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DIVISION OF WATER

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Permit Review Branch

REF: 4WM

Mr. Jack A. Wilson, Director
Division of Water
Kentucky Natural Resources and Environmental
Protection Cabinet
Department for Environmental Protection
18 Reilly Road
Frankfort, Kentucky 40601

Re: Combined Sewer Overflow Permitting Strategy
State of Kentucky

Dear Mr. Wilson:

We have completed our review of Kentucky's revised combined sewer overflow (CSO) permitting strategy, dated December 28, 1990, and approve the strategy.

If I can be of further assistance, please do not hesitate to contact me.

Sincerely yours,

W. Ray Cunningham, Director
Water Management Division

KENTUCKY COMBINED SEWER OVERFLOW CONTROL STRATEGY

INTRODUCTION

Overflows from combined sanitary and stormwater sewers in excess of the interceptor sewer or regulatory capacity that are discharged into a receiving water without going to a publicly owned treatment works (POTW) is considered a Combined Sewer Overflow (CSO). CSOs occur prior to reaching the headworks of a treatment facility and are distinguished from bypasses which are "intentional diversions of waste streams from any portion of a treatment facility" (40 CFR 122.41(m)).[1]

Most major municipal areas in the United States are served by a combination of sanitary sewers, separate storm sewers, and combined sanitary and storm sewers. The U.S. EPA has estimated that there are between 15,000 and 20,000 CSO discharge points currently in operation. The Kentucky Division of Water estimates that 190 discharge points from 19 POTWs exists within the Commonwealth of Kentucky and are located in older cities that lie along larger streams, e.g., Ohio River, Kentucky River. Sanitary sewer systems must adhere to the strict design and operational standards established to protect the integrity of the sanitary sewer system and wastewater treatment facilities. Discharges from separate sanitary sewer systems with less than secondary treatment are prohibited (401 KAR 5:045). The regulation of discharges from separate storm sewer systems is addressed in Section 402(p) of the Clean Water Act (CWA). EPA is proposing regulations implementing Section 402(p) which include requirements to develop system-wide municipal storm water management programs to reduce pollutants from municipal separate storm sewers. The following strategy is designed to control effluents from combined systems which are not regulated under the sanitary system standards or as discharges from separate storm sewers.

[1] Flows to the treatment works (POTW), including dry weather and wet weather flows, are subject to secondary treatment regulations (401 KAR 5:045), water quality standards (401 KAR 5:031), and the National Municipal Policy. Dry weather discharges from CSOs, which are also subject to this strategy, are illegal and must be expeditiously eliminated. Kentucky will use appropriate enforcement actions to eliminate such activities and assure compliance.

This CSO permitting strategy is designed to complement the control programs for sanitary sewers and separate storm sewers. This strategy establishes a uniform, statewide approach to developing and issuing KPDES permits for CSOs. In other parts of the nation, discharges have been shown to have severe adverse impacts on water quality, aquatic biota, and human health under certain conditions. Therefore, permits for CSOs are to be developed expeditiously to minimize these potential impacts by establishing technology-based and water quality-based requirements.

The objectives of this strategy are threefold:

1) To ensure that if CSO discharges occur, they are only as a result of wet weather,

2) To bring all wet weather CSO discharge points into compliance with the technology-based requirements of the CWA and applicable State water quality standards, and

3) To minimize water quality, aquatic biota, and human health impacts from wet weather overflows.

STATEMENT OF STRATEGY

CSOs are point sources subject to KPDES permit requirements. CSOs are not subject to secondary treatment regulations applicable to publicly owned treatment works (Montgomery Environmental Coalition vs. Costle, 646 F. 2d 568 (D.C. Cir. 1980)).

Technology-based permit limits are to be established for best practicable control technology currently available (BPT), best conventional pollutant control technology (BCT), and best available technology economically achievable (BAT) based on best professional judgement (BPJ) when permitting CSOs. The CWA of 1977 mandates compliance with BPT and the Water Quality Act Amendments of 1987 (WQA) mandates compliance with BCT/BAT.

APPLICABILITY OF STRATEGY

This strategy applies to all CSOs. Flows in combined sewers can be classified into two categories: wet weather flow and dry weather flow. Wet weather flow is a combination of sanitary flow, industrial flow, infiltration from groundwater, and stormwater flow, including snow melt. Dry weather flow is the flow in a combined sewer that results from domestic sewage, groundwater infiltration and industrial wastes with no contribution from stormwater runoff or stormwater induced infiltration.

This strategy does not apply to bypasses. Bypasses are "intentional diversions of waste streams from any portion of a treatment facility." The treatment facility begins at the headworks where equalization of the waste streams takes place. Bypasses are regulated under 40 CFR 122.41(m). Bypasses from any portion of the treatment facility are prohibited unless the criteria in 40 CFR 122.41(m)(4) are satisfied. These criteria are (1) bypasses are unavoidable to prevent loss of life, personal injury, or severe property damage; (2) there are no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime; and (3) the permittee submitted notices as required under 40 CFR 122.41(m)(3).

IMPLEMENTATION

Kentucky's permitting strategy is being developed for submittal to EPA by no later than January 15, 1990 and EPA should approve Kentucky's strategy no later than March 31, 1990. This strategy contains the following elements:

1) Identification
2) Priorities
3) Permit Issuance
4) Compliance Schedule
5) Minimum Technology-Based Limitations
6) Additional CSO Measures
7) Monitoring
8) Water Quality Standard Modification
9) Funding
10) Permit Application Forms

1. Identification

CSO point sources currently discharging without a permit are unlawful and must be permitted or eliminated. Kentucky Division of Water has sought to identify the communities with combined sewer systems and each particular CSO discharge point within these communities. A letter was sent to all municipal permittees asking that they review their system to determine if they have any discharges that meet the definitions of CSO and to provide appropriate data on the discharge if they had not previously provided the information. Attached is a copy of a typical letter sent to the permittees (Attachment 1). Also, letters were sent to a group of cities that have dry weather combined sewer flows treated by a regional POTW but may have a wet weather discharge before is gets to the regional trunk sewer lines. Attachment 2 is a copy of a typical letter to these facilities.

The municipal survey identified 190 discharge points of CSOs from 19 POTWs. The Division of Water met with the POTW having the majority of CSOs and learned that no dry weather overflows occur. Thus it appears that few CSOs in Kentucky have dry weather overflows. We know of no other CSO dry weather overflows. When EPA provides the states with a Final "Combined Sewer Overflow Guidance Document", Kentucky will place each CSO discharge point into one of three categories: (1) not permitted; (2) permitted in conjunction with POTW; or (3) permitted separately from POTW. The status of compliance with technology-based and water quality-based permit requirements will be provided for each CSO discharge. An ongoing commitment of evaluating and maintaining CSO location and permit discharge status records will be sought from every community.

2. Priorities

Kentucky places highest priority on any CSO's that discharge into wetlands or outstanding resource waters. None of the identified sources discharge into these type waters. The next priority is to deal with those facilities that may impact drinking water intakes and then progress from the POTW with the largest number of CSOs with the highest flows to the POTW with the least number of the smallest flows. Designated public beaches will be given appropriate attention.

A meeting will be conducted with all CSO facilities and the Kentucky Division of Water will explain the strategy and the importance the Division of Water will need to place on management practices and compliance.

Where deemed necessary and appropriate KPDES permits will be reopened to include CSOs and others will be included in their permits when reissued. The current data appears to indicate that a majority of permits will be reopened or included in their pending application for reissuance.

3. Permit Issuance

A single, system-wide permit will be issued whenever possible for all discharges, including overflows, from a combined sewer system operated by a single authority and will include the POTW discharge. The permit will identify, as specifically as possible, the location of each overflow in the system including longitude, latitude, street address, and a map identifying the overflow point.

Different parts of a single combined sewer system are in some cases owned and/or operated by more than one authority. Permits issued to such authorities will require joint preparation and implementation of the requirements of this strategy and will specifically define the responsibilities and duties of each owner and operator. The legal responsibility of one POTW for planning and coordinating a system-wide approach may be challenged but is considered the correct approach. The individual owners and/or operators are responsible for their own discharges and will be required to cooperate with the POTW. When a CSO is permitted separately from the POTW, the POTW's KPDES permit will contain a cross-reference for informational purposes.

4. Compliance Schedules

Compliance dates for water-quality and technology-based limitations are governed by the statutory deadlines in Section 301 of the CWA. Effluent limitations based upon newly developed water quality standards or new interpretations of existing water quality standards, however, may be covered by compliance schedules in the KPDES permit. This strategy may be considered a new development or new interpretation of water quality standards. Thus some permits may contain compliance schedules.

5. Minimum Technology-Based Limitations

All permits for CSO discharges require the following technology-based limitations as a minimum BCT/BAT, established on a BPJ basis: (1) proper operation and regular maintenance programs for the sewer system and combined sewer overflow points; (2) maximum use of the collection system for storage; (3) review and modification of pretreatment programs to assure CSO impacts are minimized; (4) maximization of flow to the POTW for treatment; (5) prohibition of dry weather overflows; and (6) control of solid and floatable materials in CSO discharges. Control measures, as mentioned below, may also be required on a case-by-case basis to address the particular circumstances of each combined sewer system and overflow point. All BPJ permits will consider the factors set forth at 40 CFR 125.3(d). EPA's issuance of the Final Combined Sewer Overflows Guidance Document is of importance if this is to be done in a timely manner.

6. Additional CSO Control Measures

Cost is always a consideration when establishing technology-based limits in KPDES permits (40 CFR 125.3). However, the CWA under Section 301(b)(1)(c) also requires any additional permit limits that may be necessary to meet State water quality standards. In the event additional control measures are necessary, the permittee may choose the most cost effective control measures which will insure compliance with water quality standards. For example, CSO control programs may be designed to incorporate best management practices and other low cost operational methods and only incorporate more expensive control measures if necessary to meet water quality standards.

Additional control measures that should be considered to bring all wet weather CSOs into compliance with technology-based and applicable water quality standards include improved operation and maintenance, best management practices, system-wide storm water management programs, supplemental pretreatment program modifications, sewer ordinances, local limits program modifications, identification and elimination of illegal discharges, monitoring requirements, pollutant specific limitations, compliance schedules, flow minimization and hydraulic improvements, direct treatment of overflows, sewer rehabilitation, in-line and off-line storage, construction of CSO controls within the sewer system or at the CSO discharge point, sewer separation, and new or modified wastewater treatment facilities.

7. Monitoring

Monitoring requirements for wet weather CSOs will vary based on the unique circumstances of each combined sewer system and overflow point. It is the intent to have cost effective monitoring. Cost effective monitoring requirements may be developed to serve three purposes: (1) to characterize CSO discharges, including their frequency, duration, and pollutant loadings; (2) to evaluate the water quality impacts of these discharges; and (3) to determine compliance with CSO permit requirements.

On small streams, discharge monitoring and/or modeling, wasteload allocations that address rainfall-related hydrological conditions, and often stream surveys are necessary to measure the extent to which CSO discharges are causing violations of technology-based limitations or water quality standards, and to design corrective programs. Stream surveys on large streams do not appear to be appropriate. These monitoring/modeling requirements will be included in the initial CSO permits with reopener clauses to adjust permit limits as warranted.

Compliance monitoring requirements will be included in CSO permits. These monitoring requirements will include collecting and reporting data on CSO events and insuring that no dry weather overflows occur. Monitoring may also include inspections or reports aimed at assuring that required facility improvements have been made and/or that best management practices and other operation and maintenance requirements are being effectively implemented. Permits will require development and implementation of a monitoring plan or program to assure data needs are met.

8. Water Quality Standards Modification

Section 301(b)(1)(c) of the CWA mandates compliance with water quality standards. Permits will be written to ensure CSO discharges do not cause violations of water quality standards. The applicability of water quality standards will not be waived. However, in limited cases, it may be appropriate to adjust some water quality standards to address the impact of pollutants in wet weather flows more adequately. In these cases, this strategy encourages monitoring, modeling, or wasteload allocation procedures to better quantify influences and formulate control strategies to address rainfall-related hydrological conditions.

EPA sets forth the criteria for modifying Kentucky water quality standards at 40 CFR 131.10(g). In general, Kentucky may remove a designated use which is not an existing use as defined in 40 CFR 131.3, if it can be demonstrated that attaining the designated use is not feasible because of one of the six enumerated criteria listed at 40 CFR 131.10(g) including that controls more stringent than those required by Sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact. Kentucky may not remove designated uses if they are existing uses, as defined in 40 CFR 131.3, unless a use requiring more stringent criteria is added; or if such uses will be attained by implementing effluent limits required under Section 301(b) and 306 of the Act and by implementing cost effective and reasonable best management practices for nonpoint source control. In addition, Kentucky water quality standards provide for the granting of exceptions to criteria if it can be demonstrated that maintenance of applicable water quality criteria are not attainable or scientifically valid but the use classification is still appropriate. Prior to removing any uses or granting exceptions to criteria, Kentucky must provide notice and an opportunity for public hearing under 40 CFR 131.20(b). Changes in designated uses or the establishment of subcategories of uses must be made on a site-specific basis in accordance with the procedures specified in 40 CFR 131.10(j).

9. Funding

Combined sewer overflow corrections are fundable under the state revolving fund program, although limitations apply. CSOs which cause adverse impacts on water quality and human health should be considered for funding. The funding limitations must be met by each state on an individual basis, and each state must individually determine the extent to which they wish to fund CSOs.

Funds available through the SRF must first be used to assure that National Municipal Policy Projects will achieve compliance. Kentucky has met this first use requirement by insuring that all NMP projects are either in compliance, on an enforceable schedule or have received a funding commitment.

Kentucky has never elected to use the Governor's discretionary 20% set aside for needs categories not otherwise eligible. In the future, if the decision is made by the Governor for this discretionary use, CSOs will be given every consideration in comparison with other needs.

KENTUCKY

COMBINED SEWER OVERFLOWS (CSO)

KPDES	NAME	# of CSO Points
KY0022373	Ashland	8
KY0021041	Butler	1
KY0021466	Campbell/Kenton S.D. #1	9*
KY0028321	Campbellsburg	1
KY0020265	Carrollton	3
KY0035467	Catlettsburg	13
KY0020958	Elkhorn City	1
KY0022861	Frankfort	15
KY0026093	Harlan	4
KY0020711	Henderson	14
KY0026549	Lebanon	3
KY0020257	Maysville	2
KY0045713	McCracken County S.D. #1	1
KY0021440	Morganfield	2
KY0022411	Morris Forman - MSD	104
KY0020095	Owensboro	5
KY0022799	Paducah	7
KY0025291	Pikeville	2
KY0027413	Prestonsburg	3
KY0028401	Princeton	2
KY0021512	Vanceburg	3
KY0022926	Worthington	3
	Total POTW - 22	Total CSO Points 206

* Includes six (6) from City of Bellevue

CARL H. BRADLEY
SECRETARY

WALLACE G. WILKINSON
GOVERNOR

COMMONWEALTH OF KENTUCKY
NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION
FRANKFORT OFFICE PARK
18 REILLY ROAD
FRANKFORT, KENTUCKY 40601

June 14, 1989

Dear Permittee:

Combined sewer overflows (CSO) are point sources subject to permit requirements including both technology-based and water quality-based requirements of the Clean Water Act. The Federal EPA has developed a strategy to bring CSOs into compliance with the regulations emphasizing that CSO point sources discharging without a permit are unlawful and must be issued permits or eliminated. Part of this strategy is to identify and categorize the CSO points.

Combined sewers are designed to function as a sanitary sewer in dry weather and both sanitary/storm sewer in wet weather with built-in overflows discharged to a receiving water without going to a publicly owned treatment works (POTW). These are distinguished from a separate sanitary sewer which may have an unintentional discharge due to excessive infiltration/inflow; this is not a CSO.

To facilitate implementation of the permitting strategy, we are asking each POTW to submit to us information identifying each CSO point in their system. Location of each CSO should be indicated on a map of the sewer conveyance system and information on the attached chart should be provided for each CSO point. Please submit this information within 45 days of the date of this letter. For those POTWs who have recently supplied this information (within the past 2 years) through application for a Kentucky Pollutant Discharge Elimination System (KPDES) permit, please do not resubmit, but inform us when the information was submitted.

Should you have any questions, please contact Herb Ray or Jerry Hurst at (502) 564-3410.

Sincerely,

Jack A. Wilson, Director
Division of Water

JAW:HR:gr
Attachment

cc: John Marlar, U.S. EPA, Region IV

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