Chapter 173-245 WAC

SUBMISSION OF PLANS AND REPORTS FOR CONSTRUCTION AND OPERATION OF COMBINED SEWER OVERFLOW REDUCTION FACILITIES

WAC

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WAC 173-245-010 Purpose and scope. This chapter establishes a procedure and criteria for implementing RCW 90.48.480, which requires "the greatest reasonable reduction of combined sewer overflows at the earliest possible date." It applies to municipalities whose sewer system includes combined sewer overflow (CSO) sites.

[Statutory Authority: RCW 90.48.110. WSR 00-15-019 (Order 00-07), § 173-245-010, filed 7/11/00, effective 8/11/00. Statutory Authority: RCW 90.48.035. WSR 87-04-020 (Order DE 86-34), § 173-245-010, filed 1/27/87.]

WAC 173-245-015 General requirements. (1) All CSO sites shall achieve and at least maintain the greatest reasonable reduction, and neither cause violations of applicable water quality standards, nor restrictions to the characteristic uses of the receiving water, nor accumulation of deposits which: (a) Exceed sediment criteria or standards; or (b) have an adverse biological effect.

(2) This chapter may not negate specific CSO reduction projects, programs, and schedules that the department and a municipality have agreed upon before this chapter's effective date. However, the provisions of this chapter shall still apply.

[Statutory Authority: RCW 90.48.110. WSR 00-15-019 (Order 00-07), § 173-245-015, filed 7/11/00, effective 8/11/00. Statutory Authority: RCW 90.48.035. WSR 87-04-020 (Order DE 86-34), § 173-245-015, filed 1/27/87.]

WAC 173-245-020 Definitions. As used in this chapter:

(1) "At-site treatment" means treatment and discharge of combined sewage at the CSO site.

(2) "Baseline annual CSO volume and frequency" means the annual CSO volume and frequency that is estimated to occur based upon the existing sewer system and the historical rainfall record.

(3) "Best management practices" means use of those practices which will best reduce the amount of pollution caused by nonpoint sources so that pollutant loadings in combined and storm sewer flows during rainfall events are minimized.

(4) "Combined sewage" means the mixture of sanitary sewage, infiltration, and inflow.

(5) "Combined sewer" means a sewer that has been designed to serve as a sanitary sewer and a storm sewer, and into which inflow is allowed by local ordinance.

(6) "Combined sewer overflow (CSO)" means (a) the event during which excess combined sewage flow caused by inflow is discharged from a combined sewer, rather than conveyed to the sewage treatment plant because the capacity of either the treatment plant or the combined sewer is exceeded.

(7) "CSO reduction plan" means a comprehensive plan for attaining the greatest reasonable reduction of CSOs at the earliest possible date. The requirements for a CSO reduction plan are as further described in this chapter.

(8) "Department" means the department of ecology.

(9) "Disinfection" means the selective destruction of disease-causing and bacterial indicator group organisms.

(10) "Domestic wastewater facilities" means any CSO treatment or control facility included under the definition of domestic wastewater facilities as defined in chapter 173-240 WAC.

(11) "In-line storage" means storage of sewage within the sewer pipes through the use of regulators and gates.

(12) "Infiltration" means the addition of groundwater into a sewer through joints, the sewer material, cracks, and other defects.

(13) "Inflow" means the addition of rainfall-caused surface water drainage from roof drains, yard drains, basement drains, street catch basins, etc., into a sewer.

(14) "NPDES" means the National Pollutant Discharge Elimination System.

(15) "Off-line storage" means storage of sewage adjacent to the sewer pipe in a tank or other storage device.

(16) "Primary treatment" means any process that removes at least fifty percent of the total suspended solids from the waste stream, and discharges less than 0.3 ml/l/hr. of settleable solids.

(17) "Sanitary sewer" means a sewer that is designed to convey sanitary sewage and infiltration.

(18) "Sanitary sewage" means the mixture of domestic, commercial, and industrial wastewaters.

(19) "Secondary treatment" means any process that achieves the requirements of 40 C.F.R. Part 133 as supplemented by state rule and guidance.

(20) "Storm sewer" means a sewer that is designed to convey surface water drainage caused by rainfall.

(21) "Storm sewer/sanitary sewer separation" means construction of new storm sewers or new sanitary sewers so that sanitary sewage and surface drainage are conveyed in different sewers.

(22) "The greatest reasonable reduction" means control of each CSO in such a way that an average of one untreated discharge may occur per year.

[Statutory Authority: RCW 90.48.110. WSR 00-15-019 (Order 00-07), § 173-245-020, filed 7/11/00, effective 8/11/00. Statutory Authority: RCW 90.48.035. WSR 87-04-020 (Order DE 86-34), § 173-245-020, filed 1/27/87.]

WAC 173-245-030 Submission of plans. Municipalities shall:

(1) Obtain the approval of the department for CSO reduction plans by January 1, 1988. This deadline may be extended by the department when that authority is granted.

(2) Submit plans to the department at least sixty days before the time approval is desired.

(3) Incorporate CSO reduction plans into their respective general sewer plans and into plans for new or upgraded sewage treatment facilities.

[Statutory Authority: RCW 90.48.110. WSR 00-15-019 (Order 00-07), § 173-245-030, filed 7/11/00, effective 8/11/00. Statutory Authority: RCW 90.48.035. WSR 87-04-020 (Order DE 86-34), § 173-245-030, filed 1/27/87.]

WAC 173-245-040 CSO reduction plan. (1) The CSO reduction plan must be sufficiently complete so that plans and specifications can be developed from it for projects that may proceed into design within two years of plan submittal. Sufficient detail of any remaining projects must be provided so that detailed engineering reports can be prepared in the future.

(2) CSO reduction plans shall include the following information together with any other relevant data as requested by the department.

(a) Documentation of CSO activity. Municipalities shall complete a field assessment and mathematical modeling study to establish each CSO's location, baseline annual frequency, and baseline annual volume; to characterize each discharge; and to estimate historical impact by:

(i) Flow monitoring and sampling CSOs. Monitoring and sampling at one or more CSO sites in a group that are in close proximity to one another is sufficient if the municipality can establish a consistent hydraulic and pollutant correlation between or among the group of CSO sites. Sampling may not be required for CSO sites that serve residential basins; and

(ii) Developing a rainfall/stormwater runoff/CSO model to simulate each CSO site's activity; and

(iii) Verifying the model's accuracy with data collected under (a)(i) of this subsection; and

(iv) In circumstances where an historical impact may be discernible, observing and sampling the receiving water sediments adjacent to each CSO site or group of sites to establish the presence and extent of any bottom deposits; and

(v) If the sewer service area upstream of a CSO site includes sanitary sewer sources other than domestic sewage, samples of the sediment deposits shall receive heavy metal analysis and organic pollutant screening. Pending review of results of these analyses, the department may require additional pollutant analyses. If two or more CSO sites serve the same industrial/commercial sources, sediment sampling adjacent to one representative CSO site may suffice.

(b) To achieve the greatest reasonable reduction at each CSO site, control/treatment alternatives that shall receive consideration include, but are not limited to:

(i) Use of best management practices, sewer use ordinances, pretreatment programs, and sewer maintenance programs to reduce pollutants, reduce infiltration, and delay and reduce inflow; and

(ii) In-line and off-line storage with at least primary treatment and disinfection at the secondary sewage treatment facility that is served by the combined sewer; or

(iii) Increased sewer capacity to the secondary sewage treatment facility that shall provide at least primary treatment and disinfection; or

(iv) At-site treatment equal to at least primary treatment, and adequately offshore submerged discharge. At-site treatment may include a disinfection requirement at CSO sites that are near or impact water supply intakes, potentially harvestable shellfish areas, and primary contact recreation areas; or

(v) Storm sewer/sanitary sewer separation.

(c) Analysis of selected treatment/control projects. Municipalities shall conduct an assessment of the treatment/control project or combination of projects proposed for each CSO site. The assessment shall include:

(i) An estimation of the water quality and sediment impacts of any proposed treated discharge using existing background receiving water quality data, and estimated discharge quality and quantity. The department may require a similar analysis for proposed storm sewer outfalls for basins that drain industrial and/or commercial areas; and

(ii) An estimation of the selected projects' impacts on the quality of effluent from and operation of a municipality's secondary sewage treatment facility. During wet weather flow conditions, a municipality shall maximize the rate and volume of flows transported to its secondary sewage treatment facility for treatment. However, those flows must not cause the treatment facility to exceed the pollutant concentration limits in its NPDES permit; and

(iii) The estimated construction and operation and maintenance costs of the selected projects; and

(iv) The general locations, descriptions, basic design data, sizing calculations, and schematic drawings of the selected projects and descriptions of operation to demonstrate technical feasibility; and

(v) An evaluation of the practicality and benefits of phased implementation; and

(vi) A statement regarding compliance with the State Environmental Policy Act (SEPA).

(d) Priority ranking. Each municipality shall propose a ranking of its selected treatment/control projects. The rankings must be developed considering the following criteria:

(i) Highest priority must be given to reduction of CSOs that discharge near water supply intakes, public primary contact recreation areas, and potentially harvestable shellfish areas;

(ii) A cost-effectiveness analysis of the proposed projects. This can include a determination of the monetary cost per annual mass pollutant reduction, per annual volume reduction, and/or per annual frequency reduction achieved by each project;

(iii) Documented, probable, and potential environmental impacts of the existing CSO discharges.

(e) Municipalities shall propose a schedule for achieving "the greatest reasonable reduction of combined sewer overflows at the earliest possible date." (RCW 90.48.480.) If the agreed upon schedule exceeds five years, municipalities shall propose an initial five-year program of progress towards achieving the greatest reasonable reduction. Factors that municipalities and the department shall use to determine compliance schedules shall include but not be limited to:

(i) Total cost of compliance;

(ii) Economic capability of the municipality;

(iii) Other recent and concurrent expenditures for improving water quality; and

(iv) The severity of existing and potential environmental and beneficial use impacts.

[Statutory Authority: RCW 90.48.110. WSR 00-15-019 (Order 00-07), § 173-245-040, filed 7/11/00, effective 8/11/00. Statutory Authority: RCW 90.48.035. WSR 87-04-020 (Order DE 86-34), § 173-245-040, filed 1/27/87.]

WAC 173-245-050 Plans and specifications. (1) The plans and specifications for a domestic wastewater facility are the detailed construction documents by which the owner or his or her contractor bid and construct the facility. The content and format of the plans and specifications must be as stated in the state of Washington, "Criteria for sewage works design," and shall include a list of the facility design criteria and a plan for interim operation of facilities during construction.

(2) Plans and specifications for sewer line extensions shall include, as a separate report, an analysis of the existing collection and treatment system's ability to transport and treat additional flow and loading.

(3) Two copies of the plans and specifications must be submitted to the department for approval before the start of construction, except as waived under WAC 173-240-030(5). (See also, WAC 173-240-070.)

[Statutory Authority: RCW 90.48.110. WSR 00-15-019 (Order 00-07), § 173-245-050, filed 7/11/00, effective 8/11/00. Statutory Authority: RCW 90.48.035. WSR 87-04-020 (Order DE 86-34), § 173-245-050, filed 1/27/87.]

WAC 173-245-055 Construction quality assurance plan. (1) Before construction, a detailed plan must be submitted to the department showing how adequate and competent construction inspection will be provided.

(2) The construction quality assurance plan shall include:

(a) Construction schedule with a summary of planned construction activities, their sequence, interrelationships, durations, and terminations.

(b) Description of the construction management organization, management procedures, lines of communication, and responsibility.

(c) Description of anticipated quality control testing including type of test, frequency, and who will perform the tests.

(d) Description of the change order process that includes who will initiate change orders, as well as who will review, negotiate, and approve change orders.

(e) Description of the technical records handling methodology that includes where plans and specifications, as-built drawings, field orders, and change orders will be kept.

(f) Description of construction inspection program that includes inspection responsibility, anticipated inspection frequency, deficiency resolution, and inspector qualifications. (See also, WAC 173-240-075.)

[Statutory Authority: RCW 90.48.110. WSR 00-15-019 (Order 00-07), § 173-245-055, filed 7/11/00, effective 8/11/00. Statutory Authority: RCW 90.48.035. WSR 87-04-020 (Order DE 86-34), § 173-245-055, filed 1/27/87.]

WAC 173-245-060 Operation and maintenance manual. (1) The proposed method of operation and maintenance of the domestic wastewater facility must be stated in the engineering report or plans and specifications and must be approved by the department. The statement must be a discussion of who will own, operate, and maintain the facility and what the staffing and testing requirements are. The owner shall follow the approved method of operation after the facility is constructed, unless changes have been approved by the department.

(2) In those cases where the facility includes mechanical components, a detailed operation and maintenance manual must be prepared before completing the construction. The purpose of the manual is to present technical guidance and regulatory requirements to the operator to enhance operation under both normal and emergency conditions. Two copies of the manual must be submitted to the department for approval before completing the construction.

(3) In order to assure proper operation during construction and timely review and approval of the final operation and maintenance manual, a draft manual must be submitted in the early stages of the construction of a facility. In addition, manufacturer's information on equipment must be available to the plant operator before unit start up.

(4) The operation and maintenance manual shall include the following list of topics. For those projects funded by the environmental protection agency the manual shall also follow the requirements of the EPA publication, *Considerations for Preparation of Operation and Maintenance Manuals.*

(a) The assignment of managerial and operational responsibilities, including plant classification and classification of required operators.

(b) A description of plant type, flow pattern, operation, and efficiency expected.

(c) The principal design criteria.

(d) A process description of each plant unit, which includes function, relationship to other plant units, and schematic diagrams.

(e) A discussion of the detailed operation of each unit and description of various controls, recommended settings, fail-safe features, etc.

(f) A discussion of how the treatment facilities are to be operated during anticipated maintenance procedures, and under less than design loading conditions, if applicable, such as initial loading on a system designed for substantial growth.

(g) A section on laboratory procedures that includes sampling techniques, monitoring requirements, and sample analysis.

(h) Recordkeeping procedures and sample forms to be used.

(i) A maintenance schedule incorporating manufacturer's recommendations, preventative maintenance and housekeeping schedules, and special tools and equipment usage.

(j) A section on safety.

(k) A section stating the spare parts inventory, address of local suppliers, equipment warranties, and appropriate equipment catalogues.

(l) Emergency plans and procedures.

(5) In those cases where the facility does not include mechanical components, an operation and maintenance manual, which may be less detailed than that described in subsection (4) of this section, must be submitted to the department for approval before completing the construction. The manual shall fully describe the treatment and disposal system and outline routine maintenance procedures needed for proper operation of the system. (See also, WAC 173-240-080.)

[Statutory Authority: RCW 90.48.110. WSR 00-15-019 (Order 00-07), § 173-245-060, filed 7/11/00, effective 8/11/00. Statutory Authority: RCW 90.48.035. WSR 87-04-020 (Order DE 86-34), § 173-245-060, filed 1/27/87.]

WAC 173-245-070 Declaration of construction completion. (1) Within thirty days after the owner accepts the construction or modification of a domestic wastewater facility, the professional engineer in responsible charge of inspection of the project shall submit to the department (a) one complete set of record drawings or as-built drawings (b) a declaration stating the facilities were constructed in accordance with the provisions of the construction quality assurance plan and without significant change from the department approved plans and specifications.

(2) The declaration will be furnished by the department and will be the same form as WAC 173-245-075, declaration of construction of water pollution control facilities. The submission of the declaration is not necessary for sewer line extensions where the local government entity has received approval of a general sewer plan and standard design criteria. (See also, WAC 173-240-090.)

[Statutory Authority: RCW 90.48.110. WSR 00-15-019 (Order 00-07), § 173-245-070, filed 7/11/00, effective 8/11/00. Statutory Authority: RCW 90.48.035. WSR 87-04-020 (Order DE 86-34), § 173-245-070, filed 1/27/87.]

WAC 173-245-075 Form—Declaration of construction of water pollution control facilities.

DECLARATION OF CONSTRUCTION OF WATER POLLUTION CONTROL FACILITIES

Instructions:

A. Upon completion, and before using any project or portions thereof, a professional engineer shall complete and sign this form, declaring that the project was constructed in accordance with the provisions of the construction quality assurance plan and with the plans and specifications and major change orders approved by the department of ecology.

B. If a project is being completed in phased construction, a map must be attached showing that portion of the project to which the declaration applies. A declaration of construction must be submitted for each phase of a project as it is completed. Additional declaration forms are available upon request from the department of ecology offices listed below.

NAME AND BRIEF DESCRIPTION OF PROJECT: . . . . . .

. . . . . .

. . . . . .

NAME OF OWNER . . . . . DOE PROJECT NO. . . . . .

ADDRESS . . . . . DATE PROJECT OR PHASE COMPLETED . . . . . .

CITY . . . . . STATE . . . . . ZIP . . . . . .

DOE PLAN AND SPECIFICATION APPROVAL DATE . . . . . .

I hereby declare that I am the project engineer of the above identified project and that this project was reviewed and observed by me or my authorized agent in accordance with the provisions of the construction quality assurance plan. I further declare that this project was, to the best of my knowledge and information, constructed and completed in accordance with the plans and specification and major change orders approved by the department of ecology and as shown on the owner's "as-built" plans.

. . . . . SEAL

Signature of Professional Engineer

OF

DATE . . . . . ENGINEER

Please return completed form to the department of ecology office checked below.

□ SW Regional Office
Department of Ecology
P.O. Box 47600
Olympia, WA 98504-7600

□ Central Regional Office
Department of Ecology
15 W. Yakima Ave.
Ste. 200
Yakima, WA
98902-3401

□ NW Regional Office
Department of Ecology
3190 160th Ave. SE
Bellevue, WA 98008-5452

□ Eastern Regional Office
Department of Ecology
N. 4601 Monroe St.,
Ste. 100
Spokane, WA
99205-1295

□ Water Quality Program
Department of Ecology
P.O. Box 47600
Olympia, WA
98504-7611

(See also, WAC 173-240-095.)

[Statutory Authority: RCW 90.48.110. WSR 00-15-019 (Order 00-07), § 173-245-075, filed 7/11/00, effective 8/11/00. Statutory Authority: RCW 90.48.035. WSR 87-04-020 (Order DE 86-34), § 173-245-075, filed 1/27/87.]

WAC 173-245-080 Requirement for certified operator. Each owner of a domestic wastewater treatment facility is required by chapter 70.95B RCW to have an operator, certified by the state, in responsible charge of the day to day operation of the facility. This requirement does not apply to a septic tank using subsurface disposal. The certification procedures are set forth in chapter 173-230 WAC. (See also, WAC 173-240-100.)

[Statutory Authority: RCW 90.48.110. WSR 00-15-019 (Order 00-07), § 173-245-080, filed 7/11/00, effective 8/11/00. Statutory Authority: RCW 90.48.035. WSR 87-04-020 (Order DE 86-34), § 173-245-080, filed 1/27/87.]

WAC 173-245-084 Ownership and operation and maintenance. (1) Except as provided in subsections (2) and (3) of this section, domestic sewage facilities will not be approved unless ownership and responsibility for operation and maintenance is by a public entity. If a waste discharge permit is required it must be issued to the public entity. Nothing herein precludes a public entity from contracting operation and maintenance of domestic sewage facilities.

(2) Ownership by nonpublic entities may be approved if the department determines the ownership is in the public interest: Provided, That there is an enforceable contract, approved by the department, between the nonpublic entity and a public entity with an approved sewer general plan that will assure immediate assumption of the system under the following conditions:

(a) Treatment efficiency is unsatisfactory either as a result of plant capacity or physical operation; or

(b) If such an assumption is necessary for the implementation of a general sewer plan.

(3) The following domestic wastewater facilities would not require public entity ownership, operation, and maintenance:

(a) Those facilities existing or approved for construction as of the effective date of this section, until such a time as the facility is expanded to accommodate additional development.

(b) Those facilities which serve a single nonresidential, industrial, or commercial establishment. Commercial/industrial complexes serving multiple owners or tenants and multiple residential dwelling facilities such as mobile home parks, apartments, and condominiums are not considered commercial establishments for the purpose of this section. (See also, WAC 173-240-104.)

[Statutory Authority: RCW 90.48.110. WSR 00-15-019 (Order 00-07), § 173-245-084, filed 7/11/00, effective 8/11/00. Statutory Authority: RCW 90.48.035. WSR 87-04-020 (Order DE 86-34), § 173-245-084, filed 1/27/87.]

WAC 173-245-090 Schedule updates—Monitoring—Reporting. (1) By the anniversary date of its sewage treatment plant NPDES permit, in conjunction with its annual assessment for prevention of facilities overloading where applicable, a municipality shall submit an annual CSO report to the department for review and approval that:

(a) Details the past year's frequency and volume of combined sewage discharged from each CSO site, or group of CSO sites in close proximity. Field monitoring is necessary to estimate these parameters. The report shall indicate whether a CSO site or group of sites has increased over the baseline annual condition. If any increase has occurred, the municipality shall propose a project and schedule to reduce that CSO site or group of sites to or below its baseline condition;

(i) When a CSO site has been reduced to an average of one overflow per year through use of storage or separation, the department may consider reducing the monitoring requirement to frequency verification;

(ii) If the selected CSO control project is at-site treatment and discharge, the department may issue a modification to the applicable sewage treatment plant permit or issue a separate NPDES permit for that discharge. The permit or permit modification must include effluent limits, flow capacity limits, and reporting requirements. The total treated and untreated annual discharge from an at-site treatment plant may not increase above the baseline annual;

(b) Explains the previous year's CSO reduction accomplishments; and

(c) Lists the projects planned for the next year.

(2) In conjunction with its application for renewal of its applicable NPDES permit, the municipality shall submit an amendment to its CSO reduction plan. The amendment shall include:

(a) An assessment of the effectiveness of the CSO reduction plan to date; and

(b) A reevaluation of the CSO sites' project priority ranking; and

(c) A list of projects to be accomplished in the next five years, based upon priorities and estimated revenues. The department of ecology may incorporate such a schedule into an administrative order or the applicable NPDES permit.

[Statutory Authority: RCW 90.48.110. WSR 00-15-019 (Order 00-07), § 173-245-090, filed 7/11/00, effective 8/11/00. Statutory Authority: RCW 90.48.035. WSR 87-04-020 (Order DE 86-34), § 173-245-090, filed 1/27/87.]