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JUN 07 2004

COMMONWEALTH OF KENTUCKY
ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
FILE NO. _____

Office of Administrative Hearings

KPDES PERMIT NO. KY0105031
CONSTRUCTION PERMIT NO. 523 (Activity ID No. APE20020001)

THE CITY OF CINCINNATI

PETITIONER

v.

PETITION FOR HEARING

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
Serve: Office of Legal Services
Fifth Floor, Capital Plaza Tower
Frankfort, KY 40601

RESPONDENT

and

SANITATION DISTRICT NO. 1 OF NORTHERN KENTUCKY
Serve: 1045 Eaton Drive
Fort Wright, KY 41017

* * * * *

Pursuant to KRS 224.10-420(2) and 401 KAR 5:075 Section 13, Petitioner, the City of Cincinnati, by counsel, hereby petitions the Environmental and Public Protection Cabinet ("Cabinet") for a hearing to contest the determination by the Cabinet's Division of Water ("DOW") to issue the Construction Permit No. 523 (Activity ID No. APE20020001) (the "Construction Permit") and Kentucky Pollutant Discharge Elimination System ("KPDES") Permit No. KY0105031 ("the KPDES Permit") ("collectively, "the Permits") to Sanitation District No. 1 of Northern Kentucky ("SD#1) of Northern Kentucky.

I. PARTIES AND BACKGROUND

1. The City of Cincinnati is a municipal corporation organized and existing pursuant to the laws of the State of Ohio. The City is located across the Ohio River from the Commonwealth of Kentucky. The Greater Cincinnati Water Works, a department of the City of

Cincinnati, is a public utility which withdraws water from the Kentucky side of the Ohio River and, after treatment, provides about 136 million gallons of drinking water a day through 3,000 miles of water lines to most of Hamilton County and parts of Butler, Clermont and Warren Counties in Ohio, as well as to Boone County, Kentucky and the City of Florence. Its address is 4747 Spring Grove Avenue, Cincinnati, Ohio 45232. Hereinafter the Petitioner, the City of Cincinnati, will be referred to as the Greater Cincinnati Water Works ("GCWW") (Tel. 513-591-7970; Fax. 513-591-6519).

2. Sanitation District No. 1 of Northern Kentucky ("SD#1") is an entity responsible for operating and maintaining the wastewater collection system in the Northern Kentucky counties of Boone, Campbell, and Kenton. The address of SD#1 is 1045 Eaton Drive, Fort Wright, Kentucky 41017. SD#1 proposes to build and operate a new wastewater treatment facility, the Eastern Regional Waste Water Treatment Plant ("ERWWTP") in Campbell County, Kentucky.

3. The Cabinet is charged with the duty of implementing and enforcing KRS Chapter 224 and administrative regulations promulgated pursuant thereto. The Cabinet is charged by KRS Chapter 224 and regulation with the duties to provide for the prevention, abatement and control of water pollution and to review and approve or disapprove applications for permits to discharge pollutants into streams of the Commonwealth. Pursuant to KRS 151.630 and KRS 151.636, the Kentucky General Assembly has mandated that the Cabinet administer the Safe Drinking Water Act ("SDWA") and conduct a source water assessment and delineation program under the SDWA. The General Assembly's assignment of these statutory duties concerning drinking water indicates that the Cabinet is expected to administer both the SDWA and the CWA while carrying out its functions, including review of discharge permit applications.

4. GCWW is aggrieved because a KPDES permit and a construction permit (“the Permits”) recently issued to SD#1 for the ERWWTP would allow SD#1 to discharge millions of gallons per day of waste water containing human pathogens and other pollutants harmful to human health into the Ohio River at a location only 11 miles upstream from the water intake of GCWW’s Richard Miller Treatment Plant, which is the major source of drinking water supply for the Greater Cincinnati area. This intake has been located on the Kentucky side of the Ohio River and operational since 1907. GCWW will be required to expend millions of dollars on upgrades of its drinking water treatment processes and on increased maintenance and operating costs as a result of the discharges from the ERWWTP, in order to protect its customers and to comply with existing and new Safe Drinking Water Act requirements applicable to its operations.

5. The Permits are final determinations of the Cabinet which are contrary to law and fact and are injurious to GCWW. GCWW demands a formal hearing in this matter for the reasons set forth below.

II. GROUNDS FOR PETITION: Legal Framework

A. The Clean Water Act

6. The Federal Water Pollution Control Act as amended [The Clean Water Act (“CWA”), 33 U.S.C. §§1251 *et seq.*] sets a national goal to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters and to eliminate the discharge of pollutants into surface waters. It is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited. 33 U.S.C. §1251(a).

7. “Pollutant” is defined to include sewage. 33 U.S.C. §1362(6).

8. “Toxic pollutant” is defined as “those pollutants, or combinations of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation

or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the Administrator, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring.” 33 U.S.C. §1362(13).

9. Discharge of any pollutant is unlawful except as in compliance with sections 1311, 1312, 1316, 1317, 1328, 1342, and 1344 of the CWA. 33 U.S.C. §1311.

10. Section 1342 of the CWA establishes a National Pollutant Discharge Elimination System (NPDES) permit program to implement the Act’s prohibition on unauthorized discharges by requiring a permit for every discharge of a pollutant from a point source into the waters of the United States.

11. The CWA provides for the states to administer the NPDES permit program upon approval of EPA. Kentucky has an approved program and issues KPDES Permits pursuant to KRS Chapter 224 Subchapter 70 and 401 KAR Chapter 5.

B. Kentucky’s Implementation of CWA

12. KRS 224.70-110 prohibits the discharge of pollutants or any substance into the waters of the Commonwealth that will cause or contribute to the pollution of those waters in contravention of the standards adopted by the Cabinet.

13. Kentucky has promulgated regulations governing the issuance of discharge permits (KPDES Permits) pursuant to the authority of the CWA. In 401 KAR 5:050 the Commonwealth declares that the “KPDES administrative regulations promulgated pursuant to KRS Chapter 224 are intended to be compatible with the federal regulations adopted pursuant to CWA.”

1. Water Quality Standards

14. Title 33 U.S.C. § 1313 requires states to develop water quality standards applicable to all waters within the states and that EPA approve them. Kentucky's approved water quality standards are set forth in 401 KAR Chapter 5.

15. Kentucky regulations prohibit the issuance of a KPDES permit "[i]f the imposition of conditions cannot ensure compliance with the applicable water quality requirements of Kentucky and all affected states." 401 KAR 5:055 Section 2(3).

16. Kentucky regulations prohibit the issuance of a KPDES permit to a new source or a new discharger if the discharge from its construction or operation will cause or contribute to the violation of water quality standards. 401 KAR 5:055 Section 2(7).

17. Kentucky's water quality standards include designated uses, water quality criteria and an antidegradation policy. See, e.g., 401 KAR 5:026, 401 KAR 5:030, and 401 KAR 5:031.

18. Ohio's water quality standards are set forth in Ohio Administrative Code Annotated ("OAC Ann.") Chapter 3745-1, and include four major components: beneficial use designation, narrative "free-froms", numeric criteria, and antidegradation provisions. The Ohio water quality standards contain best available demonstrated control technology requirements ("BADCT") for new discharges. OAC Ann. 3745-1-05.

Designated uses

19. KRS 224.70-100(1) declares that it is the policy of the Commonwealth to "conserve the waters of the Commonwealth for public water supplies, ..."

20. 401 KAR 5:026 ("Designation of uses of surface waters") designates "domestic water supply" as a designated use of surface waters.

21. Federal regulations prohibit states from designating waste transport and assimilation as an acceptable designated use. 40 CFR §131.10(a).

Water Quality Criteria

22. Water quality criteria set ambient levels of individual pollutants or describe conditions of water bodies that will protect the designated uses of the water. There are two types of water quality criteria: numeric and narrative. These criteria establish maximum concentrations for pollutant discharge limitations which would not interfere with designated uses.

23. 401 KAR 5:031 Section 2(1)(d) establishes a narrative criterion prohibiting degradation of surface waters by substances that “injure, are chronically or acutely toxic to or produce adverse physiological or behavioral responses in humans, animals, fish, and other aquatic life.”

24. Narrative criteria can be the basis for limiting by permit the discharge of specific pollutants when the state has no numeric criteria for those pollutants. EPA regulations require the states to develop procedures for implementing narrative criteria and ensuring that those criteria are attained. 33 U.S.C. § 1313; 40 CFR § 131.11.

Antidegradation

25. The CWA requires states to adopt an antidegradation policy consistent with EPA’s antidegradation regulations as set forth in 40 CFR §131.12. EPA’s antidegradation policy contains three tiers of protection from degradation of water quality. Designation as a Tier 1 water protects existing uses and provides the minimum floor of water quality for all waters of the United States. Waters designated as Tier 2 and Tier 3 receive additional protections.

26. Kentucky promulgated 401 KAR 5:029 in an effort to establish an antidegradation policy for the Commonwealth’s surface waters and 401 KAR 5:030 in an effort to establish a

methodology to implement the policy established in 401 KAR 5:029. The antidegradation policy implementation methodology regulation, 401 KAR 5:030, was in large part disapproved by EPA on August 30, 2000, for the second time because the Cabinet placed 90.6% of all Kentucky waters in the least protected category, Tier 1. *See* 67 FR 68971, 68975 (2002).

2. KPDES Permit Conditions

27. Pursuant to the CWA and KRS Chapter 224 and their applicable implementing regulations, effluent limitations in a KPDES permit should be established so that they are enforceable, adequately account for effluent variability, consider available receiving water dilution, protect against acute and chronic impacts, account for compliance monitoring sampling frequency, and assure attainment of the waste load allocation (“WLA”), i.e., the fraction of the Total Maximum Daily Load allocated to the point source being permitted, and water quality standards.

Effluent limitations

28. Effluent limitations are of two kinds: technology-based limitations and water quality-based effluent limitations (“WQBEL”s).

29. 40 CFR §122.44(d) requires that all pollutants in an effluent from an NPDES facility be characterized by the permitting authority to determine the need for WQBELs in the permit. Technology-based effluent limits do not always limit every parameter that is in an effluent. When that is the case and technology-based effluent limits do not exist for a particular pollutant, the state permitting agency must investigate effluents for the presence of specific pollutants for which the State has not adopted numeric criteria, but which may be contributing to a violation of a water quality standards for the water body, including an excursion above a narrative criterion. Thus, if the permitting agency analyzes the effect of an effluent discharge on a receiving water and determines that technology based effluent limits are not sufficiently

stringent to meet water quality standards, the agency is required to develop more stringent WQBELs designed to ensure that water quality standards are met.

30. Kentucky regulations provide that any requirements “in addition to or more stringent than EPA’s effluent limitations guidelines or standards” shall be included as permit conditions “if necessary . . . to achieve water quality standards . . . , including any narrative criteria contained in 401 KAR 5:031.” 401 KAR 5:065 Section 2(4). This requirement applies to conventional, nonconventional, or toxic pollutants. 401 KAR 5:065 Section 2(4)(a)(1).

Total Maximum Daily Loads

31. Section 1313(d) of the CWA and 40 CFR §130.7 require states to develop total maximum daily loads (“TMDLs”) for water bodies within the state’s jurisdiction for which existing pollution controls are not stringent enough to attain and maintain water quality standards. Kentucky has developed a list of waterbodies presently not supporting designated uses as required by 40 CFR §130.7(b)(4) and needing TMDL development. *See* 2002 303(d) List of Waters for Kentucky, January, 2003. TMDLs are used to determine waste load allocations which are in turn used to determine applicable WQBELs.

32. TMDLs normally require complex water quality models capable of simulating rainfall events and analyzing cumulative pollutant fate and transport. There currently are no TMDLs in place for the main stem of the Ohio River along the Kentucky border. Kentucky has stated that it intends to have the Ohio River Valley Water Sanitation Commission (“ORSANCO”) do the data collection, modeling and development of TMDLs for the Ohio River along Kentucky’s border. It will be several years before TMDL development will be initiated for the Ohio River along the Kentucky border.

C. Safe Drinking Water Act

33. The Safe Drinking Water Act, 42 U.S.C. §§300f *et seq.*, regulates public drinking water systems and requires EPA to establish national standards for levels of contaminants in public drinking water to safeguard public health.

34. The Safe Drinking Water Act Amendments of 1996 require states to perform a source water assessment for each public water system, for the purpose of managing potential contamination sources and preventing new contaminant threats. In performing the assessments the states must delineate source water protection areas, conduct an inventory of significant potential sources of contamination, determine susceptibility of public water systems to those contamination sources, and release the results to the public. 42 U.S.C. §§300j-13.

35. On August 11, 2003, EPA proposed “The Long Term 2 Enhanced Surface Water Treatment Rule” (“LT2ESWTR”) consisting of a series of rules intended to improve control of microbial pathogens, with particular emphasis on *Cryptosporidium*, a pathogen found in effluents from POTWs. 68 FR 47640 (2003). *Cryptosporidium* causes cryptosporidiosis, an infection that causes diarrhea, abdominal cramping, nausea, vomiting, and fever and can be fatal in sensitive subpopulations such as infants, immune suppressed patients, and the elderly. Because of the potential impacts of a waterborne disease outbreak, the proposed LT2ESWTR will impose additional requirements on drinking water systems based on the presence of *Cryptosporidium*, whether viable or non-viable, in source waters. Compliance with the LT2ESWTR will thus be dependent on source water quality. It is anticipated that the rule will become effective within the next several months.

D. Ohio River Valley Water Sanitation Commission

36. Kentucky has approved, ratified, adopted, and enacted into law the Ohio River Valley Water Sanitation Compact. KRS 224.18-760 (“Compact”).

37. Article I of the Compact recognizes the important use of the Ohio River as a public water source and states, in pertinent part, “[e]ach of the signatory States pledges . . . to enact any necessary legislation to enable each such State to place and maintain the waters of [the Ohio River basin] in a satisfactory sanitary condition, available for safe and satisfactory use as public and industrial water supplies after reasonable treatment”

38. Article VI of the Compact states, in pertinent part, “[t]he guiding principle of this Compact shall be that pollution by sewage or industrial wastes originating within a signatory State shall not injuriously affect the various uses of the interstate waters as hereinbefore defined.”

39. The Ohio River Valley Water Sanitation Commission (“ORSANCO”) has adopted pollution control standards for discharges to the Ohio River to protect the designated uses of the Ohio River, including the satisfactory use as a public water supply. These pollution control standards state that “[n]o degradation of the water quality of the Ohio River that would interfere with or become injurious to these uses shall be permitted.”

40. In 1997 ORSANCO, along with representatives of state and federal drinking water agencies, including the Kentucky Division of Water, formed a work group for source water assessment. The group developed a tiered delineation system for the Ohio River Basin, consisting of three protection zones. Zone 1, considered the zone of highest concern, extends 25 miles upstream from a water intake such as that of GCWW’s Miller Plant.

III. GROUNDS FOR PETITION: Factual Basis

41. The Sanitation District No.1 ("SD#1") is responsible for managing the wastewater treatment facilities in Boone, Campbell, and Kenton Counties in Northern Kentucky located along the southern border of the Ohio River. The District is engaged in the collection, treatment and disposal of wastewater.

42. The District recently developed a Regional Facility Plan that includes a program to construct two new regional wastewater treatment plants over a five-year period. These facilities will be in an Eastern Region and a Western Region of the District. The KPDES Permit at issue in this petition authorizes discharges from the Eastern Region facilities into the Ohio River eleven miles above the intake point for the Greater Cincinnati Water Works' Miller Treatment Plant, i.e., at Mile Point 530 (451.4 under Corps of Engineers' system).

43. On July 22, 2004, the DOW issued a State Planning and Environmental Assessment Report ("SPEAR") in which it approved the regional facilities plans submitted by SD#1. The SPEAR found that SD#1 chose to discharge into the Ohio River because discharge into any other stream would require more stringent effluent limits and more expensive treatment. The SPEAR failed to list "Drinking Water Source" as a designated use of the receiving stream. Although the SPEAR acknowledged that the DOW was aware of opposition from the GCWW, at no time did DOW inform GCWW of the proposed SPEAR so that GCWW could provide comments. GCWW was completely unaware of the proposed discharge until much later.

44. On December 16, 2002, SD#1 submitted an application for a KPDES Permit for a new facility, referred to as the Eastern Regional Waste Water Treatment Plant ("ERWWTP"), that would replace three existing wastewater treatment plants, two of which currently discharge downstream from the intake for GCWW. SD#1 proposed to discharge the combined wastes of

the existing facilities at a new location *upstream* from the GCWW drinking water intake and the intakes of other drinking water plants.

45. SD#1 also filed an application with the DOW for a Construction Permit for the ERWWTP, on November 18, 2002. That Permit was issued on May 10, 2004.

46. SD#1's applications proposed, as Phase I of its project, a facility designed to discharge an average of four million gallons per day (gpd) of waste water into the Ohio River, with a peak hourly flow of 20 million gpd. A later phase would permit a peak hourly discharge of 30 million gpd.

47. Neither SD#1 nor the Cabinet notified GCWW of the applications either before or after submitting them, nor, to GCWW's knowledge, was the application advertised in Ohio.

48. When GCWW learned of the pending applications, it voiced its concern that the ERWWTP would discharge pollutants that would endanger its customers or require GCWW to expend millions of dollars in order to protect its customers and equipment. The discharge would be located well within the twenty-five-mile critical protection zone identified under the source water assessment program ("SWAP") of the Safe Drinking Water Act by ORSANCO and the source water protection work group.

49. GCWW's informal efforts to convince SD#1 to modify the applications to relocate the discharge to a point downstream of GCWW's intake were unsuccessful.

50. GCWW submitted oral and written comments at the public hearing on the KPDES Permit, raising concerns about ERWWTP discharges as a source of biological contaminants such as *Cryptosporidium* and *Giardia*, viral pathogens, pharmaceutical and personal care product residues that are known to be endocrine disruptors, synthetic organic contaminants, and other

substances which are not removed by standard secondary wastewater treatment methods or which would result in increased pollutant concentrations that would adversely impact GCWW.

51. The Ohio River at the point of discharge has the following use classifications: a warmwater aquatic habitat, primary/secondary contact recreation, and **domestic water supply**. The stream low flow condition is 11,000 cfs.

52. On May 12, 2004 the Division of Water issued Permit No. KY0105031 ("Permit") authorizing SD#1 to discharge into the Ohio River subject to the conditions in the Permit. See Attachment A.

53. Part I of the Permit contains effluent limitations for Outfall 001 for the following effluent characteristics: 1) biochemical oxygen demand (5-day) carbonaceous, 2) total suspended solids, 3) fecal coliform bacteria, 4) ammonia (as N), 5) dissolved oxygen, and 6) chloride. Biomonitoring is to be performed and shall not exceed 1.00 acute toxicity units.

54. In regard to the water quality standard requiring protection of existing uses of the receiving waters, the Cabinet does not explain in its Fact Sheet, the Permit, or its Responses to Comments how allowing discharges of known human pathogens, including but not limited to *Cryptosporidium*, and other injurious pharmaceutical and personal care product residues that are known to be endocrine disruptor, synthetic organic contaminants and biological organisms, is protective of the existing use of the receiving stream as a public drinking water supply.

55. In regard to the water quality standard requiring compliance with water quality criteria, the SD#1 KPDES Permit does not address known constituents of effluents of publicly owned treatment works that have been identified as health risks, including but not limited to *Cryptosporidium*, even though 401 KAR 5:031 Section 2 establishes a narrative criterion that

prohibits the degrading of surface waters by substances that “[i]njure, are chronically or acutely toxic to or produce adverse physiological or behavioral responses in humans, ...”

56. The Cabinet does not address in the Fact Sheet, the Permit, or its Responses to Comments why it did not develop TMDLs, WLAs, or WQBELs to address the probable exceedance of the narrative criteria prohibiting discharges that will injure human health.

57. In regard to antidegradation, the Permit Fact Sheet states that the “conditions of 401 KAR 5:029, Section 1(1) have been satisfied by this Permit action.” Section 1(1) of this regulation merely states that the purpose of the antidegradation regulations “is to safeguard the surface waters of the Commonwealth for their designated uses, to prevent the creation of any new pollution of these waters, and to abate any existing pollution.” The Cabinet does not explain in its Fact Sheet, the Permit, or the Response to Comments, how it has complied with the requirement in 401 KAR 5:029 Section 1(2) that directs the Cabinet to “assure water quality adequate to protecting existing uses fully” when it allows a degradation or lower water quality.

58. Kentucky has adopted a five-mile rule that prohibits discharges within five miles upstream of a drinking water intake unless a variance is allowed. In its Responses to Comments, the Division of Water states that the “5-mile rule is consistent with the requirements of the Clean Water Act in addition to state statutory and regulatory authority.” The Division does not address how this rule is construed or applied when the discharge is more than five miles upstream of the water intake. This rule cannot be relied on to justify ignoring development of WQBELs when discharges are more than five miles from the water intake. The rule merely states that the discharges within 5-miles are prohibited; it does not state that discharges above the 5-mile limit, even though they violate water quality criteria, are permitted. Moreover, KRS Chapter 13A prohibits reliance on policies that have not been promulgated as regulations.

59. In its Response to Comments, DOW does not adequately address specific concerns raised by commenters concerning adverse impacts of the discharge on the receiving waters and impermissibly defaults to the non-responsive boiler plate language that the Permit and “associated requirements for the ERWWTP have been developed to protect human health and the environment as required by all applicable KPDES and water quality regulations.” See, e.g., Response to Comment 2 in Attachment B.

60. The upcoming EPA regulation, Long Term 2 Enhanced Surface Water Treatment Rule, will require all drinking water systems to implement *Cryptosporidium* treatment requirements at various levels, based on their risk categorization. As the concentration of *Cryptosporidium* increases in the source water, so does the level of drinking water treatment required. If the ERWWTP discharge increases the concentration of *Cryptosporidium* downstream as GCWW expects, the waters of the Ohio above GCWW’s intake will be degraded. Because of this degradation the GCWW will be forced to install and operate additional treatment systems at an estimated annual cost of \$4-18 million.

61. On or about May 10, 2004, the DOW approved the Construction Permit Application for the Eastern Regional Wastewater Treatment Plant. See Attachment C.

62. The DOW must ensure that public comments are considered in the issuance of the Construction Permit. 401 KAR 5:005 Section 4(7).

63. The Construction Permit does not include the effluent line or the discharge point into the Ohio River. The letter transmitting the permit states that “[t]he effluent line that will transport effluent flow from the WWTP to the Ohio River has not yet been submitted to the Division of Water for review and approval.” Condition T-15 of the Construction Permit states that “[t]his wastewater treatment plant cannot be placed into service until the outfall sewer line to

the Ohio River is constructed, tested, and can be placed into operation.” It was impossible for the DOW to evaluate the discharge point and the discharge’s impact on water quality in the Ohio River and the river’s designated uses without full information on the discharge structure.

64. The Construction Permit includes effluent conditions for ammonia nitrogen that are consistent with the KPDES Permit, but the Construction Permit’s effluent limitations for BOD exceed the limits stated in the KPDES Permit.

65. Condition T-7 states that the ERWWTP has been designed to meet the reliability category grade 3. 401 KAR 5:005 Section 13. This level is not sufficiently protective of the Ohio River as a drinking water source, especially in light of the proximity of the planned discharge point to the GCWW water intake and concerns expressed regarding pathogens and chemical pollutants.

IV. GROUNDS FOR PETITION: Alleged Violations of Law

66. The SD#1 KPDES Permit violates the water quality standard set forth in 401 KAR 5:026 Section 1, requiring protection of existing designated uses, by allowing the discharge of known pollutants that will be injurious to human health.

67. The SD#1 KPDES Permit violates narrative criteria water quality standards set forth in 401 KAR 5:031 Section 2, in that DOW failed to consider or inadequately considered the effects of discharged substances that may cause the objectionable conditions listed therein and failed to condition the permit accordingly, in violation of 401 KAR 5:065 Section 2.

68. The SD#1 KPDES Permit fails to comply with water quality standards because the treatment system planned for ERWWTP cannot insure removal of pharmaceutical and personal care product residues that are known to be endocrine disruptors, synthetic organic contaminants, and other substances contained in treated wastewater effluents and suspected of producing adverse physiological or behavioral responses in humans and wildlife.

69. The SD#1 KPDES Permit fails to comply with water quality standards because, among other failures, the UV disinfection system planned for ERWWTP will not insure adequate inactivation of *Cryptosporidium* oocysts, *Giardia* cysts, and human enteric viruses and other pathogenic organisms known to be present in treated wastewater effluents and known to produce adverse physiological or behavioral responses in humans. In addition, the KPDES Permit does not contain a validation provision for UV reactors nor continuous on-line UV sensors as required in the proposed LT2ESWTR

70. The SD#1 KPDES Permit fails to comply with water quality standards because it allows the discharge of harmful quantities of ammonia-nitrogen, chlorides, total dissolved solids and other pollutants that may produce adverse physiological or behavioral responses in humans and wildlife, adversely affect GCWW's treatment processes by corrosion or other means, and produce objectionable color, odor, taste, or turbidity.

71. Given that regulations promulgated pursuant to the Safe Drinking Water Act specifically identify *Cryptosporidium* in drinking water supplies as a threat to human health, *Cryptosporidium* meets the definition of toxic pollutant in the Clean Water Act. Accordingly, the Cabinet should have reviewed the need for an effluent limitation for the discharge of *Cryptosporidium* oocysts. In issuing the KPDES Permit pursuant to the Clean Water Act, the Cabinet ignored findings relating to human health that were made in the Safe Drinking Water Act. This failure to consider the Safe Drinking Water Act's findings violates the Clean Water Act's requirement to protect waters designated for drinking water supply .

72. The SD#1 KPDES Permit fails to protect the downstream Domestic Water Supply use because it lacks a provision requiring direct and immediate emergency notice to GCWW in the event of a bypass or upset. Under the Permit, GCWW is dependent on third parties to notify

it that a bypass of untreated waste water is approaching its drinking water intake. In addition, the lack of continuous monitoring requirements fails to ensure immediate recognition of an upset or bypass.

73. The SD#1 KPDES Permit violates the permitting requirements of 401 KAR 5:065 Section 2 because DOW failed to calculate, or to explain its calculation of, WQBELs or to establish permit conditions necessary to achieve water quality standards.

74. DOW has not adequately responded to the comments made by GCWW and others concerning the potential adverse impacts to the Ohio River and the critical source water of the GCWW facility, in violation of 401 KAR 5:075 Section 12.

75. The DOW's reliance on its July 2002 SPEAR as justification for the location of the ERWWTP discharge point, set out in its Response to Comments, was improper and violated GCWW's due process because DOW never informed GCWW about SD#1's plans for the plant or provided an opportunity for GCWW to submit comments, even though DOW knew, by its own admission, that GCWW was an interested party that had expressed concerns to SD#1 about the location.

76. DOW improperly issued the SD#1 KPDES Permit without requiring or performing sufficient flow modeling to demonstrate that water quality standards would not be violated or to determine the projected flow path and its impact on pollutant concentrations at points downstream.

77. As a result of the disapproval of Kentucky's antidegradation regulation by EPA, the regulation is void, and the Cabinet's issuance of the SD#1 KPDES Permit without adequate antidegradation review was invalid.

78. Even under the current EPA-disapproved and invalid antidegradation implementation policy regulation, 401 KAR 5:030, which designates the affected section of the Ohio River as a "use protected" (least protected) water, the Cabinet failed to comply with even the minimal standard applicable to such waters, i.e., to assure that all existing uses of downstream stretches of the Ohio River, particularly the Domestic Water Supply use, will be protected or that the level of water quality necessary to protect the uses will be assured.

79. The DOW's application of the "Five-Mile Policy" as a rule of thumb for separation of a waste water discharge from a drinking water intake was arbitrary and capricious and not supported by recent scientific studies and fact, and furthermore was violative of KRS Chapter 13A.

80. The Cabinet failed to balance the costs to the GCWW and other drinking water systems against the costs presented by SD#1 for its facility. The unlawful issuance of the KPDES Permit to SD#1 unfairly transfers the costs of water treatment to GCWW and other drinking water suppliers with intakes only a few miles downstream from the ERWWTP discharge point.

81. No KPDES permit may be issued until TMDLs for pollutants known to be in the discharge and known to be injurious to human health have been determined for the affected portion of the Ohio River.

82. The SD#1 KPDES Permit was issued in violation of 401 KAR 5:006 and Section 208 of the CWA, 33 U.S.C. §1288, because Permit decisions must only be made in accordance with certified and approved water quality management plans. The DOW's Response to Comments suggests that it did not evaluate or even consider whether the Permit was consistent

with an applicable water quality management plan. Furthermore, on information and belief, there is no current and valid water quality management plan for the designated area.

83. The SD#1 KPDES Permit was issued in violation of 401 KAR 5:055 Section 2(3) because it does not ensure compliance with the applicable water quality requirements of Kentucky and all affected states, including Ohio.

84. The SD#1 KPDES Permit is contrary to law in that it allows discharges that violate the provisions of KRS 224.18-760, the ORSANCO Compact and ORSANCO's pollution control standards, because the Permit allows discharges that are injurious to the use of the Ohio River as a public water supply.

85. The defects of the SD#1 KPDES Permit are equally applicable to the Construction Permit.

86. The DOW did not give full effect to the requirements of 401 KAR 5:005 when it issued the Construction Permit but failed, among other failures, to require submission and evaluation of the effluent line and discharge prior to approval of the permit, to apply effluent limitations consistent with the SD#1 KPDES Permit, and to apply an appropriate reliability category to the facility.

87. The decision to approve the SD#1's applications and to issue the KPDES and Construction Permits was arbitrary, capricious and contrary to law and fact.

WHEREFORE, Greater Cincinnati Water Works respectfully requests:

1. That the SD#1 KPDES Permit and Construction Permit be determined to have been unlawfully issued and ordered revoked.

2. Alternatively, that DOW be ordered to require SD#1 to redesign its facility so that the water quality and uses of the Ohio River are protected by, among others, locating the discharge point at a point downstream from the GCWW surface water intake in the Ohio River

and installing and operating tertiary waste water treatment, including filtration or other methods to remove more biological pathogens, excessive nutrients and other chemical contaminants, and physiologically active substances such as endocrine disruptors.

3. That the Construction Permit be revoked or stayed until issues involving the KPDES permit are resolved.
4. That Petitioner GCWW be awarded all relief to which it is entitled.

Respectfully submitted,

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FRANKFORT, KENTUCKY 40601-1190
www.kentucky.gov

MAY 12 2004

Jeff Egar, General Manager
Sanitation District No. 1
1045 Eaton Drive
Fort Wright, Kentucky 41017

Re: Eastern Regional WWTP
KPDES No.: KY0105031
Campbell County, Kentucky

Dear Mr. Egar:

Enclosed is the Kentucky Pollutant Discharge Elimination System (KPDES) permit for the above-referenced facility. This action constitutes a final permit issuance under 401 KAR 5:075, pursuant to KRS 224.16-050.

Your facility is being issued a permit that is shorter than the normal five-year term in order to synchronize permit issuance by watershed. Implementation of watershed permitting began in the year 2001 and your targeted permit issuance is based upon your location in the watershed basin.

This permit will become effective on the date indicated in the attached permit provided that no request for adjudication is granted. All provisions of the permit will be effective and enforceable in accordance with 401 KAR 5:075, unless stayed by the Hearing Officer under Sections 11 and 13.

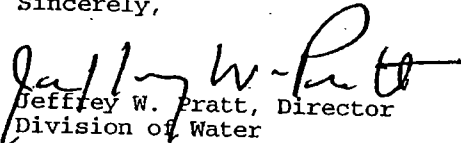
Any demand for a hearing on the permit shall be filed in accordance with the procedures specified in KRS 224.10-420, 224.10-440, 224.10-470 and any regulations promulgated thereto. Any person aggrieved by the issuance of a permit final decision may demand a hearing, pursuant to KRS 224.10-420(2) within thirty (30) days from the date of the issuance of this letter. Two (2) copies of request for hearing should be submitted in writing to the Natural Resources and Environmental Protection Cabinet, Office of Administrative Hearings, 35-36 Fountain Place, Frankfort, Kentucky 40601 and the Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Division of Water, 14 Reilly Road, Frankfort, Kentucky 40601. For your record keeping purposes, it is recommended that these requests be sent by certified mail. The written request must conform to the appropriate statutes referenced above.

Mr. Jeff Egar
Eastern Regional WWTP/KY0105031
Page Two

If you have any questions regarding the KPDES decision, please contact Courtney Seitz, Inventory and Data Management Section, KPDES Branch, at (502) 564-2225, extension 465.

Further information on procedures and legal matters pertaining to the hearing request may be obtained by contacting the Office of Administrative Hearings at (502) 564-7312.

Sincerely,


Jeffrey W. Pratt, Director
Division of Water

JWP:NG:ng
Enclosure

c: ORSANCO
U.S. EPA Region IV
Florence Regional Office
Division of Water Files

KPDES



KENTUCKY POLLUTANT
DISCHARGE ELIMINATION
SYSTEM

PERMIT

PERMIT NO.: KY0105031

**AUTHORIZATION TO DISCHARGE UNDER THE
KENTUCKY POLLUTANT DISCHARGE ELIMINATION SYSTEM**

Pursuant to Authority in KRS 224,

Sanitation District No. 1
1045 Eaton Drive
Fort Wright, Kentucky 41017

is authorized to discharge from a facility located at

Eastern Regional WWTP
KY Highway 10
Alexandria, Campbell County, Kentucky

to receiving waters named

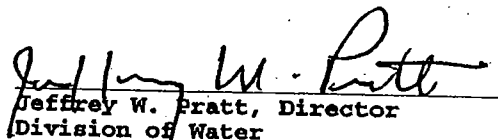
Ohio River

in accordance with effluent limitations, monitoring requirements and other conditions set forth in Parts I, II, III, and IV hereof. The permit consists of this cover sheet, and Part I 2 pages, Part II 4 pages, Part III 1 page, and Part IV 2 pages.

This permit shall become effective on **JUL 1 2004**

This permit and the authorization to discharge shall expire at midnight,
April 30, 2008

5/12/04
Date Signed


Jeffrey W. Pratt, Director
Division of Water

Lloyd R. Cress
Commissioner

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
Division of Water, Frankfort Office Park, 14 Reilly Road, Frankfort, Kentucky 40601

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A. 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, Municipal Discharge.

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

	<u>DISCHARGE LIMITATIONS</u>		<u>MONITORING REQUIREMENTS</u>		
	lbs/day	Other Units (Specify)	Measurement Frequency	Sample Type	Sampling Location
Flow, Design (4.0 mgd)	N/A	Report	Continuous	Continuous	Influent & Effluent
Biochemical Oxygen Demand (5-day), Carbonaceous	834	Monthly Avg. 25 mg/l	3/week	Composite	Influent & Effluent
Total Suspended Solids	1001	Monthly Avg. 30 mg/l	3/week	Composite	Influent & Effluent
Fecal Coliform Bacteria, N/100	N/A	Report 200	3/week	Grab	Effluent
Ammonia (as N)	667	Monthly Avg. 20 mg/l	3/week	Composite	Influent & Effluent
Dissolved Oxygen shall not be less than 2.0 mg/l			3/week	Grab	Effluent
Chloride	N/A	Report 1200 mg/l	3/week	Composite	Influent & Effluent

Biomonitoring shall not exceed 1.00 acute toxicity unit(s) See PART IV, Pages IV-1 and IV-2

Additional Parameters

See PART I, Page I-2

In addition to the specified limits, the monthly average effluent CBOD₅ and suspended solids concentration shall not exceed 15% of the respective monthly average influent concentration (85% removal).

The pH of the effluent shall not be less than 6.0 standard units nor greater than 9.0 standard units and shall be monitored three (3) times per week by grab sample.

There shall be no discharge of floating solids or visible foam in other than trace amounts.

The effluent shall not cause a visible sheen on the receiving water.

* Daily maximum limitation

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (CONTINUATION)

The effluent shall be monitored for the following parameters in the total recoverable form:

lead, copper, zinc, and cadmium.

The effluent shall be monitored for hardness as calcium carbonate (CaCO_3).

Monitoring shall be done in conjunction with biomonitoring.

Testing for these parameters shall be conducted according to 40 CFR Part 136.

B. SCHEDULE OF COMPLIANCE

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

STANDARD CONDITIONS FOR KPDES PERMIT

The permittee is also advised that all KPDES permit conditions in KPDES Regulation 401 KAR 5:065, Section 1 will apply to all discharges authorized by this 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.

SPECIAL POTW REQUIREMENTS

NOTE: The following requirements apply only to Publicly-Owned Treatment Works.

SLUDGE DISPOSAL

Requirements will be imposed, as applicable, governing the disposal of sewage sludge in accordance with 40 CFR Part 503.

PRETREATMENT

A. 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.
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).
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.

B. Semi-Annual Reporting

1. The permittee shall submit semi-annually a report to the state describing the permittee's pretreatment program activities over the previous six (6) months. 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. The semi-annual reports shall cover the periods of January through June and July through December. They are due on September 1 and March 1 of each year, respectively. Each report shall contain, but not be limited to, the following information:

- a. A summary of analytical results of the POTW's influent, effluent, and sludge 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 nonpriority pollutants which the permittee believes may be causing or contributing to interference, pass-through, or adversely impacting sludge quality. 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).
- 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.

- 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).
- 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 administering 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:

Kentucky Department of Environmental Protection
Division of Water, KPDES Branch
14 Reilly Road, Frankfort Office Park
Frankfort, Kentucky 40601

PART III

OTHER REQUIREMENTS

A. Reporting of Monitoring Results

Monitoring results obtained during each month must be reported on a preprinted Discharge Monitoring Report (DMR) Form which will be mailed to you. Each month's completed DMR 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 month for which monitoring results were obtained.

Division of Water
Florence Regional Office
8020 Veterans Memorial Drive
Suite 110
Florence, Kentucky 41042
ATTN: Supervisor

Environmental & Public Protection Cabinet
Dept. for Environmental Protection
Division of Water/KPDES Branch
14 Reilly Road, Frankfort Office Park
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 5:080 and KRS 224, 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. Bypass Notification

Any bypass at the Sanitation District No. 1 Eastern Regional Wastewater Treatment Plant, KY0105031, shall be reported to the Kentucky Division of Water in accordance with the provisions of 401 KAR 5:065, Section 1. In addition, the Sanitation District No. 1 shall notify the Ohio River Valley Water Sanitation Commission (ORSANCO) as a part of the ORSANCO Emergency Response Program in the event of a bypass from the Eastern Regional Wastewater Treatment Plant. ORSANCO notifies all affected drinking water systems along with Ohio River via an established spill tracking and notification program.

PART IV
ACUTE CONCERNS
Biomonitoring

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

1. Test Requirements

- A. The permittee shall perform a 48-hour static toxicity test with Ceriodaphnia sp. and a 48-hour static toxicity test with fathead minnow (Pimephales promelas). Tests shall be conducted on each of two (2) grab samples taken over a 24-hour period (e.g. discrete sample 1 taken at 9:00 a.m., sample 2 taken at 9:00 p.m.). Tests shall be conducted with appropriate replicates of 100% effluent, a control and a minimum of four (4) evenly spaced effluent concentrations. If the permit limit is less than 100% effluent and greater than or equal to 75% effluent, then one (1) concentration should be 100%. If the permit limit is less than 75% effluent, the permit limit concentration shall be bracketed with two (2) concentrations above and two (2) concentrations below. The selection of the effluent concentrations is subject to revision by the Division. Testing of the effluent shall be initiated within 36 hours of each sample collection. Controls shall be conducted concurrently with effluent testing using a synthetic water. The analysis will be deemed reasonable and good only if control survival is 90% or greater in test organisms held in synthetic water. 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 LC₅₀ is less than 100% effluent.
- B. Tests shall be conducted on both species, once every month, for a period of one (1) year following the initiation of the tests and once quarterly thereafter or at a frequency to be determined by the Division of Water.

After the first four (4) tests with both species, upon written request to the Division of Water's Water Quality Branch, subsequent testing may be performed using only the most sensitive species.

2. Reporting Requirements

Results of all tests conducted with any organism shall be reported according to the most recent format provided by the Division of Water. Test results shall be submitted to the Division of Water with the next regularly scheduled discharge monitoring report.

Due to administrative and regulatory constraints regarding the requirements of Section 3 of this Part, monthly DMRs shall be submitted. Those required to conduct tests on a frequency other than monthly shall submit DMRs with "Not required this monitoring period" typed or written in the parameter row in addition to the DMR reporting the results of the test. All DMRs for Biomonitoring shall be submitted monthly regardless of required monitoring frequency.

3. Acute Toxicity

- A. If noncompliance with the toxicity limit occurs (the LC_{50} is less than 100% effluent), the permittee must conduct a second test within 10 days of the first failure. This test will be used in evaluating the persistence of the toxic event and the possible need for a toxics reduction evaluation (TRE).

If the second test demonstrates noncompliance with the toxicity limit, the permittee will be required to perform either of the options listed below. The Division must be notified of the option selected within five (5) days of the failure of this second test.

1) Accelerated Testing

Complete four (4) tests within 60 days of selection of this option to evaluate the frequency and degree of toxicity. The results of the two (2) tests specified in Section 3.A and of the four (4) additional tests will be used for purposes of this evaluation.

If results from two (2) of any six (6) tests show a significant noncompliance with the acute limit (≥ 1.2 times the TU_a), or results from four (4) of any six (6) tests show acute toxicity (as defined in 1.A), a Toxicity Reduction Evaluation (TRE) will be required. The Division reserves the right to require a TRE in situations of recurring toxicity.

2) Toxicity Reduction Evaluation (TRE)

If it is determined that a TRE is required, a plan and implementation schedule must be submitted to the Division within 30 days of notification. The TRE shall include appropriate measures such as in-plant controls, additional treatment, or changes in the operation of the wastewater discharge to meet permit conditions. The TRE protocol shall follow that outlined in the most recent edition of EPA's guidance manual for conducting TREs.

- B. If a violation of the toxicity limit occurs, different or more stringent monitoring requirements may be imposed in lieu of the normal requirements of this permit for whatever period of time is specified by the Division of Water. The Division reserves the right to require additional testing or a TRE in situations of recurring toxicity.

4. Test Methods

All test organisms, procedures, and quality assurance criteria used shall be in accordance with Methods for Measuring the Acute Toxicity of Effluents to Freshwater and Marine Organisms, EPA/600/4-90/027F (4th edition) or the most recently published edition of this publication.



ERNIE FLETCHER
GOVERNOR

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
14 REILLY ROAD
FRANKFORT, KENTUCKY 40601-1190
www.kentucky.gov
FACT SHEET

LAJUANA S. WILCHER
SECRETARY

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

KPDES No.: KY0105031 Permit Writer: Barry D. Elmore Date: May 3, 2004

1. **SYNOPSIS OF APPLICATION**

a. Name and Address of Applicant

Sanitation District No. 1
1045 Eaton Drive
Fort Wright, Kentucky 41017

b. Description of Applicant's Operation

Engaged in collection, treatment, and disposal of wastewater.

c. Production Capacity of Facility

4.0 MGD Eastern Regional WWP
KY Highway 10
Alexandria, Campbell County, Kentucky

d. Description of Existing Pollution Abatement Facilities

Mechanical screenings, grit removal, sewage pumping, flow equalization, oxidation ditches, final clarifiers, UV disinfection, post aeration, RAS/WAS pump station, scum pump station, short-term aerated sludge holding, gravity belt thickener/belt filter press, and non-potable water pumping system.

e. Permitting Action

This is an Issuance of a permit for a municipality.

2. **RECEIVING WATER**

a. Name/Mile Point - Ohio River / 530 (451.4 COE)

b. Stream Segment Use Classification - Warmwater Aquatic Habitat,
Primary/Secondary Contact Recreation and Domestic Water Supply

c. Stream Low Flow Condition - 11,000 cfs

3. **REPORTED DISCHARGE & PROPOSED LIMITS**

See Attachment

cw



4. METHODOLOGY USED IN DETERMINING LIMITATIONS

Biochemical Oxygen Demand (5-day), Total Suspended Solids, Fecal Coliform, and pH

The effluent limitations for the above permit parameters are consistent with 401 KAR 5:045, pursuant to KRS 224.70-100, 224.70-110.

Ammonia Nitrogen, Dissolved Oxygen, Chloride, and Biomonitoring

The effluent limitations for the above permit parameters are consistent with 401 KAR 5:031, pursuant to KRS 224.70-100, 224.70-110.

Sludge Management

Requirements will be imposed, as applicable, governing the disposal of sewage sludge in accordance with 40 CFR Part 503.

Antidegradation:

The conditions of 401 KAR 5:029, Section 1(1) have been satisfied by this permit action. A review under Section 1(2), (3), and (4) is not applicable.

5. PROPOSED COMPLIANCE SCHEDULE FOR ATTAINING EFFLUENT LIMITATIONS

Permittee will comply with effluent limitations by the effective date of the permit.

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

None.

7. PERMIT DURATION

Expires April 30, 2008. This expiration date will place the facility in the correct 5-year cycle as per the Kentucky Watershed Management Framework. In this instance, the permit is scheduled for reissuance in May 2008 for the Salt/Licking Basin Management Unit.

8. PERMIT INFORMATION

The application, draft permit, fact sheet, public notice, comments received, and additional information is available from the Division of Water at 14 Reilly Road, Frankfort Office Park, Frankfort, Kentucky 40601.

9. 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.

10. CONTACT

For further information contact the individual identified on the Public Notice or the Permit Writer - Barry D. Elmore at (502) 564-2225, extension 459.

11. 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).

REPORTED DISCHARGE AND PROPOSED LIMITS - Municipal

Serial Number 001

Effluent Characteristics	Reported Discharge			Proposed Limits		COMMENTS
	<u>Average Annual Value</u>	<u>Lowest Monthly Value</u>	<u>Highest Monthly Value</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	
Flow, MGD	NR	NR	NR	Design Flow = 4.0 mgd		NR - Not Reported (This is a new plant)
CBOD ₅ , mg/l	NR	NR	NR	25	40	
TSS, mg/l	NR	NR	NR	30	45	
Fecal Coliform, N/100 ml	NR	NR	NR	200	400	
Ammonia (as N), mg/l	NR	NR	NR	20	30	
Chloride, mg/l	NR	NR	NR	1200	1200*	*Daily Max
Dissolved Oxygen, mg/l	NR	NR	NR	2.0		Instantaneous Minimum
pH, standard units	NR	NR	NR	6.0 - 9.0		
Biomonitoring, acute toxicity units (TU _a)	NR	NR	NR		1.00*	See PART IV, Pages IV-1 and IV-2

ATTACHMENT

B



ERNIE FLETCHER
GOVERNOR

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

LAJUANA S. WILCHEI
SECRETARY

DEPARTMENT FOR ENVIRONMENTAL PROTECTION
DIVISION OF WATER
14 REILLY ROAD
FRANKFORT, KENTUCKY 40601-1190
www.kentucky.gov

MAY 12 2004

Re: Eastern Regional Wastewater Treatment Plant

Dear Commentors:

These are the comments received in response to the proposed Eastern Regional Wastewater Treatment Plant. In general, the comments herein have been condensed and arranged to include comments from multiple individuals. The full transcript of the December 4, 2003 public hearing, and the full text of other written comments are available from the Division of Water. These responses are prepared in accordance with Kentucky Pollutant Discharge Elimination System (KPDES) regulation 401 KAR 5:075, Section 12.

COMMENT 1: [Cincinnati Resolution No. 128-2003, et al.] The proposed Eastern Regional Wastewater Treatment Plant would create a ten-fold increase in wastewater discharge within this critical source water protection area of the Ohio River, a source water protection zone determined by a task force of six states including the Ohio River Valley Sanitation Commission (ORSANCO), the Commonwealth of Kentucky, and three United States Environmental Protection Agency (USEPA) regions.

RESPONSE 1: Based upon information supplied by the Greater Cincinnati Water Works, the combined flow of all wastewater plants (Nine Mile Creek, New Richmond, Moscow) within Zone 1 is 2.974 MGD. The proposed Eastern Regional Wastewater Treatment Plant has a design flow of 4.0 MGD. This represents a proposed increase of approximately 193%, or slightly less than a two-fold increase. The Division notes that the proposed wastewater treatment plant complies with all applicable KPDES and water quality regulations.

COMMENT 2: [Cincinnati Resolution No. 128-2003, et al.] The Greater Cincinnati Water works has a number of serious public health concerns about human disease-causing organisms and chemical contaminants, not addressed by the proposed ERWWTP, including specific contaminants such as ammonia, synthetic organic compounds and others, and very harmful biological contaminants such as *Giardia lamblia*, *Cryptosporidium* and other viruses and pathogens.

RESPONSE 2: The Kentucky Division of Water shares the concerns expressed by GCWW. To that end, the final KPDES permit and associated requirements for the ERWWTP have been developed to protect human health and the environment as required by all applicable KPDES and water quality regulations.

COMMENT 3: [Cincinnati Resolution No. 128-2003 et al] No critical flow modeling and analysis of the Ohio River have been disclosed with respect to the subject stretch of the Ohio River, to learn of the expected flow path and concentrations of the wastewater discharge as it reaches the drinking water intakes, as well as the effect of plant upsets, bypasses, inflow and infiltration, communication failures, high and low water factors...

RESPONSE TO COMMENTS

Eastern Regional Wastewater Treatment Plant

Page Two

- RESPONSE 3:** The permit was developed to protect human health and the environment as required by all applicable KPDES and water quality regulations. The permit is developed to be protective of human health and water quality regardless as to whether the effluent dispersion is ultimately complete or incomplete mix at the point of the nearest downstream drinking water intake. Information presented by the Sanitation District No. 1 further indicates that the effluent discharge will not have an adverse impact on drinking water supplies.
- COMMENT 4:** [University of Cincinnati, John Loper et al] The proposal assumes maximum dilution of discharge pollutants due to total mixing with the river water within those eleven miles. However no modeling data have been presented. The only modeling that we are aware of for this region of the river suggests the discharge may descend as a plume. The downstream plume is likely to hug the Kentucky bank of the river and not mix completely with the total water volume of the Ohio River prior to reaching the location of the Greater Cincinnati Water Works and Kentucky drinking water plant intakes.
- RESPONSE 4:** See Response to Comment #3.
- COMMENT 5:** [Sanitation District No. 1, Mark Wurschmidt] The concern deals with the mixing in the Ohio River of our treated effluent. This issue was brought to us, actually, a year and a half ago. We've met with the Cincinnati Water Works on several occasions. We've spent a great deal of money researching a lot of their concerns. We shared our information with them, and I would like to share it with you. We contacted Dr. David Dilks, Ph.D, who actually did the water quality modeling in the ORSANCO Ohio River Water Quality Study, which some of you may be familiar with. Dr. Dilks has submitted a paper to us, and I would like to read some excerpts from it. The Cincinnati Water Works "comment raises the concern that insufficient mixing of discharge ammonia would result in elevated ammonia concentrations at the water intake, which would interfere with water treatment processes. The comment implies that discharge ammonia concentrations of 30 mg/l would result in raw water concentrations above a maximum level of .9 mg/l for which the Miller Plant can adequately provide protection. My conclusion is that this concern is without merit, as discussed below. I have conducted dilution calculations to determine the expected ammonia concentration at the raw water intake in response to the proposed Eastern Regional discharge. These dilution calculations are based upon dye trace studies of the Ohio River near Cincinnati, conducted as part of an EPA water quality study. The dye trace studies were specifically designed to determine the rate [of] lateral mixing in the Ohio River. My dilution calculations show that an Eastern Regional discharge of 30 mg/l ammonia would increase ammonia concentrations at the Richard Miller intake by no more than .05 mg/l above current background ammonia concentrations in the Ohio River, which are typically less than 0.1 mg/l. My calculations represent worst-case conditions, as they consider drought flow conditions and ignore any in-stream decay that would further reduce the impact of the discharge. The concern that the discharge will result in ammonia concentrations approaching 0.9 mg/l has no technical basis..."
- RESPONSE 5:** The Division notes the comment. In addition, please see Response to Comment #3.
- COMMENT 6:** [University of Cincinnati, John Loper] It is not clear how wet weather bypass of ERWWTP and sanitary overflows of the relevant collection system will be addressed to protect public water supplies from undue risks.

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RESPONSE 8: The Kentucky Division of Water shares the concerns expressed by the commentors. The proposed U.S. EPA Safe Drinking Water Act rule (LT2ESWTR) addresses public water supply health issues dealing with *Cryptosporidium*. The infrastructure and operations cost of that and other SDWA rules are properly addressed in those respective rulemakings. With respect to the ERWWTP, the final KPDES permit has been developed to protect human health and the environment as required by all applicable KPDES and water quality regulations.

COMMENT 9: [Richard Miller Treatment Plant, Richard Pohlman, et al, pursuant to first public notice] The public notice specifies that the discharge will enter the Ohio River at mile point 424 (530 COE). This would lead one to believe that the discharge is downstream of the Greater Cincinnati Water Works intake. The GCWW is requesting the draft be corrected to state the actual Ohio River mile point.

RESPONSE 9: The permit was redrafted to correct the Kentucky Division of Water milepoint convention to milepoint 530, reflecting a Corps of Engineers milepoint of 451.4. A second public notice was issued and a public hearing conducted to fully discuss the proposed permit. The public is aware that the proposed discharge point is approximately 11 miles upstream of the Greater Cincinnati Water Works intake for the Richard Miller Treatment Plant.

COMMENT 10: [Greater Cincinnati Water Works, David Rager; et al] The Greater Cincinnati Water Works will have to comply with the requirements of the upcoming Long Term 2 Enhanced Surface Water Treatment Rule. Compliance with the LT2ESWTR will be dependent on source water quality, specifically focusing on the concentration of *Cryptosporidium* in the water. As the concentration of *Cryptosporidium* increases in the source water, so does the level of drinking water treatment required to remove this microbe. The GCWW Richard Miller Treatment Plant, the Northern Kentucky Water District Ft. Thomas Plant, and the city of Newport intakes are all three at approximately mile point 463, slightly over eleven miles from the proposed outfall and are potentially affected.

RESPONSE 10: See Response to Comment #7.

COMMENT 11: [Greater Cincinnati Water Works, David Rager; et al] Even if the East Regional Wastewater Treatment Plant treats the effluent water with ultraviolet light, an inactivated (noninfectious) *Cryptosporidium* oocyst would still be discharged into the river. Because current analytical methods cannot distinguish between viable and inactivated oocysts, any increase in the number of oocysts, even if inactivated, has the potential to force downstream treatment plants to install additional unit treatment processes. The estimated increase in cost for the Richard Miller Treatment plant is between \$4 million and \$18 million annually.

RESPONSE 11: See Response to Comment #7. The Division is aware of the many potential sources of *Cryptosporidium* throughout the Ohio River Basin that must be dealt with by drinking water sources including GCWW. Those sources of oocysts, or other pollutants of concern, must be addressed by the drinking water system regardless of the status of the new ERWWTP. The final KPDES permit has been developed to protect human health and the environment as required by all applicable KPDES and water quality regulations.

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- COMMENT 12:** [Dr. Jim Malley et al] We heard this evening about *Cryptosporidium*. Our group at the university is very concerned about adenovirus, a virus of adenoids. Very common. UV disinfection can't kill it. Large concentrations of bacteria, parasites, and viruses can be found in sewage. Fecal coliforms are not adequate indicators of these pathogens and they are not adequate indicators of wastewater removal. Secondary treatment may only remove about ninety percent of the different pathogens and much more removal is necessary for protection of public health. From a wastewater source you're talking about hundreds of different viruses, which are probably the most infectious agents that we have known or studied and that very low numbers are capable of causing disease. They are probably ten to a hundred times more infectious than *Cryptosporidium*. The proximity of wastewater discharge to the intake for drinking water is based on science that is out of date and is rapidly changing. We see emerging infectious diseases that we can't really predict what is going to happen over the course of the next few years. I think it is appropriate in these situations, where water is designated as a potable water supply, to look at combining Clean Water Act and Safe Drinking Water Act goals for the protection of public health.
- RESPONSE 12:** See Response to Comment #7. Kentucky administers both Clean Water Act and Safe Drinking Water Act programs in accordance with the requirements of federal and state laws and regulations.
- COMMENT 13:** [Chuck Hellman et al] Whatever is going down the creek now is going to be significantly less when this plant is done. Furthermore, whatever is in the river now, is going to be in the river when we're finished. I hope it goes in quickly because we need it in this county. Serious health concerns exist as a result of the failing system in Alexandria and must be addressed now. This new plant will greatly reduce, if not eliminate, the sanitary sewer overflows now occurring in the Alexandria service area.
- RESPONSE 13:** The Division notes the comment. See also Response to Comment #6.
- COMMENT 14:** [Greater Cincinnati Water Works, David Rager] The Sanitation District could install the sewer mains and lift station necessary to discharge the wastewater one-quarter mile downstream of the intakes of the three water plants. GCWW would work with the Sanitation District to find dollars for this project. We gladly would work in conjunction with the other two water plants to procure funding for this project, because we acknowledge that both options would have capital and operating costs.
- RESPONSE 14:** The siting of the ERWWTP was previously discussed in the facility plan prepared by the Sanitation District in August 2001. Included within that document was an alternatives analysis reviewed by the Division as a part of the State Planning and Environmental Assessment (SPEAR) in July 2002. The current discharge location has been determined to be acceptable with respect to existing KPDES and water quality regulations. See also Response to Comment #11.
- COMMENT 15:** [Dennis McDonald] If Sanitation District No. 1 has to move their discharge outlet, why should not the two existing discharges on the Ohio side of the river, within the area that we're speaking about, relevant to the intake for Cincinnati Water Works and Northern Kentucky Water Works, why don't they have to be moved as well as this one, and why hasn't Cincinnati Water Works moved to get this done?
- RESPONSE 15:** See Response to Comment #14.

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COMMENT 16: [Sanitation District No. 1, Jeff Eger] Ask the West View Water Authority on Nevil Island, one mile below the city of Pittsburgh, that discharges two hundred and fifty million gallons of treated sewage a day directly upstream from their water intakes, if they are threatened. We spoke with them. They are not.

RESPONSE 16: The Division notes the comment. See also Response to Comment #13.

COMMENT 17: [Sanitation District No. 1, Jeff Eger] What about the thirteen hundred other sewer plants above Cincinnati Water's drinking water source? The thousands of industrial discharges? The tens of thousands of wild animals and farm animals whose waste directly enters the Ohio River untreated? And the millions of gallons of raw sewage that enters the Ohio upstream from failing septic systems and sanitary bypasses?

RESPONSE 17: See Response to Comment #11.

COMMENT 18: [Northern Kentucky Chamber of Commerce, Jeff Boyle] The increase in cost from forty-two to fifty-three million dollars to extend this discharge is unjustified. We believe it is neither practical nor feasible to extend the discharge of the new Sanitation District No. 1 facility above or below the water supply intakes that will provide a benefit to public health and at a cost that is justifiable to Northern Kentucky commercial and residential ratepayers.

RESPONSE 18: See Response to Comment #14.

COMMENT 19: [Greater Cincinnati Water Works, David Rager; et al] The proposed discharge location is within Zone 1 (the most critical zone) of a tiered protection zone upstream of a drinking water intake. Under the Safe Drinking Water Act, the Greater Cincinnati Water Works is required to identify risks to the source water under a Source Water Assessment Program (SWAP). The proposed plant is a major source of concern, being within this zone. The SWAP is administered with the help of the Ohio River Sanitation Commission (ORSANCO), and involves several state agencies.

RESPONSE 19: See Response to Comment #1, 7, 11, 12, and 14.

COMMENT 20: [Greater Cincinnati Water Works, David Rager; et al] Endocrine disruptors have been discussed as a group of potential contaminants to regulate. A main source of these organic compounds in surface water is treated wastewater effluent. The close proximity of the proposed ERWWTP discharge could result in a negative public health impact and affect the ability of the downstream drinking water utilities to meet future regulatory requirements with respect to these compounds.

RESPONSE 20: See Response to Comment #1, 7, 11, 12, and 14.

COMMENT 21: [Greater Cincinnati Water Works, David Rager; et al] Increased nutrient loading from wastewater treatment effluent can promote increased algal growth in the river water. A wastewater treatment plant so close to the RMTP intake could cause a high degree of algal growth, and therefore, increase drinking water treatment problems. Increase nutrient loading can also result in bacterial colonization in the distribution system.

RESPONSE 21: See Response to Comment #2 and 14.

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- COMMENT 22:** [Sanitation District No. 1, Mark Wurschmidt] The concern that was raised pertains to increased nutrient loading at the water treatment plant, from our proposed treatment plant. We contacted Dr. Victor J. Bierman, a Ph.D Senior Scientist, to provide us with expert opinion. He sent us a letter, and I'd like to read this. "This [Greater Cincinnati Water Works] comment raises a concern that increased nutrient loadings from the proposed treatment plant can promote increased algal growth in the river water and, therefore, increase drinking water treating problems at the downstream Richard Miller Plant. The treatment problems cited in the comment include increase chemical additions, increased production of algal toxins, bacterial colonization in the distribution system and increased taste and odor problems. My conclusion is that this concern is without technical merit, as discussed below. ... The calculations show that the Eastern Regional discharge of 4 mg/l of total phosphorus would increase total phosphorus concentration at the Miller intake by no more than 0.0061 mg/l above current background concentrations, which are approximately 0.062 mg/l or ten times higher than the expected increase. These calculations represent worst-case conditions because they corresponded drought flow conditions and ignore any in-river phosphorus sedimentation that would further reduce the impact of the discharge. The nutrient concentration data and results from the modeling study both indicate that the algal growth in the Ohio River is limited primarily by underwater light attenuation not nutrient concentrations. Light attenuation in the river is due primarily to non-algal suspended particulate matter and is not related to nutrients. Concentrations of phosphorus and nitrogen are already present in the river at levels that are substantially higher than those that would limit algal growth rates. Consequently, nutrient loadings from the proposed Eastern Regional Wastewater Treatment Plant discharge would not increase the present algal growth rates in the river."
- RESPONSE 22:** The Division notes the comment. See also Response to Comment #2 and 14.
- COMMENT 23:** [Greater Cincinnati Water Works, David Rager] Chloride and sulfate concentrations may increase in the river due to the new discharge, and could ultimately affect corrosion control practices at the RMTF.
- RESPONSE 23:** See Response to Comment #2 and 14.
- COMMENT 24:** [Greater Cincinnati Water Works, David Rager] Synthetic organic compounds (SOCs) are not specifically targeted for removal in secondary wastewater treatment processes, and may only be marginally reduced in wastewater effluent. Since ERWWTP accepts industrial discharge, and petroleum products often times are inadvertently disposed of in the sanitary sewer, it is likely that trace levels of SOC's will be present in greater quantity in the Ohio River. Because some SOC's are regulated at very low levels, the GCWW may need a more aggressive granular activated carbon (GAC) re-activation schedule. GAC is our most costly unit process.
- RESPONSE 24:** See Response to Comment #2 and 14.
- COMMENT 25:** [Greater Cincinnati Water Works, David Rager; et al] Although wastewater treatment plants can remove or inactivate *Cryptosporidium*, it is not uncommon for wastewater plant upsets to occur. These upsets could potentially result in the release of infectious oocysts into downstream drinking water supply intakes.

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RESPONSE 25: The Division expects the ERWWTP to be operated with very minimal disruption. However, in the event of a plant upset the Division has added a provision to the final KPDES permit (Part III-C) clarifying existing requirements for bypass notification. The specific language added is as follows:

"Any bypass at the Sanitation District No. 1 Eastern Regional Wastewater Treatment Plant, KY0105031, shall be reported to the Kentucky Division of Water in accordance with the provisions of 401 KAR 5:065, Section 1. In addition, the Sanitation District No. 1 shall notify the Ohio River Valley Water Sanitation Commission (ORSANCO) as a part of the ORSANCO Emergency Response Program in the event of a bypass from the Eastern Regional Wastewater Treatment Plant. ORSANCO notifies all affected drinking water systems along the Ohio River via an established spill tracking and notification program."

It should be noted that in the event of a bypass, the actual direct discharge location of that bypass would not be direct to the Ohio River. The bypass discharge, if such ever occurs, would be at the location of the ERWWTP into Brush Creek at milepoint 1.6 which drains into Twelvemile Creek at approximate milepoint 3.5. Consequently, any bypass would have to travel over five (5) miles before ultimately entering the Ohio River.

COMMENT 26: [Greater Cincinnati Water Works, David Rager; et al] The Commonwealth of Kentucky does not require that wastewater dischargers to the Ohio River provide treatment beyond secondary treatment. Therefore, tertiary treatment processes, such as filtration, which has been shown to significantly reduce the number of *Cryptosporidium* oocysts in water, are not required. In addition, KDW should require SD#1 to implement tertiary treatment measures to help restore water quality in this area of the Ohio River, which is currently impaired for contact recreation and fish consumption. Secondary treatment was put into place in 1972, and thirty-year-old minimum standards are not in the best interest of the public today. In the State of Ohio, Best Available Treatment for a new discharge would most likely be required.

RESPONSE 26: The proposed ERWWTP is in compliance with applicable construction, KPDES and water quality regulations, including the extent of treatment required. As the commentor notes, filtration is not currently required for the proposed ERWWTP. With respect to the contact recreation impairment for the Ohio River, the proposed ERWWTP will not contribute or add to that impairment. In fact, the proposed ERWWTP will reduce the current impact to the watershed in light of existing overflows within the sewer system. Finally, the Director of the Ohio Environmental Protection Agency, Mr. Christopher Jones, submitted comments on the issue of potential plant upsets which the Division has addressed. See Response to Comment #25.

COMMENT 27: [Sanitation District No. 1, John Lyons] My remarks are going to focus on *Cryptosporidium*. This pathogen has been presented as a significant concern during the public comment period. In general, the comments reflect a lack of understanding of the ubiquitous nature of this parasite in the water environment, the relative significance of the various sources of this pathogen, and the potential threat of the proposed plant. *Cryptosporidium* is a concern. It represents a threat to the health of every person and many animals that use the Ohio River. Research in the United States indicates that *Cryptosporidium* is present in a majority of surface waters tested. Studies conducted on the Ohio River and its tributaries also indicate a frequent occurrence of *Cryptosporidium*. Sources include: Livestock, wildlife, wastewater treatment plants, CSOs, and storm water runoff.

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The prevalence of the organism in the cattle population, particularly in young calves, is well-documented. The Center for Disease Control notes that the evidence of *Cryptosporidium* transfer from calves to humans is unequivocal. The U.S. EPA reports that the amount of livestock waste is thirteen times greater than the amount of human sanitary waste generated in the United States. We can't ignore that source of *Cryptosporidium*. *Cryptosporidium* can survive in the environment for six months. It means we can't look eleven miles upstream and assume there's nothing else coming above us. It means we have to look at that entire Ohio River Basin and say: What is within six months time of travel to our intakes?

RESPONSE 27: The Division notes the comment. See also Response to Comment #11.

COMMENT 28: [Sanitation District No. 1, Jeff Eger] In Ohio, regulations require the discharge of wastewater to be only five hundred yards above a water intake. But, recently, Ohio EPA permitted a sewer plant in Ironton, Ohio to discharge just two hundred and seventy yards above a water intake in Russell, Kentucky, almost fifty percent less than their regulations.

RESPONSE 28: The Division notes the comment. Kentucky regulations prohibit discharges within five (5) miles upstream of a drinking water intake unless a variance is allowed.

COMMENT 29: [Greater Cincinnati Water Works, David Rager] The ERWWTP proposes to use medium pressure (MP) UV lamps. MP lamps are susceptible to fluctuations in power quality. Disruptions in quality could lead to lamp outages for about twenty to thirty minutes resulting in undisinfected or under-disinfected effluent stream. An uninterrupted power supply (UPS) was not part of the ERWWTP design.

RESPONSE 29: The proposed ERWWTP has been designed for redundancy of the UV system, in addition to redundant backup power.

COMMENT 30: [Sanitation District No. 1, Jeff Eger] We will have total redundant backup power to run the entire plant. We will have redundant ultraviolet streams and redundant controllers. The plant is constructed to collect and hold for treatment ten times the amount of flow expected to reach the plant at startup.

RESPONSE 30: The Division notes the comment.

COMMENT 31: [Greater Cincinnati Water Works, David Rager] Because a UV disinfection system is particularly sensitive to power fluctuations and takes a while to warm up, back-up chlorination should be installed.

RESPONSE 31: A back-up chlorination system is not required for the proposed ERWWTP. The plant is in compliance with existing regulatory requirements, and includes redundant UV and power supply for the operation of the UV disinfection system.

COMMENT 32: [Greater Cincinnati Water Works, David Rager; et al] The ERWWTP only provides UV disinfection for bacterial inactivation. Viruses and some pathogens are not easily inactivated by UV disinfection. The ERWWTP proposes UV treatment at 20 mJ/cm², which is inadequate to inactivate protozoa and viruses. The U.S. EPA's UV Disinfection Guidance Manual calls for a minimum (Tier 1) delivered dose of 36 mJ/cm² for a 3-log *Cryptosporidium* inactivation. Also, the National Water Research Institute's guidelines for Water Reclamation calls for a dose of 100 mJ/cm² for media-filtered wastewater effluent and a dose of 140 mJ/cm² for a secondary treated wastewater effluent.

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- RESPONSE 32:** The proposed UV system for the ERWWTP was reviewed by the Facility Construction Branch of the Division of Water and is in compliance with applicable regulations.
- COMMENT 33:** [GRW Engineers, Brad Montgomery] The designed ultraviolet dosage is 26.3 micro Joules per centimeter squared at peak flows, and that is well in excess of the dosage required for the inactivation of *Cryptosporidium* and *Giardia*. The UV transmittance for this facility was conservatively determined to be sixty-five percent for the combined waste stream and wastewater flows based on laboratory tests of existing waste streams. The dosages and transmittances are based on end of light bulb conditions. The District has electively designed a fully redundant backup ultraviolet disinfectant channel with a fully redundant control system. The District has well exceeded the requirements for the design of this type of system. And according to the system manufacturer, this level of redundancy is practically unheard of in the industry. In addition, secondary power has been provided for the entire facility in the form of a standby diesel generator in the event of a primary power failure. Automatic switchover to secondary power is provided. This is in excess of the Kentucky Division of Water reliability classification requirements for a Grade 3 facility, which states that secondary power only be provided for the preliminary treatment and the disinfection. This proposed facility is "state of the art" using the most current available technology. I've been doing this for twenty years, and I have not seen, personally, another four million gallon per day facility that incorporates this level of sophistication in its design. You may find some, but you won't find many.
- RESPONSE 33:** The Division notes the comment.
- COMMENT 34:** [Greater Cincinnati Water Works, David Rager] Disinfection by UV light does not perform well with high suspended solids concentrations. Additionally, UV disinfection is not as effective when dissolved organics are high. Biological treatment can be easily disrupted by metals and synthetic organic contaminants yielding higher dissolved organics and a less effective disinfection process.
- RESPONSE 34:** Based on the treatment provided by the proposed ERWWTP, the Division does not expect the effluent total suspended concentrations or other pollutants that may be present to inhibit the effectiveness of the UV disinfection system.
- COMMENT 35:** [Greater Cincinnati Water Works, David Rager] Drinking water systems require validation of UV reactors to ensure that they are effectively disinfecting the water. No such validation is required for wastewater plants. Validation should be performed, particularly when wastewater plant discharges are located in a critical Source Water Assessment Program zone.
- RESPONSE 35:** The proposed Long Term 2 Enhanced Surface Water Treatment Rule (LT2ESWTR) currently proposes to include a validation provision for UV reactors. With respect to wastewater systems, the design is reviewed for compliance with applicable regulations. Where specific design criteria do not exist in regulation, the design is to conform with current engineering practices and industry accepted design criteria. Upon construction of the wastewater facility, a professional engineer must certify that the plant has been constructed in accordance with approved plans and specifications.

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COMMENT 36: [Greater Cincinnati Water Works, David Rager] The proposed permit contains an ammonia limit of 30 mg/L. The highest raw water ammonia concentration for which the RMTP can adequately provide treatment is .9 mg/L. If the ERWWTP discharge is not sufficiently mixed into the Ohio River, an increase in ammonia concentrations at the RMTP intake may be a result.

RESPONSE 36: See Response to Comment #3 and 5.

COMMENT 37: [University of Cincinnati, Professor Michael Miller] This water is not legal to be dumped into any surface water in a Kentucky Stream. It's not legal to be dumped in the surface water of any Ohio stream. It is legal to dump it into the Ohio River. It is not under the control of the Kentucky Division of Surface Water or the Ohio EPA. It's under the control of a multi-state agreement called ORSANCO. They are going to propose up to twenty milligrams/l of ammonia. Most of the speakers have been concerned about high flow whisking the water down quickly into the intakes. I'm worried about low flow: when the water doesn't move. In 1997, 1998, and 1999 we had a microcystis aeruginosa bloom in the Ohio River. Those were dry years. Microcystin is a toxicant. The point is there is potential for these nutrients we're talking about seeping along the shore, the Kentucky shore going downriver. Why not dump your sewage right back into Brush Creek or in Twelve Mile Creek? That is a treatment system which will very effectively take out nutrients before it reaches the river. And if you come up to compliance standards, then you can dump it in any stream in Kentucky, the Licking, Brush Creek, Twelve Mile Creek. We do not need the effluent in its current location or in its current quality directly shunted into the river. Every community is going to want to shunt water straight to the river from longer and longer distances, because we don't have nutrient quality scanners for the Ohio River yet. There are none.

RESPONSE 37: The Division shares the commentor's concern regarding water quality issues related to nutrients in effluent discharges and within the Ohio River. To that end, the permit limits are protective of low flow conditions within the Ohio River. With respect to authority over the discharge, the Commonwealth of Kentucky is the responsible permitting authority for permitting, enforcement, and compliance for the proposed ERWWTP.

COMMENT 38: [Greater Cincinnati Water Works, David Rager; et al] Since the ERWWTP is within the zone of most critical importance for three drinking water plants, immediate or electronic notification of upsets will be of primary importance for implementation of effective source water assessment programs. The Sanitation District's record on communication has been poor. Never once has the GCWW been informed of the fact that untreated sewage was passing into the watershed that served as the influent to the region's drinking water plants. The Ohio River Valley Sanitation Commission (ORSANCO) has asked area wastewater plants to communicate bypasses to them as part of their early warning system. The Alexandria Plant has not reported its bypasses.

RESPONSE 38: The Division concurs with the notification comment. See Response to Comment #25 and 26.

COMMENT 39: [Boone-Florence Water Commission, Paul Kroger; et al] Automatic or electronic notification of upsets should be provided to GCWW to ensure that drinking water quality is not compromised. Continuous monitoring to identify plant upsets based on water quality issues should be installed and properly maintained.

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- RESPONSE 39:** The Division concurs with the notification comment. Automated monitoring of the ERWWTP with respect to plant upsets is a part of the design approved by the Division. See also Response to Comment #25 and 26.
- COMMENT 40:** [GRW Engineers, Brad Montgomery] These systems are fully redundant designs with automatic switchover capabilities. In the event of excess flow situation, or an unusual waste characteristic situation, the operators can make the decision to route flow to a two million gallon aerated equalization basin. The inclusion of this equalization basin is not a Kentucky Division of Water requirement. That is something that the Sanitation District did electively in order to prevent the likelihood of treatment plant bypasses and overflows to the system, and, also, treatment plant upsets. In the event that something does make it to the oxidation ditch, the capability exists to drain the entire capacity of the ditch to equalization, in order so that the operators have the opportunity to make a decision of how to handle the waste stream at that point without impacting discharges to the Ohio River.
- RESPONSE 40:** The Division notes the comment.
- COMMENT 41:** [Greater Cincinnati Water Works, David Rager; et al] We believe that drinking water is the "highest and best use" of the Ohio River, and yet this use has not been considered in the ERWWTP environmental assessment report.
- RESPONSE 41:** The Division has corrected the typographical error on the Fact Sheet to reflect the Ohio River as Domestic Water Supply use.
- COMMENT 42:** [Greater Cincinnati Water Works, David Rager; et al] The Commonwealth of Kentucky subscribes to the "5-mile rule" for locating wastewater treatment plant effluent discharges in rivers used as sources of drinking water. This rule is based on bacterial indicators. We are now concerned with protozoan contaminants, which have a much longer life. Locating the discharge of wastewater treatment plant effluent relatively close to three major drinking water intakes should be off-limits because public health may be jeopardized.
- RESPONSE 42:** The Division concurs that the 5-mile rule is primarily designed to address pollutants regulated under the Clean Water Act. Section 402 of the Clean Water Act forms the basis for the federal NPDES program which EPA has delegated to Kentucky to administer as the KPDES program. The 5-mile rule is consistent with the requirements of the Clean Water Act in addition to state statutory and regulatory authority.
- COMMENT 43:** [Greater Cincinnati Water Works, David Rager; et al] A change in the location of the discharge to a point at least a quarter mile downstream or twenty-five miles upstream of the three drinking water intakes will add substantial benefits to the immediate and long term health and welfare of the region as a whole. Any cost analyses done for the location of the ERWWTP discharge point should also consider the potential impact on treatment costs for the three drinking water utilities in the area, as well as the potential human health costs to the water consumer. It is inappropriate for the water consumers to fund additional drinking water treatment costs that may be the result of a new wastewater treatment plant discharge.
- RESPONSE 43:** See Response to Comment #7, 11, and 14.

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- COMMENT 44:** [Ohio River Foundation, Rich Cogen, et al] We oppose any discharge into a Commonwealth or interstate water until the Kentucky Division of Water has completed drafting Antidegradation rules that are accepted by the U.S. EPA as protecting waters, or until U.S. EPA promulgates regulations that meet Clean Water Act requirements in place of Kentucky's protections that U.S. EPA disapproved in 1997 and again in 2000.
- RESPONSE 44:** The Division has complied with existing water quality requirements for antidegradation in proposing final issuance of the KPDES permit to the proposed ERWWTP. The Division is currently in the process of finalizing revised water quality regulations, including issues related to antidegradation. Until such time as these revised regulations are approved by the Kentucky legislature and the U.S. EPA, the Division must act in accordance with existing regulations. See also Response to Comment #14.
- COMMENT 45:** [Alliance for Kentucky's Future, Hank Graddy, Attorney] The Division of Water is prohibited from issuing any KPDES permit prior to certification that the proposed discharge permit is consistent with the Clean Water Act section 208 Water Management Plan. See 401 KAR 5:006. See Clean Water Act section 208 and federal regulations. The most recent CWA section 208 plan was written in 1977 by the Ohio-Kentucky-Indiana Planning Authority (OKI). SD#1 is designated as a CWA section 208(c) implementing agency. The Division of Water is legally prohibited from issuing a KPDES permit until there has been a certification by the responsible agency that the proposed KPDES permit is consistent with the Clean Water Act section 208 plan for this area.
- RESPONSE 45:** The Division of Water is the delegated agency with authority to make final determinations on the issuance of KPDES permits. The proposed ERWWTP KPDES permit is in compliance with all applicable regulations.
- COMMENT 46:** [Alliance for Kentucky's Future, Hank Graddy, Attorney] The Division of Water must hold a public hearing to take comment on whether or not the proposed ERWWTP with outfall at the proposed location is consistent with the most recent CWA section 208 plan.
- RESPONSE 46:** See Response to Comment #45.
- COMMENT 47:** [Alliance for Kentucky's Future, Hank Graddy, Attorney] The Division of Water must take public comments on the need for a total maximum daily load (TMDL) analysis for this proposed ERWWTP discharge. The Clean Water Act section 303(d) and the 1987 amendments require a TMDL analysis for both impaired water bodies and water bodies that are not impaired. It is impaired for primary contact recreation. A TMDL analysis is required for all parameters for which more than Secondary Treatment is needed. In this case, where the discharge is upstream from the drinking water intakes, more than Secondary Treatment is required for many parameters. Therefore, a TMDL is required for those parameters.
- RESPONSE 47:** For waterbodies impaired by a pollutant, a total maximum daily load (TMDL) is required to be developed unless the stream otherwise is restored to meeting uses. However, KPDES permits are not prohibited from being processed in the absence of a TMDL yet to be developed. With respect to the contact recreation impairment for the Ohio River, the proposed ERWWTP will not contribute or add to that impairment. In fact, the proposed ERWWTP will reduce the current impact to the watershed in light of existing overflows within the sewer system.

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COMMENT 48: [Alliance for Kentucky's Future, Hank Graddy, Attorney] Once the TMDL requirements of the Clean Water Act are met, the Clean Water Act section 208 plan must incorporate the TMDLs into the regional water quality management plan update, and only then can new facilities be permitted to discharge into the waters of the United States.

RESPONSE 48: See Response to Comment #45 and 47.

COMMENT 49: [Attorney for Sanitation District No. 1, Jack Bender] The KPDES permit for the facility should be issued since it contains terms and limitations specifically designed to protect water quality in the Ohio River and human health. It is fully consistent with state water quality regulations and has been reviewed and made available for public comment to no less than four additional regulatory authorities with responsibilities for protecting human health and the environment: The United States EPA, Region 4; U.S. EPA Region 5; Ohio EPA; and ORSANCO. None of these agencies have recommended disapproval of the permit.

RESPONSE 49: The Division notes the comment and concurs.

COMMENT 50: [Alliance for Kentucky's Future, Hank Graddy, Attorney] Sen. Bunning's office recently reported that the Congress was considering direct federal funding support for the ERWWTP. Support with federal funds raises the issue of NEPA (National Environmental Protection Act) compliance. The EPA-NREPC agreement expressly requires that the state has the responsibility to hold a public hearing as part of this NEPA compliance.

RESPONSE 50: As a part of the KPDES permit process a public hearing was conducted on December 4, 2003 with regard to the proposed issuance of a KPDES permit to the proposed ERWWTP.

COMMENT 51: [Alliance for Kentucky's Future, Hank Graddy, Attorney] The ORSANCO Source Water Assessment Strategy for the Ohio River draft, as published in 1988, identifies a zone of critical concern extending twenty-five miles upstream. We believe that the Safe Drinking Water Act amendments requiring the "Source Water Quality Assessment" is intended to prevent, as much as possible, the introduction of new sources. The General Assembly has instructed the NREPC to implement these Safe Drinking Water requirements. See KRS 151.630 and .636.

RESPONSE 51: See Response to Comment #2, 14, and 42.

COMMENT 52: [Kentucky Waterways Alliance, Inc., Judith Petersen, et al] At mile number 530, the site of this new proposed discharge, the Ohio River is listed as meeting all water quality standards applicable to both recreational use and warm water aquatic habitat support. Therefore the Ohio River is a "High Quality" water and deserving of an Antidegradation analysis for this new proposed discharge. The DOW however, does not have approved procedures for conducting an Antidegradation analysis for this discharge and no such analysis was even attempted in the consideration of the draft permit.

RESPONSE 52: Under current water quality regulations, the Ohio River is categorized as a Use-Protected water for antidegradation purposes. See also Response to Comment #44.

RESPONSE TO COMMENTS
 Eastern Regional Wastewater Treatment Plant
 Page Fifteen

- COMMENT 53:** [Ohio River Foundation, Rich Cogen] No discharge permit should be issued until a TMDL is written for the stretch of the Ohio River in the Greater Cincinnati area that is deemed impaired by ORSANCO due to bacteria and PCBs. Until a TMDL is calculated for bacterial loadings, there is no way to set fecal coliform limits in SD1's discharge in relation to fecal coliform loadings from other sources along this stretch of the Ohio River.
- RESPONSE 53:** See Response to Comment #47.
- COMMENT 54:** [Ohio River Foundation, Rich Cogen] We do not support the use of a diffuser in the Ohio River to dilute effluent that is discharged upstream of the intakes. If advanced treatment is implemented, a diffuser will be unnecessary, regardless of where the discharge is located.
- RESPONSE 54:** The proposed or final KPDES permit does not account for the presence of a diffuser.
- COMMENT 55:** [Attorney for Sanitation District No. 1, Jack Bender] Their legal claims, which you've heard summarized here tonight, contain their views of how the Clean Water Act and the underlying regulations should be interpreted and applied. Those are not new, and they're not unique to this permit discharge. Rather, those legal claims have been raised and refuted time and time again in other cases in Kentucky relating to wastewater discharges. The Sierra Club is well aware of Kentucky Division of Water's positions on these issues, and they do not support the interpretations of the Clean Water Act as purported by the Sierra Club.
- RESPONSE 55:** The Division notes the comments.
- COMMENT 56:** [Bernard J. Blau] Common sense tells you that you do not flush your toilet where you get your drinking water.
- RESPONSE 56:** The Division notes the comment. Federal and state law require that wastewater effluents comply with water quality standards and protect for instream uses including domestic water supply.
- COMMENT 57:** [Dan Hull] The Indians weren't so foolish. They did their dirty work up on the land and up in the forest, instead of doing it down in the creeks and the rivers. And that's why the land was so clean. But what needs to be done is the effluent from these plants needs to be put out upon the land.
- RESPONSE 57:** Land application or spray irrigation of wastewater, like discharges, is a regulated activity by the agency. While this approach can often be a good viable option, acreage requirements for land application can preclude the option in some instances. In the case of the proposed ERWWTP, extensive acreage not available to the Sanitation District would be required to adequately handle the land application needs.
- COMMENT 58:** [Joseph Hoh; et al] I was on the Site Selection Committee for this treatment plant. We all know that we would have a hard time paying for this plant if the plant was doubled and the extent of the outflow line was directed further downstream. Eleven miles upstream of the water intake is more than twice as much as Kentucky regulations require. If this discharge point is bad for Cincinnati, then it must be bad for Carrollton, it must be bad for Louisville, Owingsville, Owensboro, and Paducah. Is ten miles ok? Twenty-five miles? Fifty miles? What's the number? This plant is necessary for our area and we believe that the design is the most modern that can be afforded to a treatment plant of this nature.

RESPONSE TO COMMENTS
Eastern Regional Wastewater Treatment Plant
Page Sixteen

RESPONSE 58: The Division notes the comment.

COMMENT 59: [Northern Kentucky Water District, Bari Joslyn] The Northern Kentucky Water District is committed to providing safe water for all of our customers. We have spent a lot of time reviewing the study that the Sanitation District No. 1 had done on this plant. Consequently, following all that study, the Northern Kentucky Water District does not oppose the plans for the Eastern Regional Wastewater Treatment Plant. We feel the proposed plant is an improvement over what is there. It will replace existing plants that are not effective, and the new plant proposes a solution that will be an improvement over the current solution. Actually, the Northern Kentucky Water District would like to see this plant built as soon as possible. We're comfortable with the professional judgment in the permit process as set forth by the Kentucky Division of Water. We are comfortable with the five-mile range.

RESPONSE 59: The Division notes the comment and concurs.

COMMENT 60: [Northern Kentucky Water Sentinels Program] The discharge would impair stream segments that are not yet impaired.

RESPONSE 60: See Response to Comment #47.

COMMENT 61: [University of Cincinnati, John Loper; et al] The secondary level of treatment proposed for the ERWWTP is likely to release pollutants of direct concern for production of drinking water. An acute infection, specifically an outbreak of the parasite *Cryptosporidium hominis* as occurred in Milwaukee, would be a real risk. Increase challenges from *Giardia lamblia* are also a concern.

RESPONSE 61: See Response to Comment #2 and 11.

COMMENT 62: [Sanitation District No. 1, John Lyons] I personally have conducted an extensive literature review on the Milwaukee incident. And it's very clear two facts are stated in the literature: The treatment process at the drinking water utility was compromised. The second fact: The source of the *Cryptosporidium* has never been definitively determined.

RESPONSE 62: The Division notes the comment.

COMMENT 63: [Sanitation District No. 1, John R. Clark] Since the plant will be using UV disinfection, the Sanitation District No. 1 would like to have the total residual chlorine discharge limit eliminated from the permit.

RESPONSE 63: This comment was received September 5, 2003, pursuant to public notice 2003-29. Total Residual Chlorine was removed from the revised draft that went to public notice September 19, 2003. A public hearing was held December 4, 2003, pursuant to that draft.

COMMENT 64: [Northern Kentucky Independent District Health Department, James Newman; et al] I have been involved in many, many existing chronic septic systems that discharge into the Ohio River, treated or untreated. All too many of these systems out in the county do discharge into the Ohio River, so the treatment plant is definitely needed. We've been under the sewer moratorium out here on this end of the county since 1996. Further delay of this plant simply means that this sewage is going to go into something that's already operating at capacity and overflows now. Raw sewage is being dumped into Brush Creek and, ultimately, into the Ohio River now. It is necessary that this plant gets going.

RESPONSE TO COMMENTS

Eastern Regional Wastewater Treatment Plant
Page Seventeen

RESPONSE 64: The Division notes the comment and concurs.

COMMENT 65: [Many contributors] Many contributors expressed support of the plant and its contribution to the area, emphasizing that they were not opposed to the plant but to its outfall location.

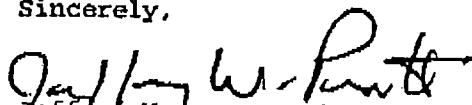
RESPONSE 65: The Division notes the comment.

Any person aggrieved by the issuance of a permit final decision may demand a hearing pursuant to KRS 224.10-420(2) within thirty (30) days from the date of the issuance of this letter. Any demand for a hearing on the permit shall be filed in accordance with the procedures specified in KRS 224.10-420, 224.10-440, 224.10-470, and the regulations promulgated thereto. The request for hearing should be submitted in writing to the Environmental and Public Protection Cabinet, Office of Administrative Hearings, 35-36 Fountain Place, Frankfort, Kentucky 40601 and the Commonwealth of Kentucky, Natural Resources and Environmental Protection Cabinet, Division of Water, 14 Reilly Road, Frankfort, Kentucky 40601. For your record keeping purposes, it is recommended that these requests be sent by certified mail. The written request must conform to the appropriate statutes referenced above.

If you have any questions regarding these responses, please contact Barry Elmore, KPDES Branch, at (502) 564-2225, extension 459.

Further information on procedures and legal matters pertaining to the hearing request may be obtained by contacting the Office of Administrative Hearings at (502) 564-7312.

Sincerely,


Jeffrey W. Pratt, Director
Division of Water

JWP:RBS:vb

ATTACHMENT

C

Division of Water
14 Reilly Rd
Frankfort, KY 40601-1189
Phone: 502-564-2225 x522
Fax: 502-564-5105

**Department for
Environmental
Protection**

Fax

To: Robin Morecroft

From: Michelle Rice

Fax: 859-425-7955

Date: 5/21/04

Phone: 859-226-2293

Pages: 6 including cover

Re: FOI request dated 5/20/04

CC:

Urgent For Review Please Comment Please Reply Please Recycle

•Comments:

Here is the copy of the final construction permit for Sanitation District No. 1 that you requested. If you have any questions, please feel free to give me a call.

Thank you,

Michelle Rice

May 10, 2004

Mr. Jeffery A. Eger
General Manager
Sanitation District No. 1
of Northern Kentucky
1045 Eaton Drive
Ft. Wright, Kentucky 41017

Re: Eastern Regional WWTP
Campbell County, Kentucky
Project ID: 02-0837
Northern KY Sanitation Dist 1 Alexandria WWTP - 523
Activity ID: APE20020001

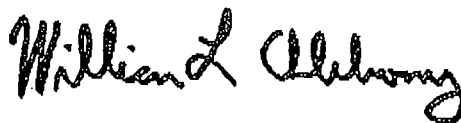
Dear Mr. Eger:

In accordance with KRS Chapter 224.10-100 (19), the Environmental and Public Protection Cabinet approves the Construction Permit Application for the Eastern Regional Wastewater Treatment Plant (WWTP) dated November 11, 2002.

This permit is for the WWTP only. The effluent line that will transport the effluent flow from the WWTP to the Ohio River has not yet been submitted to the Division of Water for review and approval.

If we can be of any further assistance or should you wish to discuss this correspondence, please do not hesitate to contact Michael Tipton at 502/564-2225, extension 519.

Sincerely,



William L. Chlebowy, P.E., Acting Manager
Facilities Construction Branch
Division of Water

WLC/MDT/mdt

c: Florence Regional Office
Campbell County Health Department
GRW Engineers, Inc.
Donna Sullivan, Plumbing

Attachment

TRMT1 (Alexandria) New Regional WWTP:

Limitation Requirements:

Condition No.	Parameter	Condition
L-1	Ammonia Nitrogen, Total (as N)	Influent: Ammonia Nitrogen, Total (as N) \leq 23 mg/L. [401 KAR 5:005 Section 24(4)(a)] This requirement is applicable during the following months: All Year. Statistical basis: Monthly average (AV).
L-2	Ammonia Nitrogen, Total (as N)	Influent: Ammonia Nitrogen, Total (as N) \leq 767 lbs/day. [401 KAR 5:005 Section 24(4)(a)] This requirement is applicable during the following months: All Year. Statistical basis: Monthly average (AV).
L-3	Ammonia Nitrogen, Total (as N)	Effluent: Ammonia Nitrogen, Total (as N) \leq 20 mg/L. [401 KAR 5:031 Section 4] This requirement is applicable during the following months: All Year. Statistical basis: Monthly average (AV).
L-4	Ammonia Nitrogen, Total (as N)	Effluent: Ammonia Nitrogen, Total (as N) \leq 667 lbs/day. [401 KAR 5:031 Section 4] This requirement is applicable during the following months: May - October. Statistical basis: Monthly average (AV).
L-5	BOD, 5-Day (20 Deg. C)	Influent: BOD, 5-Day (20 Deg. C) \leq 228 mg/L. [401 KAR 5:005 Section 24(4)(a)] This requirement is applicable during the following months: All Year. Statistical basis: Monthly average (AV).
L-6	BOD, 5-Day (20 Deg. C)	Influent: BOD, 5-Day (20 Deg. C) \leq 7606 lbs/day. [401 KAR 5:005 Section 24(4)(a)] This requirement is applicable during the following months: All Year. Statistical basis: Monthly average (AV).
L-7	BOD, 5-Day (20 Deg. C)	Effluent: BOD, 5-Day (20 Deg. C) \leq 30 mg/L. [401 KAR 5:045 Section 3] This requirement is applicable during the following months: All Year. Statistical basis: Monthly average (AV).
L-8	BOD, 5-Day (20 Deg. C)	Effluent: BOD, 5-Day (20 Deg. C) \leq 1001 lbs/day. [401 KAR 5:045 Section 3] This requirement is applicable during the following months: All Year. Statistical basis: Monthly average (AV).
L-9	Flow, In Conduit Or Thru Treatment Plant	The design capacity of the WWTP is based on the following: Flow, In Conduit Or Thru Treatment Plant \leq 4 MGD (MA). [401 KAR 5:005 Section 24(4)(a)] This requirement is applicable during the following months: All Year. Statistical basis: Daily average.
L-10	Solids, Total Suspended	Influent: Solids, Total Suspended \leq 236 mg/L. [401 KAR 5:005 Section 24(4)(a)] This requirement is applicable during the following months: All Year. Statistical basis: Monthly average (AV).

Activity ID No.: APE20020001

Limitation Requirements:

Condition No.	Parameter	Condition
L-11	Solids, Total Suspended	Influent: Solids, Total Suspended \leq 7873 lbs/day. [401 KAR 5:005 Section 24(4)(a)] This requirement is applicable during the following months: All Year. Statistical basis: Monthly average (AV).
L-12	Solids, Total Suspended	Effluent: Solids, Total Suspended \leq 30 mg/l. [401 KAR 5:045 Section 3] This requirement is applicable during the following months: All Year. Statistical basis: Monthly average (AV).
L-13	Solids, Total Suspended	Effluent: Solids, Total Suspended \leq 1001 lbs/day. [401 KAR 5:045 Section 3] This requirement is applicable during the following months: All Year. Statistical basis: Monthly average (AV).

Narrative Requirements:

Condition No.	Condition
T-1	A permit to construct a facility shall be effective upon issuance unless otherwise conditioned. Construction shall be completed within twenty-four (24) months unless additional time is requested. If construction is not commenced within the twelve (12) months following a permit's issuance, a new permit shall be obtained before construction may begin. The cabinet may allow a single twelve (12) month extension to begin construction if site conditions have not changed. [401 KAR 5:005 Section 24(1)]
T-2	The permit is issued to the applicant and the permittee shall remain the responsible party for compliance with all applicable statutes and administrative regulations until a notarized applicable change in ownership certification is submitted and the transfer of ownership is acknowledged by the cabinet. [401 KAR 5:005 Section 24(3)]
T-3	Construction is limited to the following: The new 4.0 MGD Eastern Regional Wastewater Treatment Plant consisting of influent sewer, influent flow metering facilities, mechanical fine screens, grit removal, influent pump station, equalization basin & dewatering facilities, oxidation ditch flow distribution box, oxidation ditches, secondary clarifier flow distribution box, secondary clarifiers, ultraviolet disinfection & effluent flow metering facility, oilfall sewer, RAS/WAS pump station, aerated sludge holding basins, solids handling facilities, scum pump station & concentrator, chemical feed facilities, non-potable water pump station, odor control biofilters, Preliminary Treatment Building, Solids Handling Building, Blower Buildings, Main Electrical Building, Administration Building together with all related civil/site, sanitary, odor control, structural, architectural, HVAC, plumbing, electrical, and instrumentation & control work. [401 KAR 5:005 Section 1]
T-4	There shall be no deviations from the plans and specifications submitted with the application or the conditions specified unless authorized in writing by the cabinet. [401 KAR 5:005 Section 24(4)(b)]

Wastewater Treatment Plant Construction
ALEXANDRIA CAMPBELL/KENTON SD NO 1
Facility Requirements

Activity ID No.: APE20020001

Page 3 of 3

Narrative Requirements:

Condition No.	Condition
T-5	The issuance of a permit by the cabinet does not convey any property rights of any kind or any exclusive privilege. [401 KAR 5:005 Section 24(6)]
T-6	All rights of inspection by representatives of the Division of Water are reserved. [401 KAR 5:005 Section 24(4)(a)]
T-7	This wastewater treatment plant has been designed to meet a reliability category grade 3. [401 KAR 5:005 Section 13]
T-8	Water quality standards (401 KAR 5:031, Section 4) govern the treatment requirements; the following standards apply: a. Dissolved Oxygen in the stream; 5 mg/l or higher. b. Un-ionized Ammonia in the stream; 0.05 mg/l or less. [401 KAR 5:031 Section 4]
T-9	The permittee shall ensure that the effluent is of satisfactory quality to prevent violations of the standards in 401 KAR Chapter 5. If violations of the standards of 401 KAR Chapter 5 result from the discharge of the treated effluent, the owner shall provide additional treatment or an extension of the effluent line. [401 KAR 5:005 Section 24(4)(c)1]
T-10	Issuance of this permit does not relieve the permittee from the responsibility of obtaining any other permits or licenses required by this Division of Water and other state, federal, and local agencies. [401 KAR 5:005 Section 24(4)(c)3]
T-11	The effluent from this treatment system is to be discharged at the 530 mile point of the Ohio River (segment no. 08207). [401 KAR 5:005 Section 1(2)]
T-12	Additional effluent limitations and water quality standards are contained in the Division of Water Regulations. [401 KAR 5:005 Section 24(4)(a)]
T-13	The division will review the reported monthly flows and organic loads for the most recent twelve (12) months for the Wastewater Treatment Plant (WWTP). If the annual average flow or organic loads exceed ninety (90) percent of the WWTP's design capacity, the division may deny the approval of any sewer line extension until the owner of the WWTP commits to address the potential overload condition. [401 KAR 5:005 Section 9]
T-14	The Construction Permit is effective on May 10, 2004 and expires on May 10, 2005. [401 KAR 5:005 Section 24(1)]
T-15	This wastewater treatment plant cannot be placed into service until the outfall sewerline to the Ohio River is constructed, tested, and can be placed into operation.