2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification only applies to pollutants which are subject either to effluent limitations in the permit or to notification requirements under 401 KAR 5:080, Section 5.

(b) Anticipated noncompliance.

The permittee shall give advance notice to the cabinet of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

(c) Transfers.

The permit shall not be transferable to any person except after notice to the cabinet. The cabinet may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate other requirements as may be necessary under KRS Chapter 224.

(d) Monitoring reports.

Monitoring results shall be reported at the intervals specified in the permit. Monitoring results shall be reported as follows:

1. Monitoring results shall be reported on a Discharge Monitoring Report (DMR).

2. If the permittee monitors any pollutant more frequently than required by the permit, using test procedures approved under 40 CFR Part 136 or as specified in the permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR.

3. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified by the cabinet in the permit.

(e) Compliance schedules.

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this permit shall be submitted no later than fourteen (14) days following each schedule date.

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(f) Twenty-four (24) hour reporting.

The permittee shall follow the provisions of 401 KAR 5:015 and shall orally report any noncompliance which may endanger health or the environment, within twenty-four (24) hours from the time the permittee becomes aware of the circumstances. This report shall be in addition to and not in lieu of any other reporting requirement applicable to the noncompliance. A written submission shall also be provided within five (5) days of the time the permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. The cabinet may waive the written report on a case-by-case basis if the oral report has been received within twenty-four (24) hours. The following shall be included as events which shall be reported within twenty-four (24) hours:

1. Any unanticipated bypass which exceeds any effluent limitation in the permit, as indicated in subsection (13) of this section.
2. Any upset which exceeds any effluent limitation in the permit.
3. Violation of a maximum daily discharge limitation for any of the pollutants listed by the cabinet in the permit to be reported within twenty-four (24) hours, as indicated in Section 2(7) of this administrative regulation.

(g) Other noncompliance.

The permittee shall report all instances of noncompliance not reported under paragraphs (d), (e), and (f) of this subsection, when monitoring reports are submitted. The reports shall contain the information listed in paragraph (f) of this subsection.

(h) Other information.

Where the permittee becomes aware that it failed to submit any relevant fact in a permit application, or submitted incorrect information in a permit application or in any report to the cabinet, it shall promptly submit these facts or information.

(13) Occurrence of a bypass.

(a) Bypass not exceeding limitations.

The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. This type of bypass shall not be subject to the provisions of paragraphs (b) and (c) of this subsection.

(b) Notice.

1. Anticipated bypass.

If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten (10) days before the date of the bypass. Compliance with this requirement constitutes compliance with 401 KAR 5:015, Section 1.
2. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required in subsection (12)(f) of this section, twenty-four (24) hour notice. Compliance with this requirement constitutes compliance with 401 KAR 5:015, Section 4.

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(c) Prohibition of a bypass.

1. Bypassing shall be prohibited, and the cabinet may take enforcement action against a permittee for bypass, unless:

a. The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition shall not be satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

c. The permittee submitted notices as required under paragraph (b) of this subsection.

2. The cabinet may approve an anticipated bypass, after considering its adverse effects, if the cabinet determines that it will meet the three (3) conditions listed in subparagraph 1a, b, and c of this paragraph.

(14) Occurrence of an upset.

(a) Effect of an upset.

An upset constitutes an affirmative defense to an action brought for noncompliance with technology-based permit effluent limitations if the requirements of paragraph (b) of this subsection are met.

(b) Conditions necessary for a demonstration of an upset.

A permittee who wishes to establish the affirmative defense of upset shall demonstrate through properly signed, contemporaneous operating logs, or other relevant evidence that:

1. An upset occurred and that the permittee can identify the causes of the upset;
2. The permitted facility was at the time being properly operated;
3. The permittee submitted notice of the upset as required in subsection (12)(f) of this section; and
4. The permittee complied with any remedial measures required under subsection (4) of this section.

(c) Burden of proof.

In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset shall have the burden of proof.

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(15) Additional conditions applicable to specified categories of KPDES permits.

The following conditions, in addition to others set forth in this administrative regulation, shall apply to all KPDES permits within the categories specified below:

(a) Existing manufacturing, commercial, mining, and silvicultural dischargers.

In addition to the reporting requirements under subsections (12), (13), and (14) of this section, any existing manufacturing, commercial, mining, and silvicultural discharger shall notify the cabinet as soon as it knows or has reason to know:

1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"

a. 100 micrograms per liter (100 μg/l);

b. 200 micrograms per liter (200 μg/l) for acrolein and acrylonitrile; 500 micrograms per liter (500 μg/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one (1) milligram per liter (1 mg/1) for antimony;

c. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 401 KAR 5:060, Section 2(7);

d. The level established by the cabinet in accordance with Section 2(6) of this administrative regulation.

2. That any activity has occurred or will occur which would result in any discharge, on a nonroutine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"

a. 500 micrograms per liter (500 μg/l);

b. One (1) milligram per liter (1 mg/l) for antimony;

c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 401 KAR 5:060, Section 2(7); or

d. The level established by the cabinet in accordance with Section 2(6) of this administrative regulation.

(b) POTWs.

1. POTWs shall provide adequate notice to the cabinet of the following:

a. Any new introduction of pollutants into that POTW from an indirect discharger which would be subject to the KPDES administrative regulations if it were directly discharging those pollutants; or

b. Any substantial change in the volume or character of pollutants being introduced into that POTW by a source introducing pollutants into the POTW at the time of issuance of the permit.

2. For purposes of this paragraph, adequate notice shall include information on the quality and quantity of effluent introduced into the POTWs and any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

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PART III

OTHER REQUIREMENTS

A. Reporting of Monitoring Results

Monitoring results obtained during each monitoring period must be reported on a preprinted Discharge Monitoring Report (DMR) Form that will be mailed to you. The completed DMR for each monitoring period must be sent to the Division of Water at the address listed below (with a copy to the appropriate Regional Office) postmarked no later than the 28th day of the month following the monitoring period for which monitoring results were obtained.

Division of Water Columbia Regional Office 2751 Campbellsville Road Columbia, Kentucky 42728 ATTN: Supervisor	Division of Water Surface Water Permits Branch Permit Support Section 200 Fair Oaks Lane Frankfort, Kentucky 40601

B. Reopener Clause

This permit shall be modified, or alternatively revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under 401 KAR 5:050 through 5:086, if the effluent standard or limitation so issued or approved:

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or

2. Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of KRS Chapter 224 when applicable.

C. Sludge Disposal

The disposal or final use of sewage sludge generated during the treatment of domestic sewage in a treatment works shall be disposed of in accordance with federal requirements specified in 40 CFR Part 503 and state requirements specified in Division of Waste Management regulations 401 KAR Chapter 45.

D. Certified Operators

This wastewater system shall be operated under the supervision of a Class III Kentucky Certified Operator who shall be reasonably available at all times. All other operators employed by the system shall hold a Kentucky Certificate or shall be in the process of obtaining a Kentucky Certificate. The certificates of each operator shall be prominently displayed on the wall of the system office.

E. Monthly Operating Reports

In addition to the monitoring of effluent as specified by the permit the permittee shall conduct process control monitoring on a daily basis and record the data on a Monthly Operating Report (MOR) which shall be submitted with the Discharge Monitoring Reports. Process control monitoring is that monitoring performed by the operators of the wastewater treatment plant to determine if the wastewater system is operating at its optimum efficiency. This monitoring includes but is not limited to influent and effluent quality and quantity monitoring, chemical usage, sludge monitoring including volume produced, wasted, and disposed, and monitoring of internal units such as aeration basins and oxidation ditches.

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F. Outfall Signage

The permittee shall post a permanent marker at all discharge locations and/or monitoring points. The marker shall be at least 2 feet by 2 feet in size and a minimum of 3 feet above ground level with the Permittee Name and KPDES permit and outfall numbers in 2 inch letters. For internal monitoring points the marker shall be of sufficient size to include the outfall number in 2 inch letters and shall be posted as near as possible to the actual sampling location.

G. Necessity to Develop and Implement a Pretreatment Program

POTWs which meet one or more of the following criteria are required to develop, submit for approval, and implement specific Pretreatment Program Requirements.

A POTW or combination of POTWs operated by the same authority, with a total design flow greater than five (5) million gallons per day (MGD) and receiving from industrial users which pass through interfere with the operation of the POTW, or are otherwise subject to pretreatment standards.

A POTW with a design flow of five (5) MGD or less shall develop a pretreatment program if the cabinet determines that the nature or volume of the industrial wastewater, treatment process upsets, violation of the POTW effluent limitations, contamination of municipal sludge or other circumstances warrant to prevent interference with the POTW or pass through.

The permittee shall conduct annual sewer user surveys to determine if conditions warrant the development and implementation of a pretreatment program. An annual report listing the industrial users, the manufacturing processes, the nature and volume of flow and any problems caused by the users shall be submitted no later than December 31 of each year, unless otherwise specified by the Division of Water.

H. Prohibited Discharges

The following are prohibit from being discharged to the POTW.

Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW);

Pollutants which will cause corrosive structural damage to the POTW, but in no case, discharges with a pH lower than 5.0;

Solid or viscous pollutants in amounts which will cause obstruction to the flow in sewers, or other interference with operation of the POTW;

Any pollutant, including oxygen demanding pollutants (BOD_5, etc.), released in a discharge at such a volume or strength as to cause interference in the POTW;

Heat in amounts, which will inhibit biological activity in the POTW, but in no case, heat in such quantities that the influent to the sewage treatment works exceeds 104° F (40° C);

Petroleum oil, non-biodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass-through;

Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems; and,

Any trucked or hauled waste except, at discharge points designated by the POTW.

I. Approved Pretreatment Program

In accordance with the requirements of 401 KAR 5:057, Section 8 the Division of Water approved the Pretreatment Program developed by the permittee on October 25, 1984. Therefore pursuant to the requirements of 401 KAR 5:057, Section 6(3) the conditions of the approved pretreatment program are hereby incorporated into the permit as enforceable conditions of the permit.

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I. Approved Pretreatment Program - continued

Program Requirements

1. The permittee shall be responsible for the performance of all pretreatment requirements contained in 401 KAR 5:057, Section 6, and pursuant to 40 CFR Part 403, and shall be subject to enforcement actions, penalties, fines, and other remedies by the state, as provided in the Clean Water Act (hereafter the "Act"). The permittee shall implement and enforce its approved POTW pretreatment program. The permittee's approved POTW pretreatment program is hereby made an enforceable condition of this permit. The state may initiate enforcement action against a POTW and against an industrial user for noncompliance with applicable standards and requirements as provided in KRS 224.16-050(1), 224.70-110, and 224.73-120, and pursuant to the Act.

2. The permittee shall enforce the requirements promulgated under Sections 307(b), 307(c), 307(d), and 402(b) of the Act. The permittee shall cause industrial users subject to federal categorical standards to achieve compliance no later than the date specified in those requirements or, in the case of a new industrial user, upon commencement of the discharge.

Program Requirements

3. The permittee shall perform the pretreatment functions as required in 401 KAR 5:057, Section 6 and 40 CFR Part 403 including, but not limited to:

   a. Implement the necessary legal authorities as provided in 401 KAR 5:057, Section 6(4)(a). This includes, among other things, the authority to:

      (1) Deny or condition new or increased contributions of pollutants or changes in the nature of pollutants (401 KAR 5:057, Section 6(4)(a)(1));
      (2) Require compliance with applicable pretreatment standards (401 KAR 5:057, Section 6(4)(a)(2));
      (3) Control through permit to ensure compliance (401 KAR 5:057, Section 6(4)(a)(3));
      (4) Require the development of compliance schedules and submission of reports (401 KAR 5:057, Section 6(4)(a)(4));
      (5) Carry out inspection, surveillance, and monitoring procedures (401 KAR 5:057, Section 6(4)(a)(5));
      (6) Obtain remedies for noncompliance by industrial users (401 KAR 5:057, Section 6(4)(a)(6)).

   b. Implement the programmatic functions as provided in 401 KAR 5:057, Section 6(4)(b). This includes:

      (1) An industrial waste survey (401 KAR 5:057, Section 6(4)(b)(1 and 2));
      (2) Notification of appropriate federal, state and/or local standards or limitations (401 KAR 5:057, Section 6(4)(b)(3));
      (3) Receipt and analysis of self-monitoring reports and other notices, (401 KAR 5:057, Section 6(4)(b)(4));
      (4) POTW compliance sampling and analysis (401 KAR 5:057, Section 6(4)(b)(5));
      (5) Noncompliance investigations and enforcement (401 KAR 5:057, Section 6(4)(b)(6));
      (6) Public participation (401 KAR 5:057, Section 6(4)(b)(7)).

   c. Provide the required funding, equipment, and personnel to implement the pretreatment program as provided in 40 CFR 403.8(f)(3) and 403.9(b)(4).

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I. Approved Pretreatment Program - continued

4. The permittee shall adopt and enforce local limits that will protect the treatment works against interference, pass-through, and sludge contamination. Local limits shall be revised as necessary by the permittee as provided in 40 CFR 122.21 and CFR 403.5.

Semi-Annual Reporting

1. The permittee shall submit semi-annually a pretreatment report to the state. The report due on March 1st shall describe the permittee's pretreatment program activities over the previous year and shall cover the period January through December. The report due on September 1st shall describe the permittee's pretreatment program activities over the previous six (6) months and shall cover the period January through June. In the event that the permittee is not in compliance with any conditions or requirements of this permit, then the permittee shall also include the reasons for noncompliance and state how and when the permittee shall comply with such conditions and requirements. Each report shall contain, but not be limited to, the following information:

Semi-Annual Reporting - continued

a. Analytical results of the POTW's influent, effluent, and sludge (including sludge from lagoons) annually, by the 28th of January, for those pollutants identified under Section 307(a) of the Act which are known or suspected to be discharged by industrial users, and for any non-priority pollutants which the permittee believes may be causing or contributing to interference, pass-through, or adversely impacting sludge quality. The report shall include all pollutants identified in Part D of Form A (Revised November 2003). The frequency of analysis shall not exceed twelve months.

b. A discussion of upset, interference, or pass-through incidents, if any, at the POTW treatment plant which the permittee knows or suspects were caused by industrial users of the POTW system. The discussion shall include the reasons why the incidents occurred, the corrective actions taken and, if known, the name and address of the industrial user(s) responsible.

c. The cumulative number of industrial users that the permittee has notified regarding baseline monitoring reports and the cumulative number of industrial user responses.

d. An updated list of the permittee's industrial users including their names and addresses, or a list of deletions and additions keyed to a previously submitted list. The permittee shall provide a brief explanation for each deletion. The list shall identify the industrial users subject to federal categorical standards and which set(s) of standards are applicable. The permittee shall characterize the compliance status of each industrial user by employing the following descriptions:

(1) In compliance with baseline monitoring report requirements (where applicable);
(2) Consistently achieving compliance;
(3) Inconsistently achieving compliance;
(4) Significantly violated applicable pretreatment requirements as defined by 40 CFR 403.8(f)(2)(vii);
(5) On a compliance schedule to achieve compliance (include the date final compliance is required);
(6) Not achieving compliance and not on a compliance schedule;
(7) The permittee does not know the industrial user's compliance status (with explanation).

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I. Approved Pretreatment Program - continued

e. A summary of the inspection and sampling activities conducted by the permittee during the past six (6) months to gather information and data regarding industrial users. The summary shall include:

(1) The names of industrial users subject to surveillance by the permittee and an indication of whether they were inspected, sampled, or both and the frequency of these activities at each user; and
(2) The conclusions or results from the inspection or sampling of each industrial user.

Semi-Annual Reporting - continued

f. A summary of the compliance and enforcement activities during the past six (6) months, the summary shall include the names of the industrial users affected by the following actions:

(1) Warning letter or notices of violation;
(2) Administrative orders;
(3) Civil actions;
(4) Criminal actions;
(5) Assessment of monetary penalties. For each industrial user identify the amount of the penalties;
(6) Restriction of flow to the POTW; or
(7) Disconnection from discharge to the POTW.

g. A description of any significant changes in operating the pretreatment program which differ from the information in the permittee's approved pretreatment program including, but not limited to changes concerning: the program's administrative structure; local industrial discharge limitations; monitoring program or monitoring frequencies; legal authority or enforcement policy; funding mechanisms; resource requirements; or staffing levels.

h. A summary of the semi-annual pretreatment budget, including the cost of pretreatment program functions and equipment purchases.

i. A summary of public participation activities to involve and inform the public. This shall include a copy of the annual publication of significant violations, if such publication was needed to comply with 40 CFR 403.8(f)(2)(vii).

H. Approved Pretreatment Program - continued

j. A description of any changes in sludge disposal methods and a discussion of any concerns not described elsewhere in the report.

k. Any other information deemed as pertinent by the state in effectively administrating an approved pretreatment program.

2. A signed copy of this report shall be submitted by the due dates to the state at the address shown below:

Division of Water
Surface Water Permits Branch
Construction and Compliance Section
200 Fair Oaks Lane
Frankfort, Kentucky 40601

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PART IV

BEST MANAGEMENT PRACTICES

SECTION A. GENERAL CONDITIONS

1. Applicability

These conditions apply to all permittees who use, manufacture, store, handle, or discharge any pollutant listed as: (1) toxic under Section 307(a)(1) of the Clean Water Act; (2) oil, as defined in Section 311(a)(1) of the Act; (3) any pollutant listed as hazardous under Section 311 of the Act; or (4) is defined as a pollutant pursuant to KRS 224.01-010(35) and who have ancillary manufacturing operations which could result in (1) the release of a hazardous substance, pollutant, or contaminant, or (2) an environmental emergency, as defined in KRS 224.01-400, as amended, or any regulation promulgated pursuant thereto (hereinafter, the "BMP pollutants"). These operations include material storage areas; plant site runoff; in-plant transfer, process and material handling areas; loading and unloading operations, and sludge and waste disposal areas.

2. BMP Plan

The permittee shall develop and implement a Best Management Practices (BMP) plan consistent with 401 KAR 5:065, Section 2(10) pursuant to KRS 224.70-110, which prevents or minimizes the potential for the release of "BMP pollutants" from ancillary activities through plant site runoff; spillage or leaks, sludge or waste disposal; or drainage from raw material storage. A Best Management Practices (BMP) plan will be prepared by the permittee unless the permittee can demonstrate through the submission of a BMP outline that the elements and intent of the BMP have been fulfilled through the use of existing plans such as the Spill Prevention Control and Countermeasure (SPCC) plans, contingency plans, and other applicable documents.

3. Implementation

If this is the first time for the BMP requirement, then the plan shall be developed and submitted to the Division of Water within 90 days of the effective date of the permit. Implementation shall be within 180 days of that submission. For permit renewals the plan in effect at the time of permit reissuance shall remain in effect. Modifications to the plan as a result of ineffectiveness or plan changes to the facility shall be submitted to the Division of Water and implemented as soon as possible.

4. General Requirements

The BMP plan shall:

a. Be documented in narrative form, and shall include any necessary plot plans, drawings, or maps.

b. Establish specific objectives for the control of toxic and hazardous pollutants.

(1) Each facility component or system shall be examined for its potential for causing a release of "BMP pollutants" due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc.

(2) Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g., precipitation), or other circumstances which could result in a release of "BMP pollutants," the plan should include a prediction of the direction, rate of flow, and total quantity of the pollutants which could be released from the facility as result of each condition or circumstance.

c. Establish specific Best Management Practices to meet the objectives identified under paragraph b of this section, addressing each component or system capable of causing a release of "BMP pollutants."

d. Include any special conditions established in part b of this section.

e. Be reviewed by plant engineering staff and the plant manager.

5. Specific Requirements

The plan shall be consistent with the general guidance contained in the publication entitled "NPDES Best Management Practices Guidance Document," and shall include the following baseline BMPs as a minimum.

a. BMP Committee
b. Reporting of BMP Incidents
c. Risk Identification and Assessment
d. Employee Training
e. Inspections and Records
f. Preventive Maintenance
g. Good Housekeeping
h. Materials Compatibility
i. Security
j. Materials Inventory

6. SPCC Plans

The BMP plan may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans under Section 311 of the Act and 40 CFR Part 151, and may incorporate any part of such plans into the BMP plan by reference.

7. Hazardous Waste Management

The permittee shall assure the proper management of solid and hazardous waste in accordance with the regulations promulgated under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1978 (RCRA) (40 U.S.C. 6901 et seq.) Management practices required under RCRA regulations shall be referenced in the BMP plan.

8. Documentation

The permittee shall maintain a description of the BMP plan at the facility and shall make the plan available upon request to NREPC personnel. Initial copies and modifications thereof shall be sent to the following addresses when required by Section 3:

Division of Water
Columbia Regional Office
2751 Campbellsville Road
Columbia, Kentucky 42728
ATTN: Supervisor

Division of Water
Surface Water Permits Branch
Permit Support Section
200 Fair Oaks Lane
Frankfort, Kentucky 40601

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9. BMP Plan Modification

The permittee shall amend the BMP plan whenever there is a change in the facility or change in the operation of the facility which materially increases the potential for the ancillary activities to result in the release of "BMP pollutants."

10. Modification for Ineffectiveness

If the BMP plan proves to be ineffective in achieving the general objective of preventing the release of "BMP pollutants," then the specific objectives and requirements under paragraphs b and c of Section 4, the permit, and/or the BMP plan shall be subject to modification to incorporate revised BMP requirements. If at any time following the issuance of this permit the BMP plan is found to be inadequate pursuant to a state or federal site inspection or plan review, the plan shall be modified to incorporate such changes necessary to resolve the concerns.

SECTION B. SPECIFIC CONDITIONS

Periodically Discharged Wastewaters Not Specifically Covered By Effluent Conditions

The permittee shall include in this BMP plan procedures and controls necessary for the handling of periodically discharged wastewaters such as intake screen backwash, meter calibration, fire protection, hydrostatic testing water, water associated with demolition projects, etc.

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PART V – BIOMONITORING - CHRONIC CONCERNS

In accordance with PART I of this permit, the permittee shall initiate, within 30 days of the effective date of this permit, or continue the series of tests described below to evaluate wastewater toxicity of the discharge from Outfall 001.

TEST REQUIREMENTS

The permittee shall perform one short-term static-renewal fathead minnow (Pimephales promelas) growth test and one short-term static-renewal water flea (Ceriodaphnia dubia) life-cycle test. Tests shall be performed on a series of 24 hour composite samples collected as described in 1.B. below. In addition to use of a control, effluent concentrations for the tests must include the permitted limit, (i.e., 100% effluent) and at least four additional effluent concentrations. For a permit limit of 100% effluent, test concentrations shall be 20%, 40%, 60%, 80% and 100%. If the permit limit is less than 100% effluent and greater than or equal to 75% effluent, the test concentrations shall include the permitted limit, two concentrations below the limit that are based on a 0.5 dilution factor, and two concentrations above the limit (to include 100% and mid-point between the permit limit and 100%). If the permit limit is less than 75% effluent, test concentrations shall include the permit limit concentration, two concentrations below the limit based on a 0.5 dilution factor, and two concentrations above the limit based on a 0.5 dilution factor if possible, otherwise to include 100% and mid-point between the permit limit and 100% . Selection of different effluent concentrations must be approved by the Division prior to testing. Testing of the effluent shall be initiated within 36 hours of completing each 24 hour composite sample. Controls shall be tested concurrently with effluent testing using synthetic water. The analysis will be deemed reasonable and good only if the minimum control requirements are met, (i.e. For the Ceriodaphnia test: at least 80% survival of all control organisms and an average of 15 or more young per surviving female in the control solutions; and 60% of surviving control females must produce three broods. For the fathead minnow test: at least 80% survival in controls and the average dry weight per surviving organism in control chambers equals or exceeds 0.25 mg. Any test that does not meet the control acceptability criteria shall be repeated as soon as practicable within the monitoring period (i.e. monthly or quarterly). Noncompliance with the toxicity limit will be demonstrated if the IC_{25} (inhibition concentration) for reproduction or growth is less than 100% effluent.

Tests shall be conducted on both species at the frequency specified in PART I of this permit.

A minimum of three 24 hour composite samples shall be collected at a frequency of one 24 hour composite every other day. For example, the first sample would be used for test initiation on day 1 and for test solution renewal on day 2. The second sample would be used for test solution renewal on days 3 and 4. The third sample would be used for test solution renewal on days 5, 6, and 7. Each 24 hour composite shall be collected using a refrigerated automatic sampler. Each 24 hour composite sample shall consist of not less than 48 discrete aliquots of effluent. Aliquots shall be of equal volume and time-proportional unless effluent flow is expected to vary by more than 10% from one hour to another or by 50% over the 24 hour collection period (as predicted from historical trends, significant rainfall events, etc.). With anticipated effluent flow variation of greater than 10% per hour or 50% overall, the frequency, and volume of each aliquot shall be flow-proportional. The lapsed time from collection of the last aliquot of the composite and its first use for test initiation or for test solution renewal shall not exceed 36 hours.

PART V – BIOMONITORING - CHRONIC CONCERNS

TEST REQUIREMENTS

Composite samples shall be refrigerated and maintained at not greater than 6°C during collection, storage, transport and until used in the test by the laboratory.

If after at least six consecutive toxicity tests, it can be determined that Ceriodaphina dubia or the Fathead minnow is more sensitive and all tests have passed, a request for testing with only the most sensitive species can be submitted to the Division. Upon approval, that most sensitive species may be considered as representative and all subsequent compliance tests can be conducted using only that species unless directed at any time by the Division to change or revert to both.

REPORTING REQUIREMENTS

Results of all toxicity tests conducted with any species shall be reported according to the most recent format provided by the Division of Water. Notification of failed test shall be made to the Division's Water Quality Branch within five days of test completion. Test reports shall be submitted to the Division's Water Quality Branch within thirty days of completion.

Chronic Toxicity

If noncompliance with the toxicity limit occurs in an initial test, (i.e., the IC_{25} for reproduction of water fleas or growth of minnows is less than 100% effluent), the permittee must repeat the test using a new set of three 24 hour composite samples. Sampling must be initiated within 15 days of completing the failed test. The second round of testing shall include both species unless approved for only the most sensitive species by the Division. Results of the second round of testing will be used to evaluate the possible need for a Toxicity Reduction Evaluation (TRE).

If the second round of testing also demonstrates noncompliance with the toxicity limit, the permittee will be required to perform accelerated testing as specified in the following paragraphs.

Complete four additional rounds of testing to evaluate the frequency and degree of toxicity within 60 days of completing the second round of failed testing. Results of the initial and second rounds of testing specified above, plus the four additional rounds of testing will be used in deciding if a TRE shall be required.

If results from any two of the six rounds of testing show a significant noncompliance with the chronic limit (i.e., $\geq$1.2 times the TU_c), or results from any four of the six tests show chronic toxicity (as defined in 1.A), a TRE will be required.

The permittee shall provide written notification to the Division of Water within five (5) days of completing accelerated testing stating that: (1) toxicity persisted and that a TRE will be initiated; or (2) that toxicity did not persist and the normal testing will resume.

Should toxicity prove not to be persistent during the accelerated testing period, but reoccur within 12 months of the initial failure at a level $\geq$ 1.2 times the TU_c, then a TRE shall be required.

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PART V – BIOMONITORING - CHRONIC CONCERNS

TOXICITY REDUCTION EVALUATION (TRE)

Having determined that a TRE is required, the permittee shall initiate &/or continue at least monthly testing with both species until such time as a specific TRE plan is approved by the Division. A TRE plan shall be developed by the permittee and submitted to the Division within thirty days of determining a TRE is required. The plan shall be developed in accordance with the most recent EPA and Division guidance. Questions regarding this process may be submitted to the Division's Water Quality Branch.

The TRE plan shall include Toxic Identification Evaluation (TIE) procedures, treatability studies, and evaluations of: chemical usage including changes in types, handling and suppliers; operational and process procedures; housekeeping and maintenance activities; and raw materials. The TRE plan will establish an implementation schedule to begin immediately upon approval by the Division, to have duration of at least six months, and not to exceed 24 months. The implementation schedule shall include quarterly progress reports being submitted to the Division's Water Quality Branch, due the last day of the month following each calendar quarter.

Upon completion of the TRE, the permittee shall submit a final report detailing the findings of the TRE and actions taken or to be taken to prevent the reoccurrence of toxicity. This final report shall include: the toxicant(s), if any are identified; treatment options; operational changes; and the proposed resolutions including an implementation schedule not to exceed 180 days.

Should the permittee determine the toxicant(s) and/or a workable treatment prior to the planned conclusion of the TRE, the permittee will notify the Division's Water Quality Branch within five days of making that determination and take appropriate actions to implement the solution within 180 days of that notification.

TEST METHODS

All test organisms, procedures and quality assurance criteria used shall be in accordance with Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms (Fourth Edition), EPA-821-R-02-013, the most recent edition of this publication, or as approved in advance by the Division of Water.

Toxicity testing for compliance to KPDES discharge limits shall be performed by a laboratory approved by the Division of Water to conduct the required toxicity tests. Within each toxicity report to the Division of Water, the permittee must demonstrate successful performance of reference toxicant testing by the laboratory that conducts their effluent toxicity tests. Within 30 days prior to initiating an effluent toxicity test, a reference toxicant test must be completed for the method used; alternatively, the reference toxicant test may be run concurrent with the effluent toxicity test. In addition, for each test method, at least 5 acceptable reference toxicant tests must be completed by the laboratory prior to performing the effluent toxicity test. A control chart including the most recent reference toxicant test endpoints for the effluent test method (minimum of 5, up to 20 if available) shall be part of the report.

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