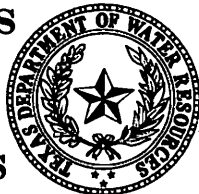


Water Quality Management Program

Continuing
Planning Process

TEXAS
DEPARTMENT OF
WATER
RESOURCES



LP-41

JANUARY 1984

Water Quality Management Program

Continuing Planning Process

LP-41

Texas Department of Water Resources

January 1984

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ABSTRACT

This document is an update of the FY 1980 Continuing Planning Process due to revisions to several major federal regulations which support the Clean Water Act (CWA), as amended. These revisions provide the most current management procedures (a series of 20) developed and implemented by the Texas Department of Water Resources to control, manage, and abate water pollution in the State. The processes described are in response to the Department's interpretation of the CWA and the best management practices available to the State to implement its water pollution control program. The Environmental Protection Agency's approval of these revisions indicate federal government concurrence with the State procedures and agree with the State's approach to implement specific requirements of the CWA.

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CONTINUING PLANNING PROCESS

CONTINUING PLANNING PROCESS

Introduction

The Continuing Planning Process (CPP) is a document which describes in detail the planning and management process of the State's Water Quality Management Program. It provides the most current departmental policies and procedures on how the Texas Department of Water Resources conducts its internal affairs and implements effective programs to prevent, control, and abate water pollution. The CPP's purpose is to demonstrate to the federal government and to the citizens of the State the technology and methods employed by the Department to maintain a healthy economic and physical environment.

Authority

The Clean Water Act (CWA), as amended, requires the State to prepare and publish a CPP which constitutes the procedures by which the Department will operate. These operating procedures are developed by the various divisions responsible for implementing them and coordinated with the Environmental Protection Agency (EPA), Region VI Office, to ensure State activities are consistent with the Act and federal regulations. The CPP must be sanctioned by the Texas Water Development Board and approved by the EPA Regional Administrator. The Department must have an approved CPP before the Regional Administrator will approve the State's permit program under Title IV of the CWA.

Planning Activities

The planning and management activities under Titles I, II, and III of the Act are also included in the new CPP regulations and are as follows:

- Section 303(c) - Setting and revising standards for all water bodies.
- Section 303(d) - Describes or outlines approach for calculating total maximum daily loads and waste load allocations for each water body that cannot meet water quality standards.
- Section 303(e) - Outlines the process by which planning and management is implemented (i.e., Sections 106, 205(g), 205(j), 303, and 305(b)).

- Section 305(b) - Development of water monitoring activities and submission of 305(b) report which documents the status of water quality programs.
- Sections 106 and 205(j) - Development of water quality plans that list standards and prescribe regulatory and construction activities to meet standards.

Other activities which are not required under current federal regulation but play a significant role in the overall water quality management program are included in the CPP.

**CONSTRUCTION GRANTS AND
WATER QUALITY MANAGEMENT**

SERIES 1 PUBLIC PARTICIPATION

Assessment

Recognizing that environmental programs need strong grass-roots support to be effective, the Texas Department of Water Resources provides for, encourages, and assists the participation of the public at all levels of water quality decision making under Section 106, 201, 205(j), 303(e) and 314 of the Clean Water Act.

There are a number of identifiable segments of the public who may be affected by or may have a particular interest in Department programs or decisions. The Department will give special attention to the identification of these segments, while still providing opportunities for the public as a whole to participate.

The policy concerning public participation is twofold: The Department will provide for direct consultation with interested segments of the public to assure that actions are responsive to public concerns; the Department will provide information to stimulate support and participation.

Activities and Requirements

State Priority System

- . Circulate information about priority list 30 days prior to public hearing. Information includes:
 - publication of proposed priority list;
 - description of each proposed project;
 - delegation of addition of project; and
 - revision of list.
- . Publish statewide notice of public hearing at least 45 days in advance, except EPA may reduce advance notice to not less than 30 days if no substantial documents need to be reviewed and no significant controversy exists.
- . Hold public hearing.
- . Prepare and submit the priority list to EPA and make it available to the public.
- . EPA will review the priority list within 30 days.

State Strategy

- . Notify the public about the goals and scope of the Strategy at the earliest practicable time.
- . Provide information which will encourage and facilitate public participation. Information includes:
 - provide early and continuing information highlighting significant issues;
 - identify affected segments of public;
 - distribute a fact sheet which explains contents of proposed strategy in layman's terms.
- . Provide opportunities for public involvement in the Strategy development.
- . Consult with the Water Quality Management Advisory Committee.

Water Quality Management Work Program

- . Notify the public about the goals and scope of the Work Program at the earliest practicable time.
- . Provide information which will encourage and facilitate public participation. Information includes:
 - provide early and continuing information highlighting significant issues;
 - identify affected segments of public;
 - develop and utilize mailing list; and
 - distribute a fact sheet which explains contents of proposed Work Program in layman's terms.
- . Provide opportunities for public involvement in the Work Program development.
- . Consult with the Water Quality Management Advisory Committee.
- . Hold a public meeting, after a 45-day advance public notification (except when it has been determined by the agency that there are no

substantial documents to be reviewed and no significant controversy exists, a minimum of 30-days advance notice is required).

- . Prepare and submit the Work Program to EPA, and make it available to the public.
- . EPA reviews, evaluates and approves with consideration of public comments.

Selection of Areawide Planning Agencies

- . Make available to the State Water Quality Management Advisory Committee a written statement explaining reasons for the proposed change, the impact on the program, and the identification of a proposed replacement agency or change in planning area boundaries.
- . If substantial public interest exists hold a public meeting in the affected area.
- . Combine the meeting with other relevant meetings or hearings, as appropriate.
- . Provide 45-days advance notice.
- . Prepare and make available to the public a responsiveness summary.

Water Quality Management Planning

- . Notify the public as early as practicable about the development or the revisions of the WQM plan.
- . Inform the public in a manner leading to their understanding and involvement, such as:
 - identify affected segments of the public;
 - develop and use mailing list;
 - establish central collection point with copying facilities;
 - notify public of availability of information materials;
 - develop and distribute information about impending decisions, and the nature, scope and anticipated impact of activities under consideration; and
 - make available WQM plans, State Strategies, Assessment data, etc.

- . Consult with the State Water Quality Management Advisory Committee throughout the process. Consultation steps include:
 - Advisory Committees must represent private citizens, public interest groups, public officials and economic interests substantially equal;
 - assist the Advisory Committee by arranging for training;
 - provide budget for reimbursement of out-of-pocket expenses, and for mailing, duplicating, technical assistance, etc.;
 - provide staff assistance and information;
 - Advisory Committees advise on goals and priorities, review and comment on grant applications and work programs (including public participation element); assist with public participation; submit comments and evaluations, raise issues, monitor activities; and
 - work program contains Advisory Committee membership description.
- . Provide opportunities for public involvement; develop a schedule of public participation activities in relation to key decision points and major activities. Steps include:
 - determination of program goals and objectives;
 - development of work programs;
 - identification, assessment and selection of planning alternatives; and
 - implementation of plans.
- . Hold a public hearing on draft plan. Steps to follow are:
 - notify the public 45 days prior to the hearing, unless EPA reduces advance notice to no less than 30 days;
 - prepare a fact sheet explaining in laymen's terms the issues to be discussed; and
 - prepare a responsiveness summary, submit it to EPA with draft plan within 60 days, and make it available to the public.
- . Coordinate with other programs as appropriate.

SERIES 2 WATER QUALITY MANAGEMENT STRATEGY AND WORK PROGRAM

Purpose

The Texas Department of Water Resources annually revises the State Water Quality Management Strategy as a framework for preventing and controlling water pollution over a three year period. The Strategy establishes approaches for resolving water quality problems identified in the State's biennial Water Quality Inventory; and sets forth goals, program responsibilities for achieving those goals, and cost estimates for conducting activities.

The Strategy is the Department's overall policy for the Water Quality Management Program authorized under Sections .06, 205(j), 303(e), and 314 of the Clean Water Act. It assists areawide agencies and others involved in the WQM program to plan long-term program.

Strategy Development Process

The Department has developed the Strategy with input from all WQM participants including substate planning agencies, the public, and the State Advisory Group on Water Quality Management. The process of developing the Strategy consists of four elements:

- . identification and definition of State priority issues and problems.
- . developing solutions.
- . evaluation of results.

The first step in the problem-solving process, identification and definition, consists of setting water quality goals and standards, assessing the causes of State water quality problems, and setting priorities for action. The second step, developing solutions, is essentially the planning phase. It includes development of permit conditions and planning for both point and nonpoint source controls. Implementing solutions is the third step in the process. It involves agreements on duties, incorporation of problem solving in the budget process, administration of regulatory efforts, and other related efforts. Evaluation establishes the feedback loop in the process to keep management, planning, and implementation moving in the right direction.

Strategy Content

Summary of State Water Conditions. The State of Texas is divided into 23 inland and coastal basins for the purpose of water quality management and planning. The Strategy contains a general discussion of each basin and a summary of both point source and nonpoint source water quality problems.

Segment Ranking. The Department classifies each stream as either water quality limited or effluent limited. Water quality limited segments are those which have significant violations of water quality standards or for which point source discharge effluent limitations are not stringent enough to meet appropriate water quality standards. Effluent limited segments presently comply with all applicable stream standards or are projected to be compliant following incorporation of best practicable treatment for industries and secondary treatment for municipalities. Segments are then ranked to produce the State's classified segment ranking.

Planning. The planning portion of the Strategy identifies local agencies which will participate in conducting planning activities required in the development of the State Water Quality Management Plan; identifies State and areawide planning boundaries; establishes planning priorities for conducting intensive surveys, developing wasteload evaluations, justifying advanced secondary or advanced waste treatment levels and assessing structural needs for municipal wastewater facilities; establishes a planning strategy for handling nonpoint source pollution; establishes a planning and monitoring program to assess the distribution and significance of selected priority pollutants (those causing chromosomal aberrations or that are carcinogenic); and develops a planning strategy to identify procedures to control sources of pollution to all publicly owned freshwater lakes in the State.

Implementation. The implementation portion of the Strategy establishes three year goals for Water Quality Management, identifies State program priorities, identifies activities and tasks to be carried out, establishes major milestones to assure tasks and activities are carried out, and projects the Federal and State funding requirements needed to continue or initiate activities in response to water quality problems and statutory or regulatory requirements anticipated over the next three years. Upon

receipt of the Strategy by the Environmental Protection Agency, the Department will direct the issuance of permits, municipal construction grants, water quality monitoring and assessment, enforcement actions, and public participation in a manner that reflects the assessment of the State's water quality in the Water Quality Inventory, so that areas with the worst problems receive attention first.

Annual Work Program Process

The annual Water Quality Management Work Program is a management device which the State uses to identify its expected accomplishments during the fiscal year, allocate its resources and assess its progress towards those accomplishments. At the same time, the Work Program provides the basis for tying available Federal and non-Federal funds to the goals of the Clean Water Act.

The Department develops the Work Program based on the Water Quality Management Strategy in consultation with Region VI, EPA staff and the public. With approval of the Regional Administrator, the State may receive funding for program elements which are consistent with federal laws and regulations. These program elements are associated with outputs and performance measures.

SERIES 3 WATER QUALITY INVENTORY

Introduction

The Water Quality Inventory is a document prepared pursuant to Section 305(b) of the Federal Water Pollution Control Act. The report's purpose is to present and evaluate water quality conditions, trends, and projections in the State's navigable waters to determine:

- . whether the water quality is adequate to provide for the protection and propagation of a balanced population of shellfish, fish, and wildlife.
- . whether the water quality is suitable to allow recreation activities in and on the water.
- . whether the above levels of water quality are expected to be obtained by 1983.
- . whether the above levels of water quality can reasonably be attained at some later date.

The report also provides an assessment of the nature and extent of nonpoint source pollutant problems and briefly describes the Department's efforts to protect ground-water supplies.

Uses of the Report

The Report provides a means for the State to transmit directly to the Legislature and Congress an analysis of the effectiveness of the Texas Water Code and the Clean Water Act. In addition, the 305(b) report serves as a reference for the State's review of its Continuing Planning Process, Water Quality Management Strategy and its review of any grant applications filed under Section 106, 201, 205(j) of the Clean Water Act. Overviews of priority problems identified in the 305(b) report may be used in preparation of three year strategies, and annual work plans. The 305(b) report is also used to satisfy the various information needs of the State decision makers, the public interest groups, the public, the Environmental Protection Agency, and the Congress.

SERIES 4 CLEAN LAKES INVENTORY

Introduction

Section 314 of the Clean Water Act requires each state to identify and classify, according to trophic conditions, all publicly-owned freshwater lakes. Utilizing data from reservoir monitoring stations, the Texas Department of Water Resources has identified and classified the major publicly-owned freshwater reservoirs within the State.

Lake Classification Procedure

Carlson's (1977) trophic state indices, based on Secchi disc depth (m), and concentrations of chlorophyll a (mg/m³), and total phosphorus (mg/m³), are applied to each of the reservoirs (See Index). This procedure provides a numerical indicator for each reservoir for each of the three noted parameters. The three numerical indicators are then added together for the overall trophic state rank for each reservoir. The reservoirs are listed in a table in order of increasing summed rankings, (i.e., least productive to most productive). The accompanying table lists 102 reservoirs that are currently monitored by the Texas Department of Water Resources.

TROPHIC STATE INDEX

$$TSI (SD) = 10\left(6 - \frac{\ln SD}{\ln 2}\right) +$$

$$TSI (Ch1) = 10\left(6 - \frac{2.04 - 0.68 \ln Ch1}{\ln 2}\right) +$$

$$TSI (TP) = 10\left(6 - \frac{\ln 48}{\ln 2} - \frac{TP}{\ln 2}\right)$$

TSI = Trophic State Index

SD = Secchi Disc

Ch1 = Chlorophyll a

TP = Total Phosphorus

SERIES 5 ESTUARY STUDY

Purpose of Estuary Study

The Texas Water Code directs the Department of Water Resources to "prepare, develop, and formulate a comprehensive state water plan," wherein, "the Executive Director shall also give consideration in the plan to the effect of upstream development of the bays, estuaries, and arms of the Gulf of Mexico, and to the effect of the plan on navigation." Codified from the Texas Water Development Board Act (1957), these statute provisions were the first legislative directives to focus water resources planning and development on the problems associated with alteration and/or depletion of riverine freshwaters.

Objective of Estuary Study

The objective of these technical analyses is to describe and quantify the freshwater inflow/salinity/biological relationships of the estuarine environments and to estimate the annual and seasonal freshwater inflows associated with the production of finfish and shellfish at observed historic levels. Program studies drawing from all available sources of information consider the effects of freshwater inflows on nutrient supplies, habitat maintenance, and production of fishery resources (including economic aspects).

Senate Bill 137

In 1975, the 65th Texas Legislature enacted Senate Bill 137, a mandate for comprehensive studies of "the effects of freshwater inflow upon the bays and estuaries of Texas." Reports published as a part of the effort were to address the relationship of freshwater inflow to the health of living estuarine resources (e.g., fish, shrimp, etc.) and to present methods of providing and maintaining a suitable ecological environment.

The assessments of the freshwater inflow needs on seven individual Texas bays and estuaries have been published, including (1) the Sabine-Neches estuary, (2) the Trinity-San Jacinto estuary, (3) the Lavaca-Tres Palacios estuary (4) the Guadalupe estuary, (5) the Mission-Aransas estuary, (6) the Nueces estuary, and (7) the Laguna Madre estuary. These studies were completed to fulfill the mandate of Senate Bill 137.

In addition to the estimation of a long-term sustaining hydrological regime, a short-term freshwater need has been identified based upon salinity tolerance limits.

**Texas Coastal and
Marine Council Coordination**

As an interested and knowledgeable party, the Texas Department of Water Resources will be called upon to assist the Texas Coastal and Marine Council in identifying the options for meeting freshwater inflow needs and other related matters. Freshwater inflow options are generally limited to the base riverine flows, supplemented by controlled reservoir releases and effluent return flows.

SERIES 6 WATER QUALITY STANDARDS

Application of Standards

Flow Chart

The low seven-day, two-year flow criteria are defined and listed in the standards specifically for each segment at referenced stations also apply only to river and coastal basin waters. They do not apply to reservoir, estuarine, or gulf waters. Flow conditions are computed from historic USGS daily streamflow records where available. In cases where there was not a USGS flow station at the TDWR monitoring station, the base flow condition interpolated/extrapolated from the nearest comparable USGS station. When the seven-day, two-year low flow is less than 0.1 cfs the base flow is set at 0.1 cfs.

- **Chemical Parameters:** The water quality standards exclusive of temperature, dissolved oxygen, and pH, but including chlorides, sulfates, and total dissolved solids represent annual arithmetic mean concentrations which shall not be exceeded for any year. The measurements that are used to compute the annual arithmetic mean are only those taken when the flow at the time of sampling equals or exceeds the specified flow criterion. At least four (4) measurements per year are required to determine compliance with standards.
- The dissolved oxygen and pH standards represent minimum and minimum/maximum values, respectively, and apply at all times that the daily flow equals or exceeds the specified flow criterion.
- **Temperatures:** The temperature standard represents a maximum value that applies at all times that the daily flow exceeds the specified flow criterion.
- **Other Parameters and General Criteria:** The general criteria and the numerical criteria not specifically discussed above apply at all times regardless of flow unless specifically excepted.

- The base flow criteria identified in the standards are solely for the purpose of defining the conditions under which the numerical water quality standards apply to a given water body. The flow criteria are not for the purpose of regulating flows in water bodies in any manner or requiring that minimum flows be maintained in the referenced water bodies.

Mixing Zones

Where mixing zones are specifically defined in a valid waste discharge permit issued by the Texas Department of Water Resources or a National Pollutant Discharge Elimination System Permit, the defined zone shall be applicable.

Where the mixing zone is not so defined, a reasonable zone is allowed. Because of varying local physical, chemical and biological conditions, no single criterion is applicable in all cases. In no case, however, where fishery resources are considered significant, shall the mixing zone allowed preclude the passage of free-swimming and drifting aquatic organisms to the extent of significantly affecting their populations. Normally mixing zones should be limited to no more than 25 percent of the cross-sectional area and/or volume of flow of the stream or estuary, leaving at least 75 percent free as a zone of passage unless otherwise defined by specific Board Order or Permit. Where specific mixing zones are defined considerations are given to the guidance in Chapter 5, Guidelines for State and Areawide Water Quality Management Program Development, (1976) in establishing the mixing zone.

Buffer Zones in Bay and Gulf Waters

For all bay and Gulf waters, exclusive of those contained in river or coastal basins, a buffer zone of 1,000 feet measured from the shore-lines at ordinary high tide is established. In this zone, the bacteriological requirements enumerated in other sections of the standards do not apply. The logarithmic mean (geometric mean) density of fecal coliform organisms shall not exceed 200/100 ml nor shall more than 10 percent of the total samples exceed 400/100 ml. The foregoing percentages are applicable when examining data from not less than five (5) samples collected over more than 30 days.

For routine observation and evaluation of water quality, lesser numbers of samples collected over longer periods will be used.

Exceptions

The Water Quality Standards do not apply to treated effluents, and, except general criteria, do not apply to:

1. water in mixing zones as defined in this section or in a waste discharge operating under a valid permit issued by the Texas Department of Water Resources or the National Pollutant Discharge Elimination System, or
2. dead-end barge and dead-end ship channels constructed for navigation purposed unless specifically designated in the tables. This does not include finger canals to marinas or other developments.

In dead-end barge canals and dead-end ship channels, intermittent streams, and inland effluent dominated streams, a minimum goal shall be to maintain a concentration of 2.0 mg/l dissolved oxygen except in areas where it is not feasible or justifiable. Nothing in this statement precludes requiring waste treatment over and above that required to meet a 2.0 mg/l dissolved oxygen standard.

Determination of Compliance

In making any tests or analytical determination on classified surface waters to determine compliance or noncompliance with water quality standards, representative samples shall be collected at locations approved by the Texas Department of Water Resources.

1. Collection and Preservation of Samples

Samples for determining compliance with the standards, excepting temperature as explained below, are collected one foot below the water surface unless the water depth is less than 1.5 feet, in which case the collection depth is made one-third of the water depth measured from the water surface.

For impoundments, the temperature standards enumerated apply to the representative temperature of the receiving water outside the mixing zone measured by averaging temperature measurements made at equal and appropriate

intervals from the surface to the bottom except where the impoundment is stratified. In these cases, the bottom is defined as the thermocline and the temperature measurements for determining compliance are confined to the epilimnion. The thermocline is that point of rapid temperature change with vertical depth as defined in standard textbooks on the subject.

In tidal river reaches, the temperature standards apply to the fresh water layer in stratified situations similar to impoundments.

Samples are collected from the present established sampling stations to insure continuance in monitoring with that done in the past. In those cases where there are not sufficient established points, it may be necessary to establish additional stations. This statement does not preclude sampling at other points in the conduct of field investigations.

Collection and preservation of samples is in accordance with accepted procedures to assure representative samples of the water and to minimize alterations prior to analysis.

2. Analysis of Samples

Numerical values in the water quality standards are determined by analytical procedures outlined in the latest edition of "Standard Methods for the Examination of Water and Wastewater" as prepared and published jointly by the American Public Health Association, the American Waterworks Association, and the Water Pollution Control Federation. Also, tests may be in accordance with other acceptable methods which have proven to yield reliable data to the satisfaction of the Texas Department of Water Resources.

SERIES 7 WATER QUALITY MANAGEMENT PLANNING

Introduction

Continuing water quality management planning in the State of Texas is conducted by the Texas Department of Water Resources, in cooperation with appropriate local planning agencies, in accordance with Sections 205(j), 208, and 303(e) of the Federal Clean Water Act and the Department's designation by the Governor as the State Water Quality Planning Agency. As such, the Department is responsible for the coordination of all water quality management planning in the State. Responsibility for the development and implementation of control programs for any identified water quality problems attributed to agricultural/silvicultural activities is assigned to the Texas State Soil and Water Conservation Board under the same gubernatorial executive order which designated the Department.

State and Areawide Planning Areas

The State of Texas contains 15 major river basins. The State's water quality management planning program utilizes the generalized boundaries of those 15 river basins and the specific boundaries of the seven areas designated by the Governor as areawide waste treatment management planning areas to delineate planning areas. The boundaries of the State and areawide planning areas are shown in Figure 1. Each of the designated areawide planning areas falls within one or more of the 15 major river basins and the relationship between the designated areas and the river basins (State planning areas) is shown in Table 1, which also identifies the local planning agencies.

Planning Delegation and Coordination

The continuing water quality management planning program utilizes the combined capabilities of the Texas Department of Water Resources, the Texas State Soil and Water Conservation Board, and the local, State, and areawide planning agencies. The Department's review process includes the circulation of program documents to other State agencies whose activities may affect or be affected by the water quality management planning program, thus insuring coordination with overall State policies and programs. Program documents, prior to being submitted to the Department for State review, are reviewed by planning advisory committees within the affected areas and are distributed to other local governments which are interested in, or may be affected by, the documents for review. Each document which is to be certified by the Governor as part of a State or

areawide water quality management plan is also subjected to a public hearing and then must be approved by the Texas Water Development Board in a public meeting prior to submission to the Governor for certification.

Permit/Construction Grant Coordination

In addition to the overall review and coordination process described above, the Department has established detailed review and coordination processes with respect to wastewater permit issuances and construction grant projects to insure the general conformance to water quality management plans mandated by the Federal Clean Water Act. All applications for new permits and permit renewals are reviewed for conformance with applicable water quality management plan recommendations (in consideration of the ever-changing technologies, the water quality management plans recommend permits in accordance with the Permanent Rules of the Department in effect at the time of permit issuance, rather than specifying a specific process or effluent parameters). All plans of study and facilities plans in the construction grants program are reviewed by Department staff for general conformance with the applicable approved water quality management plans. In those instances where there is a conflict between a water quality management plan recommendation and a plan of study/facilities plan, the applicant/grantee is referred to the appropriate local planning agency for resolution of conflict. Upon receipt of a recommendation from the local planning agency, the Department then reviews that recommendation and, if acceptable, advises the local planning agency, the applicant/grantee, and the Environmental Protection Agency that the recommendation is approved and shall be incorporated into the next revision to the water quality management plan. If no water quality management plan revision is recommended and approved, or if the recommendation differs from the plan of study/facilities plan, then the construction grant project document must be revised. Through this process, the required conformance between water quality management plans and construction grant projects is achieved.

Water Quality Management Plan Updates

Water quality management plan documents and available data are reviewed on an annual basis to account for changing circumstances, conditions, and program requirements in order to determine the need for revisions to the water quality management plans. An integral part of this review process is the development of work programs under Section

205(j) by the Department in cooperation with local planning agencies. The work program defines the work effort necessary to result in appropriate revisions to the water quality management plans and identifies which agency should be responsible for accomplishment of each task. Contingent upon availability of adequate funding, the responsible planning agency develops appropriate recommendations for the revision of the water quality management plan for its area. The review process for the revisions is described above under "Planning Delegation and Coordination" and, following satisfactory completion of the review/approval process, those documents which are deemed certifiable are then submitted to the Governor with recommendations for certification to the U.S. Environmental Protection Agency as adopted revisions to the State of Texas Water Quality Management Plans.

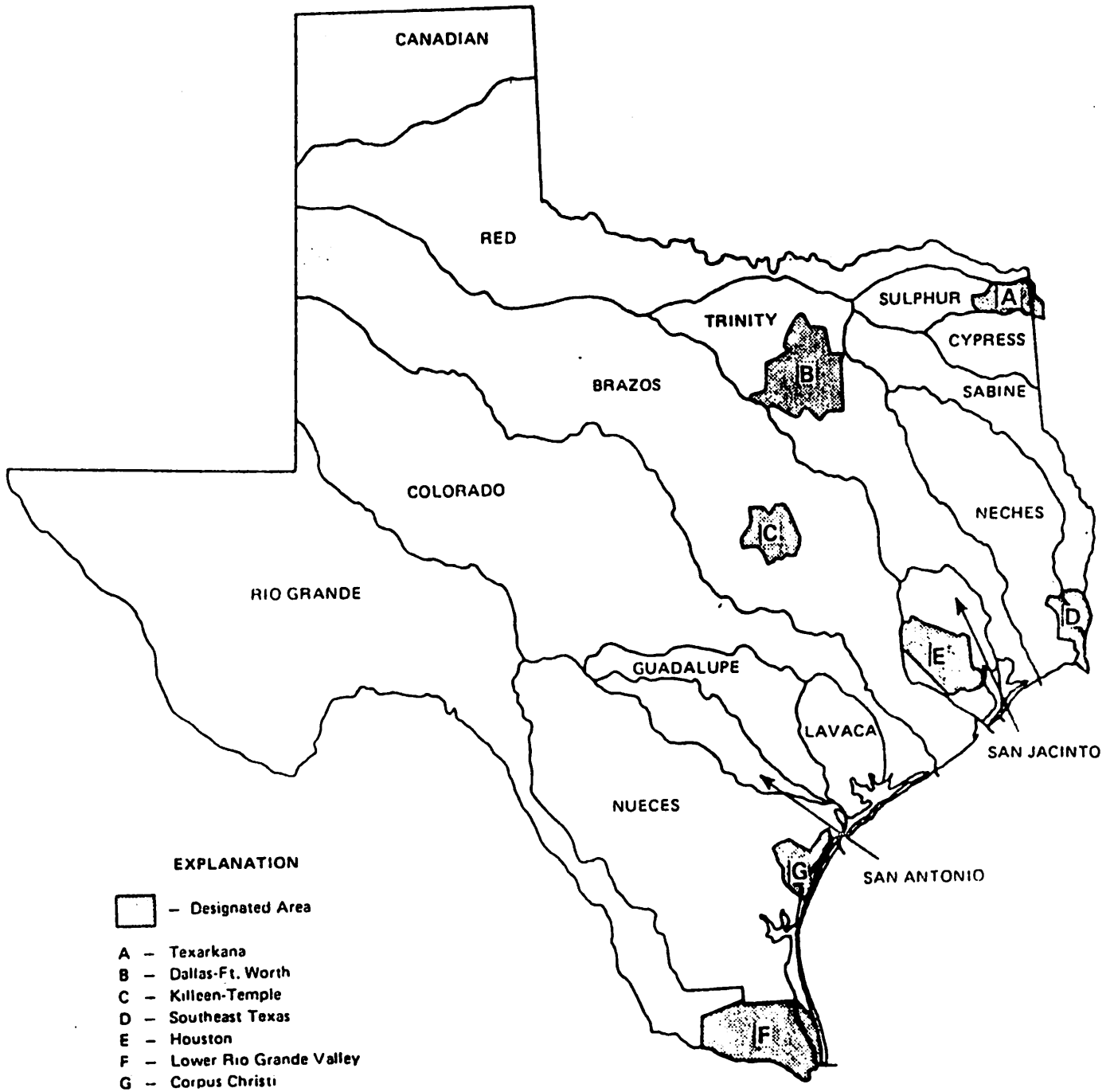


Figure 1.—Water Quality Management Planning Areas

**TABLE 1
STATEWIDE AND DESIGNATED AREAWIDE
PLANNING AREAS AND AGENCIES**

State Planning Area	Local Planning Agency for State Planning Area	Designated Planning Area	Designated Area Planning Agency
Canadian Basin	Panhandle Regional Planning Commission		
Red River Basin	Red River Authority of Texas	Texarkana	Ark-Tex Council of Governments
Sulphur Basin	Ark-Tex Council of Governments		
Cypress Basin	Northeast Texas Municipal Water District		
Sabine Basin	Sabine River Authority of Texas	Southeast Texas	South East Texas Regional Planning Commission
Neches Basin	Lower Neches Valley Authority		
	Angelina & Neches River Authority		
Trinity Basin	Trinity River Authority of Texas	Dallas/Fort Worth	North Central Texas Council of Governments
San Jacinto Basin	San Jacinto River Authority	Greater Houston	Houston-Galveston Area Council
Brazos Basin	Brazos River Authority	Killeen-Temple	Central Texas Council of Governments
Colorado Basin	Lower Colorado River Authority		
	Concho Valley Council of Governments		
	Colorado River Municipal Water District		
Lavaca Basin	Golden Crescent Regional Planning Commission		

TABLE 1
STATEWIDE AND DESIGNATED AREAWIDE
PLANNING AREAS AND AGENCIES—Continued

State Planning Area	Local Planning Agency for State Planning Area	Designated Planning Area	Designated Area Planning Agency
Guadalupe Basin	Guadalupe-Blanco River Authority		
	Upper Guadalupe River Authority		
San Antonio Basin	San Antonio River Authority		
	City of San Antonio		
	Cibolo Creek Municipal Authority		
Nueces Basin	Nueces River Authority	Corpus Christi	Coastal Bend Council of Governments
	Coastal Bend Council of Governments		
Rio Grande Basin	Texas Department of Water Resources	Lower Rio Grande Valley	Lower Rio Grande Valley Development Council

SERIES 8 CONSTRUCTION GRANTS MANAGEMENT

Objectives

The objectives established for the Department's efforts in managing municipal facilities are as follows:

- a. To ensure that available construction grant funds are distributed in a manner which provides the most beneficial impact on water quality;
- b. To insure that no Federal construction grant funds are allocated to projects which are not designed to meet the amended 1981 requirements of the Federal Clean Water Act and/or which are not cost-effective;
- c. To insure operation and maintenance techniques employed at all publicly-owned treatment works provide for the maximum practicable level of treatment for existing facilities; and,
- d. To insure that no construction grant funds, regardless of source, are expended on any project which does not possess a reasonable benefit-cost ratio.

To insure that these objectives are achieved, the Department's long established program in municipal facilities management has been retained. Continued emphasis is given to the critical areas of operation and maintenance manual review and certification of municipal ordinances designed to control discharges into publicly-owned treatment works and allocate costs of sewer use equitably. Application processing time has been reduced through delegation from EPA to administer the State's allocated Federal construction grant funds.

Categories Eligible for Grant Funds

Federal construction grant funds are distributed on the basis of a priority funding list derived from the State's Construction Grant Priority Rating Process. The Process recognizes five categories of projects eligible for grant funds:

- a. Replacement wastewater treatment facilities;
- b. Replacement interceptors/lift stations;
- c. New sewerage systems;
- d. New interceptors/lift stations; and,
- e. Collection facilities.

Ranking Criteria

The Ranking criteria include factors or pollutant loadings contributed by the plant effluent, water uses which the receiving stream should reasonably provide, the population projected to be impacted by the discharge, nuisance factors (septic tank overflows, etc.) and the need for future treatment more restrictive than secondary treatment requirements.

Priority Ranking List

These criteria produce a ranking list consistent with Federal priority requirements which set out the following general priority for municipal construction:

- a. Projects required to meet existing water quality standards and/or otherwise comply with the enforcement provisions of the law; and,
- b. Projects not required to meet water quality standards but which must comply with enforceable provision of the law.

Projects appearing on the final Priority Ranking List are funded, within limits established by availability of resources, in a step-wise fashion.

Step 1 Activities

The pre-grant award Step 1 activities represent the facility planning effort. The goal of facility planning is to select the most cost-effective and environmentally sound waste management alternative for a proposed construction project. An infiltration/inflow analysis is included in this step to determine if more extensive rehabilitation of the system will be necessary.

Step 2 Activities

The pre-grant Step 2 activities include preparation of plans and specifications consistent with the best alternative solution as determined through Step 1 planning efforts.

Step 3 Activities

Step 3 grants are used for the actual construction of the facility. In addition to insuring the cost-effectiveness of the actual construction of wastewater treatment facilities, the Department has expanded its function in achieving maximum facility self-sufficiency.

General Pretreatment Regulations

With regard to the general pretreatment regulations, it is recognized that many municipalities have already developed or are in the process of developing pretreatment programs either on their own initiative or in response to permit requirements. It is not intended that such

work be duplicated. To the extent that previous work meets the requirements of an approvable pretreatment program under Title 40 CFR Part 403, it will be incorporated in the program development under these construction grant regulations. To the degree that additional work must be done to complete the requirements of an approvable program, such work may be grant eligible. Work done prior to the effective date of the final regulations will not be grant eligible or reimbursable under this program.

User Charge System

The communities must also establish a system of user charges to assure that costs of operating and maintaining the treatment facilities are equitably distributed among the facility users whether they are industrial, commercial, or residential. Unauthorized connections and inflows into the system are prohibited by a sewer use ordinance certified by the Department.

O & M Activities

Operation and maintenance activities comprise an integral part of the Department's Municipal Facility Management Program. For proposed plants, O&M aspects are considered from the pre-design stage to ensure proper facility operation and maintenance practices will be adopted for the new plant.

For existing plants, the Department's staff routinely conducts on-site operation and maintenance inspections and offers assistance when related problems arise. Facilities exhibiting critical problems are provided intensive technical assistance to demonstrate the improvement possible with the application of proper operation and maintenance techniques.

SERIES 9 FACILITY PLANNING

Planning Process

Facility Planning is a process of evaluating alternative solutions, and through systematic screening and evaluation, selecting the alternative which is the most cost-effective, i.e., is the most economical means of meeting water quality of public health requirements over the useful life of the facilities while recognizing environmental and other nonmonetary considerations. The facility plan also demonstrates that the selected plan can be carried out from legal, institutional, financial, and management standpoints. The facility plan consists of those necessary plans and studies that directly relate to the construction of treatment works needed to comply with the enforceable requirements of the Act.

After the dates on the action plan have been negotiated, the TDWR project engineer will monitor progress toward these milestones. The project engineer or other personnel will be available to assist the entity at anytime.

The project engineer will monitor the action plan schedule and on or about 30 days prior to the scheduled submittal date for any milestone, he will contact the entity to discuss any problems they may have encountered. He will provide assistance in meeting the milestone date.

If a milestone date is missed and the time cannot be made-up during the next milestone date, the action plan schedule will be revised and copies given to Project Priority Management.

Water Conservation and/or Reuse Analysis

A detailed description of water conservation and/or reuse alternatives is required during the facility planning state by 40 CFR 35.2030 2(b). In addition the Clean Water Act of 1981 in Section 204 includes provisions for influencing industrial conservation of waste through the construction grants program. The Department will utilize facility planning as the primary tool in determining the treatment alternatives most desirable from the standpoint of water conservation and/or reuse.

Plan Content

Facilities planning encompass the following to the extent deemed appropriate by the Texas Department of Water Resources:

- (1) A description of both the proposed treatment works and the complete waste treatment system of which it is a part.
- (2) A description of the Best Practicable Wastewater Treatment Technology (BPWTT). [See §35.2005 (b)(6).]
- (3) A cost-effectiveness analysis of the feasible conventional, innovative, and alternative wastewater treatment works, processes and techniques capable of meeting the applicable Federal, State, and local effluent water quality and public health requirements. The monetary costs to be considered must include the present worth or equivalent annual value of all capital costs and operation, maintenance and replacement costs. The current interest rate established by the Water Resources Council shall be used as the discount rate in the cost-effectiveness analysis. The population forecasting in the analysis shall be consistent with current State projections and with those used in the most recently completed Needs Survey. A cost-effectiveness analysis must include:
 - (a) An evaluation of alternative flow reduction methods. (If the grant applicant demonstrates that the existing average daily base flow (ADBDF) from the area is less than 70 gallons per capita per day or if the Regional Administrator determines the area has an effective existing flow reduction program, additional flow reduction evaluation is not required.)
 - (b) A description of the relationship between the capacity of alternatives and the needs to be served, including capacity for future growth expected after the treatment works become operational.
 - (c) An evaluation of improved effluent quality attainable by upgrading the operation and maintenance and efficiency of existing facilities as an alternative or supplement to construction of new facilities.

- (d) An evaluation of the alternative methods for the reuse or ultimate disposal of treated wastewater and sludge material resulting from the treatment process.
 - (e) A consideration of systems with revenue generating applications.
 - (f) An evaluation of opportunities to reduce use of or recover energy.
 - (g) Cost information on total capital costs, and annual operation, maintenance and replacement costs as well as estimated annual or monthly costs to residential and industrial users.
- (4) A demonstration of the nonexistence or possible existence of excessive infiltration/inflow in the sewer system.
 - (5) An analysis of the potential open space and recreation opportunities associated with the project.
 - (6) An adequate evaluation of the environmental impacts of alternatives under Part 6 of this chapter.
 - (7) For the selected alternative, a concise description at an appropriate level of detail of at least the following:
 - (a) Estimated capital construction and operation and maintenance costs (identifying the Federal, State, and local shares), and a description of the manner in which local costs will be financed.
 - (b) Estimated cost of future expansion and long term needs for reconstruction of facilities following their useful life.
 - (c) Cost impacts on wastewater system users.
 - (d) Institutional and management arrangements necessary for successful implementation.

**Innovative and Alternative
Technology (I&A)**

I&A technology is a concept introduced by the CWA which provides for reclaiming and reuse of water, productive recycling of wastewater constituents or

otherwise eliminating the discharge of pollutants, reducing consumption of or recovering energy, or reducing costs. Innovative technology differs from alternative technology and conventional concepts of treatment because it involves a higher degree of risk to gain specific benefits.

**Relationship to
Other Planning**

a. Basin Plans Prepared Pursuant to Section 303(e):

Facility plans will conform to applicable approved basin plans, including subsequent revision thereto, prepared under Section 303 of the Clean Water Act; particularly as those plans set forth effluent volume and quality limits.

b. State and Areawide Water Quality Management Plans Prepared Pursuant to Section 208:

One element required in areawide plans, authorized under Section 208 of FWPCA, is a comprehensive management program for collection and treatment of wastes, and for controlling pollution from all point sources. Controls for abating these sources are to utilize an appropriate combination of structural and non-structural methods. Thus, these plans will recommend planning and service areas for publicly-owned treatment works as well as the major components of such treatment works.

SERIES 10 NEEDS SURVEY

Background

Sections 205(a) and 516(b) of the Clean Water Act Amendments (PL 97-117) require that the U.S. Environmental Protection Agency (EPA), in conjunction with the States, provide Congress with an estimate of needed publicly-owned wastewater facility by December 31, 1982. Field work for this report, termed the 1982 Needs Survey, is complete. Surveys have also been completed in each of the previous following years: 1973, 1974, 1976, 1978 and 1980.

Needs are categorized and, along with a variety of related technical information, are reported on a facility-by-facility basis. The product is both: a comprehensive estimate of dollar requirements to meet the goals of the Clean Water Act, and a detailed inventory of publicly-owned wastewater treatment and conveyance systems. There are over 32,000 facilities reported nationwide, 2,800 of which are in Texas.

Importance

On a nation scale the Needs Survey has two fundamental roles:

- (1) State-by-state needs totals are used to allocate federally appropriated Construction Grant Program funds.
- (2) The Needs Survey inventory is an immense data base which EPA uses as both an informational tool and a middle and long range planning tool.

TDWR Activity

Funding for waste quality improvements in a rapidly growing, water scarce state such as Texas is critical. Hence TDWR has taken a keen interest in the Needs Survey, not only for the federal funds at stake, but for the information acquired in the process that will assist in planning Texas' water future.

Since 1976 EPA has employed a contractor to obtain and verify facility data, and provide automatic data processing. Since 1980 EPA has restricted Needs Survey facility updates to facilities involved in the Construction Grants Program and facilities with new federal permits unless States specifically request a more extensive review and provide documentation.

Since 1979 TDWR has engaged in a vigorous program to upgrade Texas' Needs Survey inventory. Hundreds of facilities have been added to the inventory and all information has been checked for accuracy and timeliness. Since EPA's contractor has performed all tasks related to automated data processing, this data base has been acquired at a relatively low cost. TDWR has the capability to access this data through EPA's national computer files. Prospects for the future, in addition to updating the data base for the 1984 and subsequent Needs Surveys, include the development of data manipulation capabilities.

SERIES 11 STATE PROJECT PRIORITY SYSTEM

Texas Administrative Code Sections 321.1-321.44

These rules are adopted under the authority of Sections 5.131 and 5.132, Texas Water Code, as amended.

321.1. Introductions; Scope and Interpretation of Rules.

- (a) The Federal Construction Grant Program is a program through which financial aid is provided under the Federal Water Pollution Control Act, 33 United States Code Annotated §§1251 et seq. (1978), for the construction of publicly-owned sewage treatment facilities. The United States Environmental Protection Agency (EPA) administers the program on the national level. The Texas Department of Water Resources (department) administers the program within the state.
- (b) As part of its administration of the Federal Construction Grant Program, the Department has devised the State Project Priority System which is used to rate and rank projects that are eligible for federal construction grant assistance and to set forth the state's administrative, management and public participation procedures required to develop and revise the Project Priority List.
- (c) This subchapter shall govern the procedures used by the Department in its administration of the State Project Priority System. It is subject to all federal statutes and EPA regulations implementing or affecting the Federal Construction Grant Program. To the extent that an amendment of any such statute or regulation conflicts with these rules, such amended statute or regulation shall control these rules unless otherwise specifically hereafter provided by amendment to these rules. This subchapter shall be interpreted in accordance with such statutes and regulations and their amendments.

321.2. Definitions. The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise:

"Act" - The Federal Water Pollution Control Act, commonly referred to as the Clean Water Act, 33 United States Code Annotated §§ 1251 et seq. (1978).

"Contingency Section" - That part of the planning portion of the project priority list consisting of projects ready to proceed ranked in order of priority by population class.

"Enforceable requirements of the Act" - those conditions and limitations of permits issued pursuant to 402 and 404 of the Act, which, if violated, could result in issuance of a compliance order or initiation of a civil or criminal action under 309 of the Act. Where a permit has not been issued, but issuance is anticipated, the term

means any requirement which will be in the permit when issued. Where no permit is applicable, the term means any requirement which is necessary to meet applicable criteria for best practicable waste treatment technology.

"Fundable portion" - That part of the project priority list consisting of projects ready to proceed ranked in order of priority by population class for which federal assistance will be from a given appropriation period.

"MGD" means millions of gallons per day.

"Planning portion" - That part of the project priority list containing all projects outside the fundable portion of the list that may, under anticipated allotment levels, receive funding during the four year planning period represented by the list.

"Priority rating score" or "rating score" - The total number of points assigned to a project by using an appropriate rating sheet.

"Project" - The scope of work for which a grant or grant amendment is awarded under the Federal Construction Grant Program, including a treatment works segment as defined in 40 Code of Federal Regulations §35.2152. A project is usually identified as "Step 1", "Step 2" or "Step 3".

"Project Priority List" - A list of projects for which federal assistance is expected during a four year planning period.

"Small Community" - Any municipality with the population of 3500 or less.

"State's allotment" means the sum allocated to the State of Texas for a federal fiscal year, from funds appropriated by Congress pursuant to the Act.

"State's needs survey" means the most current survey of state-wide treatment works needs conducted pursuant to §516 of the Act.

"Step 1" means the scope of work focusing upon the preparation of a facility plan and related elements.

"Step 2" means the scope of work focusing upon the preparation of construction plans and specifications pursuant to a facility plan approved by the Department and the EPA.

"Step 3" means the scope of work focusing upon the construction of a treatment and/or collection works in accordance with construction plans and specifications approved by the Department and the EPA.

321.3. Eligibility Determination; Eligible Applicants; Applicant Eligibility Under 208 and 303e Water Quality Management Plans.

- (a) Subject to final approval by the EPA, the Executive Director shall determine whether each project applicant is eligible for construction grant assistance under the Act, pursuant federal regulations and these rules before such project is placed on the Project Priority List.
- (b) The State of Texas, any municipality or any intermunicipal or interstate agency of this state is eligible to apply for a construction grant under this program. "Municipality", as defined by the Act, includes a city, town, county, district, association or other public body created by or

- pursuant to state law which has authority to dispose of sewage, industrial wastes, or other waste, or an authorized Indian tribal organization, or a waste treatment management agency designated pursuant to 208 of the Act (33 United States Code Annotated 1288).
- (c) Pursuant to 208 and 303e of the Act (33 United States Code Annotated §1288), the governor has identified planning areas within the state which have substantial water quality control problems. For each "208 designated" area, the governor has designated a planning agency, governed by elected officials from local governments in the area.
 - (d) The governor, in consultation with the department and the planning agency for each area, will designate one or more waste treatment management agencies for the area and certify such designations to the EPA for approval. Each designated management agency intended to receive federal construction grant assistance under an approved water quality management plan or portion thereof must have appropriate authority under 208(c)(2) of the Act in order to be approved by the EPA.
 - (e) After the EPA accepts one or more designated waste treatment management agencies for a particular area and approves a water quality management plan or portion thereof for such area:
 - (1) no grant shall be made under the Federal Construction Grant Program within such area except to a designated management agency approved by EPA;
 - (2) no grant shall be made under the Federal Construction Grant Program except for publicly-owned treatment works in conformity with an applicable water quality management plan approved by EPA; and
 - (3) no waste discharge permit under 402 of the Act (NPDES permit) shall be issued for any point source of pollution which is in conflict with the applicable water quality management plan approved by EPA.

321.4. Preparation and Submission.

- (a) On the day that the appropriation act is signed into law, the executive director shall begin preparing a preliminary project priority list. The projects to be considered for funding will be those projects that have complied with all previous step requirements and on the date the appropriation act is signed into law are ready to proceed in accordance with §321.5 herein.
- (b) Projects to be considered for funding must have complied with all of the requirements of the act, rules/regulations and guidance pertaining to facility plans and plans and specifications.
- (c) After the Board adopts the final project priority list, the executive director shall submit it to the EPA for review

and acceptance in accordance with 40 Code of Federal Regulations §35.2015.

321.5. Projects Included. The fundable portion of the project priority list shall include only eligible projects for which funding is appropriated and allocated to the state. Projects considered ready to proceed are those projects which meet the following requirements:

- (1) For either step 2+3 or step 3 grants, entities have verified in writing that the following requirements have been met:
 - (A) The local share can be secured;
 - (B) The required easements and site certificates have been obtained, or will be obtained within 90 days for step 3 projects; or within 90 days after approval of plans and specifications for step 2+3 projects;
 - (C) Appropriate permits have been acquired;
 - (D) The application for step 2+3 or step 3 will be submitted within 90 days of the priority list approval;
- (2) For step 2+3, a facility plan has been approved by the executive director that all federal requirements have been met.
- (3) For step 3, the plans and specifications and the facility plan have been approved by the executive director.

321.6. Public Hearings. In accordance with these rules and federal public participation and notice requirements, the Board shall hold public hearings to consider adoption of the final Project Priority List and revisions to the current list.

321.7. Effective Period. A Project Priority List shall become effective and supersede all previous lists upon the date of EPA acceptance and shall remain effective until changed by the Board.

321.8. Projects Categorized and Rated. Each project to be included in the fundable portion of the project priority list shall be categorized according to population class and shall be rated under the priority system rating process set out in §§321.36-321.44 of this title (relating to Rating Criteria; Maximum Points; Rating Sheets 1-5, Tables 1-Population Density Point Curve). The priority rating score for a project shall be based upon a facility plan approved by the executive director.

321.9. Population Classes.

- (a) The population classes shall consist of eligible project applicants with jurisdiction over a population of:
 - (1) 3,500 or less and which have had an average population density of at least 1.7 persons per acre beginning

October 18, 1972, the effective date of the Federal Water Pollution Control Act Amendments of 1972, which class shall be designated "A";

- (2) 3,501 to 10,000, which class shall be designated "B";
 - (3) 10,001 to 25,000, which class shall be designated "C";
 - (4) 25,001 to 100,000, which class shall be designated "D";
 - (5) 100,001 to 500,000, which class shall be designated "E"; or
 - (6) 500,001 and above, which class shall be designated "F".
- (b) For the purposes of this rule, "population" is that number of people which reside within the territorial boundaries of the applicant as determined by:
- (1) Information in facility planning (Step 1) data for an incorporated city; or
 - (2) For which the project is designed, where the applicant is not an incorporated city or town.

321.10. Projects Ranked; Equal Priority Rating Scores.

- (a) Each categorized project shall be ranked within its population class. A project having a priority rating score higher than that of another project in the same population class shall be ranked higher than such other project.
- (b) Where two or more projects in the same population class have equal priority rating scores, such projects shall be ranked in order of the executive director's receipt of their "Informational Data Request for Prospective Applicants" forms. The project whose form is first received shall obtain the highest rank among such projects.

321.11. Obligation Period. Funds allotted to the state shall be available for obligation for a period of one year after the close of the federal fiscal year for which the funds are authorized.

321.12. Reserves. The board shall assign a respective percentage of the state's allotment for the next federal fiscal year to reserves for state management assistance grants, for innovative and alternative technology projects and may assign a percentage of the state's allotment for general project grant increases.

321.13. Advance of Allowance for Small Communities.

- (a) Grants will not be made for providing assistance solely for step 1 or step 2 work. When the project receives a step 3 grant an allowance will be made in the grant for non-federal funds expended during the planning and design phases, pursuant to regulations promulgated by EPA.
- (b) The board may set aside up to 10% of the state's allotment to advance potential grant applicants, the costs of facility planning or the preparation of plans, specifications and estimates.

- (c) Such advance shall not exceed the allowance for these costs established pursuant to federal regulations.
- (d) To qualify for an advance of allowance a small community must:
 - (1) be subject to an administrative, enforcement or compliance order which requires the entity to correct a public health or water quality problem;
 - (2) meet federal grant eligibility requirements;
 - (3) be unable to fund facility planning from its current available sources;
 - (4) submit a capitol financing plan listing:
 - (A) estimated total cost of the facility;
 - (B) estimated yearly cost of operation and maintenance for 10 years;
 - (C) description of how local costs will be financed;
 - (5) submit a resolution (ordinance) signed by a majority of the responsible entity's officials (city counsel, board, etc.) verifying (stating) that:
 - (A) the entity intends to pursue the project to completion;
 - (B) cannot fund facility planning with current available funds;
 - (C) funds will be available (presently having bonding authority, letter of credit, etc.) to pay 45% of the cost of the facility;
 - (D) the entity will operate and maintain the facility in accordance with state and federal laws and regulations;
 - (E) the entity shall reimburse the state if the facility is not completed.

321.14. Population Class Apportionment.

- (a) After all reserve percentages are assigned, the board shall apportion the remaining funds in the state's allotment among the population classes on a "ready to proceed" basis. The projects which are ready to proceed on the date the appropriation bill is enacted shall be listed with the funds required and totaled by population class. The funds required for all population classes shall then be totaled. A percentage of the total funds required by each population class shall be computed. The portion of the state's allotment available for funding projects shall be assigned to the population classes based on this computed percentage.
- (b) The board may redistribute the unobligated funds, as necessary, to eliminate or minimize any return of the state's allotment to the federal government.

321.16. Use of Funds.

- (a) Funds designated for a particular population class shall be used only for projects categorized under that class, except as otherwise provided in these rules.
- (b) Within a particular class, projects shall be assigned funds in order of their rank. Except for segmented projects a project having a higher rank shall be assigned its full federal share before another project in its class with a lower rank is assigned any funds.
- (c) All funds not reserved shall be assigned to projects as soon as the funds become available for obligation.
- (d) When a project is segmented within a particular class, no entity shall receive more than 50% of the funds allocated to that class unless no other project in that class is ready to proceed. If the other projects in that class ready to proceed do not require more than 50% of the funds allocated to that class, the segmented project shall receive the remaining portion of the funds not required by the other projects subject to the maximum participation allowed by federal law.

321.17. Fundable Portion of Project Priority List.

- (a) Projects which are assigned funds, including reserve funds, shall be ranked in order of their priority rating scores, with the project having the highest rating score receiving the highest rank.
- (b) In no event may a Step 2+3 or Step 3 project which does not have a facility plan and plans and specifications (step 3) approved by the executive director be included in the fundable portion of the project priority list.
- (c) When the population class percentage is established, a funding line shall be drawn such as not to exceed the funds allotted to the individual population class. Those projects above the funding line shall be the designated projects to receive federal grant assistance. Those projects below the funding line shall be designated as contingency projects for the effective period of the project priority list. If a project above the funding line cannot proceed during the allotment period, the project may be bypassed. Another project may be selected for funding in accordance with the bypass procedure in §321.32 of this title (relating to Project Funding Bypass). Solely for the purpose of compiling one contiguous project priority list as required by federal regulations, 1000 points shall be added to the rating score of each project ranked in the fundable portion of the project priority list; provided that where a project is bypassed under §321.32 of this title (relating to Project Funding Bypass) or is struck from the fundable portion and moved to the planning portion of the Project Priority List under §321.25 of this title (relating to Failure to Complete Application Process), the 1000 points shall be removed.

- (d) All projects ready to proceed shall be listed by population class.

321.18. Planning Portion of Project Priority List. Projects which are not ready to proceed shall be listed in alphabetical order in their population class.

321.19. Redistribution of Funds. The Board may redistribute unobligated funds, as necessary, to eliminate or minimize any return of the state's allotment to the federal government.

321.20. Preapplication Conferences. Upon board approval of the final project priority list, the executive director shall set the preapplication conference dates, times and places for all projects on the fundable portion of the project priority list.

321.21. Authorization to Submit Applications. The executive director shall authorize prospective applicants for those projects included in the fundable portion of the project priority list to submit formal applications for construction grants in accordance with the list. Such authorization shall expire upon the deadline by which the formal application must be submitted to the department, as specified in the notice of authorization, unless extended by the executive director.

321.22. Notice of Authorization. The Executive Director shall send notice of such authority to submit a formal application by certified mail to each prospective applicant whose project is included in the fundable portion of the Project Priority List. Such notice shall also contain the date, time and place set for that prospective applicant's preapplication conference and the deadline by which the formal application must be submitted to the Executive Director.

321.23. Submission of Application.

- (a) The applicant shall submit a complete application and shall furnish such additional information as the Executive Director may reasonably require in support or clarification of the application.
- (b) As part of its application, the applicant shall show:
- (1) That it has agreed to pay the non-federal project costs; and
 - (2) That it has the legal, institutional, managerial and financial capability to insure adequate construction and operation and maintenance of the treatment works throughout the service area of the project.
- (c) As part of its application, the applicant shall submit a project schedule, approved by a resolution of the applicant's governing body, which reflects its planned schedule through the completion of Step 3. The Step 2+3 and Step 3 portions of such schedule shall be part of the applicant's Consulting Engineer Contracts.

321.24. Application Returned; Additional Information.

- (a) Where the Executive Director determines that a formal grant application is inaccurate or incomplete, he may return such application to the applicant by certified mail with a detailed explanation of the deficiency.
- (b) Where the Executive Director requests additional information in support or clarification of an application, or where an inaccurate or incomplete application has been returned, the applicant shall correct and resubmit the application and provide any information requested within the time allowed by the Executive Director.

321.25. Failure to Complete Application Process.

- (a) Where an applicant fails to attend the preapplication conference, to submit a completed formal application within the period authorized, or to correct and resubmit a returned application within the time allowed, the Executive Director may strike the applicant's project from the fundable portion and move it to the planning portion of the Project Priority List. The Executive Director shall immediately notify the applicant of any such action by certified mail.
- (b) Within thirty days after the Executive Director mails such notice, the applicant may request reconsideration of the Executive Director's action by the Board at its next regularly scheduled meeting.
- (c) Before acting upon the applicant's request, the Board shall consider any relevant evidence and argument presented by the applicant during the meeting.
- (d) A project struck from the fundable portion and moved to the planning portion of the Project Priority List under this rule shall be considered for future funding in accordance with these rules.

321.26. Project Certification. The Executive Director shall certify projects considered eligible by the Department to the EPA for approval of eligibility under the Act and pursuant federal regulations.

321.27. Approved Project Schedule; Project Changes. The approved project schedule submitted by an applicant under §321.23(c) of this title (relating to Submission of Application) shall be incorporated into its grant agreement with the EPA. The grantee shall advise the Executive Director of any project changes that could affect the grantee's approved project schedule, estimated project cost or project rating score.

321.28. Failure to Proceed According to Schedule.

- (a) Where a project does not proceed according to its approved project schedule, the project shall not be considered for subsequent funding until the grantee submits to the

- executive director adequate written justification for its failure to proceed according to the approved project schedule along with a revised project schedule
- (b) Pursuant to federal regulations, the grantee shall give public notice to proposed procurement action for building the treatment works promptly after award of a step 3 grant or after the regional administrator has approved the information required under §§35.2107, 35.2122, 35.2040(a)(2)(iv) and (v) under a step 2+3 grant. Generally this action should occur within 120 days after step 3 award or final approvals for a step 2+3 grant unless compliance with state or local laws requires a longer period of time. The regional administrator shall annul or terminate the grant if the grantee has not given public notice of proposed procurement action for all significant elements within nine months of the step 3 award or final step 2+3 approvals. However, the regional administrator may defer (in writing) the annulment or termination for not more than three additional months if there is good cause for delay.
- (c) Where a grantee fails to complete its project within its approved project schedule, the executive director may propose that the board consider recommending that the EPA cancel the grant for such project.
- (1) The executive director shall give the applicant notice of the proposal by certified mail at least thirty days prior to the board's consideration of the proposal. Such notice shall include a copy of the proposal and shall state the date, time and place of the board's regularly scheduled meeting during which the proposal shall be considered.
 - (2) Before acting upon the executive director's proposal, the board shall consider any relevant evidence and argument presented by the applicant during the meeting.
- (d) A grantee may submit a written request to the board for an extension of time to use funds committed to its project. Such request shall not be granted unless fully and adequately justified. The board shall consider the availability of uncommitted funds for other projects in determining whether such request should be granted.
- (e) In accordance with §321.16(b) of this title (relating to Use of Funds), the executive director may reassign funds from a grant cancelled under this rule to the highest ranked projects from the contingency projects listed in the project priority list:
- (1) which are in the same population class as the project whose grant was cancelled;
 - (2) which comply with the enforceable requirements of the Act, unless exempted by §321.16(d) of this title (relating to Use of Funds); and

provided, that only where there is an insufficient number of projects meeting all three of these criteria, to use all of the cancelled grant funds, the board may redistribute any unobligated funds, as necessary, to eliminate or minimize any return of the state's allotment to the federal government.

321.29. Request for Grant Increase. A request for a grant increase through a grant amendment shall be submitted to the Executive Director in writing and shall be adequately justified as determined by the Board; provided, however, that Board consideration and approval shall not be required for:

- (1) A grant increase that does not exceed 10% of the original grant amount or \$100,000, unless the cumulative total of grant increases for the project exceeds 10% of the original grant amount or \$100,000;
- (2) A grant increase for the costs of a required Infiltration/Inflow Evaluation Study or a required Environmental Impact Statement; or
- (3) A grant increase for the costs resulting from new or changed program requirements resulting from amendments to the Act or final regulations adopted by the EPA.

321.30. Review of Project Priority List.

- (a) The executive director may revise the project priority list in accordance with §321.6 of this title (relating to Public Hearings) herein, when additional funds become available or as necessary to efficiently manage the construction grant program.
- (b) When the executive director revises the list because supplemental appropriations are received or additional funds become available, the projects to be considered for funding will be those projects that have complied with all previous step requirements and are ready to proceed in accordance with §321.5 of this title (relating to Projects Included) herein as of April 1 of the current fiscal year.

321.32. Project Funding Bypass.

- (a) Where it becomes evident to the executive director that a project included in the fundable portion of the project priority list will not be ready to proceed during the funding period, he may bypass such project by removing it from the fundable portion and placing it within the planning portion of the list.
- (b) Before the executive director bypasses a project, he shall send notice by certified mail to the applicant of his determination that the project will not be ready to proceed during the funding period. The executive director shall also certify to the EPA that the bypassed project will not be ready to proceed during the funding period.

- (c) Within thirty days after notice is mailed to the applicant, it may request reconsideration of the bypass by the Board at its next regularly scheduled meeting.
- (d) Before acting upon the applicant's request, the Board shall consider any relevant evidence and argument presented by the applicant during the meeting.
- (e) In accordance with §321.16(b) of this title (relating to Use of Funds), the executive director may reassign funds from a project bypassed under this rule to the highest ranked projects on the contingency section of the priority list:
 - (1) which are in the same population class as the bypassed project;
 - (2) which comply with the enforceable requirements of the Act, unless exempted by §321.16(d) of this title (relating to Use of Funds); and
 - (3) which are ready to proceed; provided, that only where there is an insufficient number of projects meeting all three of these criteria, to use all of the bypassed project's funds, the executive director may redistribute any unobligated funds, as necessary, to eliminate or minimize any return of the state's allotment to the federal government.
- (f) A bypassed project shall be reinstated on the fundable portion of the current project priority list where the executive director determines that the project will become ready for funding during the funding year and unobligated funds are available to fully fund the project; otherwise, it shall be considered for future funding in accordance with these rules.

321.33. Additional Allotment. Where the state receives an additional federal allotment during the funding year, the executive director may fund projects on the contingency section of the project priority list in accordance with 40 Code of Federal Regulations §35.2015 and these rules.

321.34. Project Removal.

- (a) Where the Regional Administrator of the EPA determines, pursuant to 40 Code of Federal Regulations §35.2015, that a project will not comply with the enforceable requirements of the Act, the executive director shall remove such project from the project priority list by notifying the applicant by certified mail.
- (b) Where the Executive Director determines that a project is ineligible to receive construction grant assistance under the Act, pursuant federal regulations or these rules, he shall recommend to the Board that such project be removed from the Project Priority List.
 - (1) The Executive Director shall give the applicant notice of his recommendation by certified mail at least

- thirty days prior to the Board's consideration of the recommendation. Such notice shall include a copy of the recommendation and shall state the date, time and place of the Board's regularly scheduled meeting during which the recommendation shall be considered.
- (2) Before acting upon the Executive Director's recommendation, the Board shall consider any relevant evidence and argument presented by the applicant during the meeting.
- (c) In accordance with §321.16(b) of this title (relating to Use of Funds), the executive director may reassign funds from a project removed under this rule to the highest ranked projects on the contingency section of the priority list:
- (1) which are in the same population class as the removed project;
 - (2) which comply with the enforceable requirements of the Act, unless exempted by §321.16(d) of this title (relating to Use of Funds); and
 - (3) which are ready to proceed; provided, that only where there is an insufficient number of projects meeting all three of these criteria, to use all of the removed project's funds, the executive director may redistribute any unobligated funds, as necessary, to eliminate or minimize any return of the state's allotment to the federal government.

321.35. Minor Revisions. Where the Executive Director and the Regional Administrator of the EPA determine that a proposed revision to the Project Priority List will not be significant, the Executive Director may make such revision if it does not adversely affect the funding of any project on the list.

321.36. Rating Criteria; Maximum Points.

- (a) The criteria used to rate eligible projects and the maximum number of points assignable to each criterion shall be:
 - (1) Existing Treatment Facilities - 200 points;
 - (2) Water Quality Impact - 350 points;
 - (3) Future Treatment Requirements - 200 points;
 - (4) Environmental Nuisances - 50 points; and
 - (5) Water Quality Problem Longevity - 800 points.
- (b) In no event shall a project's rating score exceed 800 points excepting the points added pursuant to §321.17(c) of this title (relating to Fundable Portion of Project Priority List).

321.37. Rating Sheets. The Executive Director shall use one of the following rating sheets to rate each eligible project, based upon the type of project to be rated:

- (1) Replacement Wastewater Treatment Facilities (Rating Sheet No. 1);

- (2) Replacement Interceptors/Lift Stations (Rating Sheet No. 2);
- (3) New Sewerage Systems (Rating Sheet No. 3);
- (4) New Interceptors/Lift Stations (Rating Sheet No. 4); and
- (5) Collection Facilities (Rating Sheet No. 5).

321.38. Rating Tables. The tables used to compute the rating score for an eligible project shall be:

- (1) Table I - Impact on Water Uses of Receiving Streams;
- (2) Table II - Environmental Nuisances;
- (3) Table III - Present Flow Estimate for Septic Tank Communities;
- (4) Table IV - Environmental Nuisance Factor for Relief Interceptors;
- (5) Table V - Environmental Nuisance Factor for New Interceptors and Collection Facilities; and
- (6) Figure 1 - Population Density Point Curve.

321.39. Rating Sheet No. 1.

- (a) The Executive Director shall use Rating Sheet No. 1 to rate wastewater treatment facilities projects which will replace or improve existing facilities.
- (b) The Rating Sheet No. 1 score for a project which replaces or improves two or more existing treatment facilities shall be based on a weighted average of the parameters of the permits issued by the Commission for the existing plants.
- (c) Where the project's facility plan includes cost-effective work in addition to the wastewater treatment facility work, such additional work may be considered for Step 2+3 and Step 3 grants under the Rating Sheet No. 1 score only to the extent that the eligible cost of the cost-effective work does not exceed 50% of the project cost or \$2 million whichever is less. The excess of such additional work over the 50% or \$2 million cost limit shall be rated as a separate project on a separate rating sheet. For purposes of this rule, eligible wastewater treatment facility costs include:
 - (1) Effluent outfall line costs,
 - (2) Eligible sewer rehabilitation costs (as defined by a sewer system evaluation survey report),
 - (3) Eligible lift station and force main construction costs (where the lift station/force main discharges directly to the wastewater treatment facilities with no planned intermediate lift stations and/or force main connection), and
 - (4) Eligible engineering costs that are directly associated with the above costs.
- (d) Where the facility plan shows that it is cost-effective to abandon the existing treatment facilities and to divert sewage to a different location, the 50% or \$2 million cost

- limit described in (c) above shall not include the construction costs of a necessary interceptor system to the new wastewater treatment facilities, provided that there are no planned connections to such interceptor.
- (e) Regardless of the Rating Sheet No. 1 score obtained, a Step 2 or Step 3 project applicant shall secure an appropriate waste discharge permit from the Commission, if required, before being certified to the EPA for funding.
 - (f) Where the waste discharge permit issued by the Commission does not allow any discharge of sewage effluent into a stream, lines 4 and 17 shall have a unit value of 1.

321.40. Rating Sheet No. 2.

- (a) The Executive Director shall use Rating Sheet No. 2 to rate projects which involve the replacement or improvement of overloaded interceptor lines and interceptor lift stations, except where the lift stations are an integral part of a project rated under Rating Sheet No. 1. He shall not use it to rate projects in which the capacity of the replacement interceptor line is 25% more than the capacity of the line to be replaced; nor shall he use Rating Sheet No. 2 to rate a collection system project incorporating a lift station.
- (b) Where the eligible costs of collection facilities, new interceptors or interceptor lift stations exceed 25% of the total eligible construction costs, that portion exceeding the 25% cost level shall be rated as a separate project on a separate rating sheet.
- (c) Because Rating Sheet No. 2 is used to rate projects which involve the replacement or improvement of interceptor lines or interceptor lift stations but which do not include treatment facilities, the two rating criteria, "Existing Treatment Facilities" and "Future Treatment Requirements", shall each have a value of zero.

321.41. Rating Sheet No. 3.

- (a) The Executive Director shall use Rating Sheet No. 3 to rate a sewage system project which will serve an entire community presently without sanitary sewerage service, i.e., an entire community relying solely upon septic tank facilities. It shall not be used for new subdivisions, newly developed urban areas, existing communities with a sewage system, or new communities.
- (b) The Rating Sheet No. 3 score shall be applicable to a sewage treatment plant, interceptor and collection system required to provide sanitary sewerage service to the existing septic tank community.
- (c) For purposes of Part A in Rating Sheet No. 3, the biochemical oxygen demand concentration shall have the value of 80 and the total suspended solids concentration shall have the value of 1.

- (d) Regardless of the Rating Sheet No. 3 score obtained, a Step 2+3 or Step 3 project applicant shall secure an appropriate waste discharge permit from the Commission, if required, before being certified to the EPA for funding.

321.42. Rating Sheet No. 4.

- (a) The Executive Director shall use Rating Sheet No. 4 to rate projects which are designed to transfer waste presently being treated in one sewage treatment plant to another sewage treatment plant, where such transfer will result in the abandonment of an existing inadequate sewage treatment plant, or will result in relieving the load on the existing treatment plant to such a degree that the existing sewage treatment plant will become compliant with its appropriate permit. The Executive Director shall also use Rating Sheet No. 4 to rate other new interceptor lines, such as an interceptor to serve an unserved area of an existing community.
- (b) As a prerequisite to a project's being rated under Rating Sheet No. 4, the receiving sewage treatment plant, either existing or to be constructed, must have adequate capacity to properly treat the waste being diverted thereto prior to the completion of the interceptor and must be authorized by a waste discharge permit from the Commission.
- (c) Because Rating Sheet No. 4 is used to rate projects which involve new interceptor lines and new lift stations but which do not include treatment facilities, the two rating criteria, "Existing Treatment Facilities" and "Future Treatment Requirements", shall each have a value of zero.

321.43. Rating Sheet No. 5

- (a) The Executive Director shall use Rating Sheet No. 5 to rate projects which primarily involve improvements to an existing collection system or a new collection system project for an existing unsewered area of a community.
- (b) Because Rating Sheet No. 5 is used to rate collection system projects which do not include treatment facilities, the two rating criteria, "Existing Treatment Facilities" and "Future Treatment Requirements", shall each have a value of zero.

321.44. Rating Sheets 1-5, Tables I-V, and Figure 1-Population Density Point Curve. The following items will be used to fulfill the requirements specified in the rules of this subchapter.

REPLACEMENT WASTEWATER TREATMENT FACILITIES

(Rating Sheet No. 1)

A. Existing Treatment Facilities:

1. Biochemical oxygen demand of influent
where verifiable; otherwise, 200 mg/l..... _____
2. Average effluent biochemical oxygen demand concentration
derived from at least 6 months of self-reporting data, if
available; otherwise, the best Department information
available..... _____
3. Effluent biochemical oxygen demand specified in applicable
waste control order or 30, whichever is smaller..... _____
4. Difference of line 3 subtracted from line 2 (Minimum = 0) (See
§321.39(f) of this title)..... _____
5. Average effluent flow (MGD) received at existing plant during
last 6 months of self-reporting data, if available; otherwise,
the best Department information
available..... _____
6. Product of Line 4 times line 5..... _____
7. Applicable waste discharge permit parameter for volume (MGD)
for existing wastewater treatment facility _____

- 8. Quotient of line 5 divided by line 7..... _____
- 9. Difference of line 2 subtracted from line
1..... _____
- 10. Quotient of line 9 divided by line 1..... _____
- 11. Sum of line 10 and 0.15..... _____
- 12. Product of line 8 multiplied by line 11 _____
- 13. Product of line 12 multiplied by line 6 _____
- 14. Suspended solids concentration of influent where verifiable;
otherwise, 200 mg/l..... _____
- 15. Average effluent suspended solids concentration derived from at
least 6 months of self-reporting data, if available; otherwise,
the best Department information available..... _____
- 16. Effluent suspended solids specified in applicable waste control
order or 30, whichever is smaller..... _____
- 17. Difference of line 16 subtracted from line 15 (Minimum = 0)
(See 321.39(f) of this title)..... _____
- 18. Product of line 17 times line 5..... _____
- 19. Difference of line 15 subtracted from line
14..... _____
- 20. Quotient of line 19 divided by line 14..... _____

- 21. Sum of line 20 and 0.15..... _____
- 22. Product of line 8 multiplied by line 21 _____
- 23. Product of line 18 multiplied by line 22..... _____
- 24. Sum of line 13 and line 23..... _____
- 25. Product of line 24 multiplied by 0.9 (Maximum = 200).. _____

B. Water Quality Impact:

- 26. Largest downstream water use factor (Table I) determined from Department's pre-rating inspection report..... _____
- 27. Factor (Figure 1) for average population densities of counties (from latest Texas Almanac) traversed by receiving stream for distance of 50 miles downstream from point of discharge, including originating and terminating counties..... _____
- 28. Sum of line 26 and line 27..... _____
- 29. Product of line 28 multiplied by line 24, multiplied by 0.4 (Maximum = 350)..... _____

C. Future Treatment Requirements

- 30. Effluent biochemical oxygen demand specified in applicable waste control

- order or basin plan for proposed wastewater treatment facility..... _____
31. Effluent suspended solids specified in applicable waste discharge permit or basin plan for proposed wastewater treatment facility..... _____
32. Sum of line 30 and line 31..... _____
33. Quotient of 100 divided by line 32..... _____
34. Enter "2.5" where applicable waste discharge permit or basin plan requires nitrogen removal for proposed wastewater treatment facility; otherwise enter "0"
..... _____
35. Enter "2.5" where applicable waste discharge permit or basin plan requires phosphorus removal for proposed wastewater treatment facility; otherwise, enter "0"
..... _____
36. Sum of lines 33, 34 and 35..... _____
37. Volume (MGD) for proposed wastewater treatment facility according to parameters set in applicable waste discharge permit or basin plan..... _____
38. Number of water quality segments of receiving stream..... _____
39. Sum of line 38 and 1.0..... _____
40. Rank for stream segment where project's discharge will occur..... _____
41. Difference between line 40 subtracted from line 39..... _____

- 42. Product of line 38 multiplied by 2.0... _____
- 43. Quotient of line 41 divided by line 42. _____
- 44. Sum of line 43 and 0.5 (Minimum = 0.5). _____
- 45. Product of line 36 multiplied by line 37, multiplied by line 44, multiplied by 0.7 (Maximum = 200).. _____

D. Environmental Nuisances:

- 46. Environmental nuisance factor (Table II) based upon information from Department's pre-rating inspection. _____
- 47. Average yearly rainfall for area to be served by project..... _____
- 48. Existing population served by present facilities..... _____
- 49. Quotient of line 48 divided by 10,000.. _____
- 50. Product of line 46 multiplied by line 47, multiplied by line 49..... _____

51. Quotient of line 50 divided by 24.0 (Maximum = 50)..... _____

E. Water Quality Problem Longevity:

52. Number of months project has been on Project Priority List less 12 (Minimum = 0)..... _____

53. Sum of lines 25, 29, 45 and 51..... _____

54. Product of line 52 multiplied by line 53, multiplied by 0.042 (Maximum = 800) _____

RATING SCORE (Sum of lines 25, 29, 45, 51 and 54) (Maximum = 800)..... _____

REPLACEMENT INTERCEPTORS/LIFT STATIONS

(Rating Sheet No. 2)

A. Existing Treatment Facilities: (§321.4(c) of this title)

-0-

B. Water Quality Impact:

- 1. Population served by present interceptor/lift station..... _____
- 2. Square of line 1..... _____
- 3. Population for which replacement interceptor/lift station is designed..... _____
- 4. Product of line 3 multiplied by 1300..... _____
- 5. Quotient of line 2 divided by line 4..... _____
- 6. Overflow factor (Table IV) based on frequency of overflow of existing interceptor/lift station..... _____
- 7. Product of line 5 multiplied by line 6 (Maximum = 350)..... _____

C. Future Treatment Requirements: (§321.40(c) of this title)

-0-

D. Environmental Nuisances:

- 8. Environmental nuisance factor (Table II) based upon information from Department's pre-rating inspection..... _____
- 9. Average yearly rainfall for area to be served by project..... _____
- 10. Population (from line 1)..... _____
- 11. Quotient of line 10 divided by 10,000..... _____
- 12. Product of line 8 multiplied by line 9, multiplied by line 11..... _____
- 13. Quotient of line 12 divided by 24.0 (Maximum = 50)..... _____

E. Water Quality Problem Longevity:

- 14. Number of months project has been on Project Priority List less 12 (Minimum = 0)..... _____
- 15. Sum of line 7 and line 13..... _____
- 16. Product of line 14 multiplied by line 15, multiplied by 0.042 (Maximum = 800)..... _____

RATING SCORE (Sum of line 7, 13 and 16) (Maximum = 800).....

NEW SEWERAGE SYSTEMS

(Rating Sheet No. 3)

A. Existing Treatment Facilities:

1. Sum of biochemical oxygen demand and suspended solids concentrations for septic tanks (§321.41(c) of this title)..... _____
2. Average estimated flow of effluent (MGD) based upon present population (Table III)..... _____
3. Product of line 1 times line 2 times 0.2.-
..... _____
4. Product of line 3 times 0.9 (Maximum = 200)..... _____

B. Water Quality Impact:

5. Largest downstream water use factor (Table I) determined from Department's pre-rating inspection report..... _____
6. Factor (Figure 1) for average population densities of counties (from latest Texas Almanac) traversed by receiving stream for distance of 50 miles downstream from point of discharge, including originating and terminating counties..... _____

- 7. Sum of line 5 and line 6..... _____
- 8. Product of line 7 multiplied by line 3, multiplied by 0.4
(Maximum = 350)..... _____

C. Future Treatment Requirements:

- 9. Effluent biochemical oxygen demand specified in applicable waste control order or basin plan for proposed wastewater treatment facility..... _____
- 10. Effluent suspended solids specified in applicable waste discharge permit or basin plan for proposed wastewater treatment facility..... _____
- 11. Sum of line 9 and line 10..... _____
- 12. Quotient of 100 divided by line 11..... _____
- 13. Enter "2.5" where applicable waste discharge permit or basin plan requires nitrogen removal for proposed wastewater treatment facility; otherwise, enter "0"..... _____
- 14. Enter "2.5" where applicable waste discharge permit or basin plan requires phosphorus removal for proposed wastewater treatment facility; otherwise enter "0"..... _____

- 15. Sum of lines 12, 13 and 14..... _____
- 16. Volume (MGD) for proposed wastewater treatment facility according to parameters set in applicable waste discharge permit or basin plan..... _____
- 17. Number of water quality segments of receiving stream..... _____
- 18. Sum of line 17 and 1.0..... _____
- 19. Rank for stream segment where project's discharge will occur..... _____
- 20. Difference between line 19 subtracted from line 18..... _____
- 21. Product of line 17 multiplied by 2.0... _____
- 22. Quotient of line 20 divided by line 21. _____
- 23. Sum of line 22 and 0.5 (Minimum = 0.5). _____
- 24. Product of line 15 multiplied by line 16, multiplied by line 23, multiplied by 0.7 (Maximum = 200)..... _____

D. Environmental Nuisances:

- 25. Environmental nuisance factor (Table II) based upon information from Department's pre-rating inspection. _____

- 26. Average yearly rainfall for area to be served by project..... _____
- 27. Population to be served by project..... _____
- 28. Quotient of line 27 divided by 10,000.. _____
- 29. Product of line 25 multiplied by line 26, multiplied by line 28..... _____
- 30. Quotient of line 29 divided by 24.0 (Maximum = 50)..... _____

E. Water Quality Problem Longevity:

- 31. Number of months project has been on Project Priority List less 12 (Minimum = 0)..... _____
- 32. Sum of lines 4, 8, 24 and 30..... _____
- 33. Product of line 31 multiplied by line 32, multiplied by 0.042 (Maximum = 800)..... _____

RATING SCORE (Sum of lines 4, 8, 24, 30 and 33) (Maximum = 800)..... _____

NEW INTERCEPTORS/LIFT STATIONS

(Rating Sheet No. 4)

A. Existing Treatment Facilities: (§321.42(c) of this title)

-0-

B. Water Quality Impact:

- 1. Existing population to be served by project..... _____
- 2. Square of line 1..... _____
- 3. Total population for service area..... _____
- 4. Product of line 3 multiplied by 2000... _____
- 5. Quotient of line 2 divided by line 4... _____
- 6. Environmental condition factor (Table V) based on type of condition to be corrected..... _____
- 7. Product of line 5 multiplied by line 6 (Maximum = 350)..... _____

C. Future Treatment Requirements: (§321.42(c) of this title)

-0-

D. Environmental Nuisances:

- 8. Environmental nuisance factor (Table II) based upon information from Department's pre-rating inspection..... _____
- 9. Average yearly rainfall for area to be served by project..... _____
- 10. Existing population (from line 1)..... _____
- 11. Quotient of line 10 divided by 10,000.. _____
- 12. Product of line 8 multiplied by line 9, multiplied by line 11..... _____
- 13. Quotient of line 12 divided by 24.0 (Maximum = 50)..... _____

E. Water Quality Problem Longevity:

- 14. Number of months project has been on Project Priority List less 12 (Minimum = 0)..... _____
- 15. Sum of line 7 and line 13..... _____
- 16. Product of line 14 multiplied by line 15, multiplied by 0.042 (Maximum = 800)..... _____

RATING SCORE (Sum of lines 7, 13 and 16) (Maximum = 800)..... _____

COLLECTION FACILITIES

(Rating Sheet No. 5)

A. Existing Treatment Facilities: (§321.43(b) of this title)

-0-

B. Water Quality Impact:

1. Existing population to be served by project..... _____
2. Square of line 1..... _____
3. Product of line 2 multiplied by 1.5.... _____
4. Total population for service area..... _____
5. Product of line 4 multiplied by 3500... _____
6. Quotient of line 3 divided by line 5... _____
7. Environmental condition factor (Table V) based on type of condition to be corrected..... _____
8. Product of line 6 multiplied by line 7 (Maximum = 350)..... _____

C. Future Treatment Requirements (§321.43(b) of this title)

-0-

D. Environmental Nuisances:

- 9. Environmental nuisance factor (Table II) based upon information from Department's pre-rating inspection..... _____
- 10. Average yearly rainfall for area to be served by project..... _____
- 11. Existing population (from line 1)..... _____
- 12. Quotient of line 11 divided by 10,000.. _____
- 13. Product of line 9 multiplied by line 10 multiplied by line 12..... _____
- 14. Quotient of line 13 divided by 24.0 (Maximum = 50)..... _____

E. Water Quality Problem Longevity:

- 15. Number of months project has been on Project Priority List less 12 (Minimum = 0)..... _____
- 16. Sum of line 8 and line 14..... _____
- 17. Product of line 15 multiplied by line 16, multiplied by 0.042 (Maximum = 800)..... _____

RATING SCORE (Sum of lines 8, 14 and 17) (Maximum = 800)..... _____

TABLE I

Impact on Water Uses of Receiving Stream

(Stream Miles From Discharge)

<u>Water Uses</u>	<u>05</u>	<u>510</u>	<u>1020</u>	<u>2040</u>	<u>40+</u>
1. Drinking Water	7.5	6.5	5.0	3.0	1.5
2. Contact Recreation	6.5	5.0	3.0	1.5	0.5
3. Non-Contact Recreation	5.0	3.0	1.5	0.5	0
4. Fish and Wildlife	3.0	1.5	0.5	0	0
5. Shipping	1.5	0.5	0	0	0

TABLE II

Environmental Nuisances:

A. Department files reflect unavoidable verified bypasses and/or spillages.

Regular 15 Intermittent 9 Only During Rains 4

B. Lift Station/interceptor/sewage treatment plant unavoidable bypasses and/or spillages.

Regular 12 Intermittent 7 Only During Rains 3

C. Septic tank overflows:

General 12 Limited 7 Only During Rains 3

D. Where none exists, the total points for Environmental Nuisances (Part D) on the rating sheets shall equal zero.

TABLE III

Septic Tank Overflows:

A.	General area <u>use</u>	<u>*Population to be served</u>	=
		1×10^4	
B.	Limited area <u>use</u>	<u>*Population to be served</u>	=
		2×10^4	
C.	Only During Rains <u>use</u>	<u>*Population to be served</u>	=
		3×10^4	

This will be the line 2 value on Rating Sheet 3 for new sewerage systems.

Note: Selection of General Area, Limited Area, or Only During Rains shall be determined from Department pre-rating inspection reports.

*Existing population to be served by project.

TABLE IV

	<u>Overflow</u>	<u>Overflow Factor</u>
A.	Regular <u>use</u>	1.25
B.	Intermittent <u>use</u>	1.0
C.	Only During Rains <u>use</u>	0.5

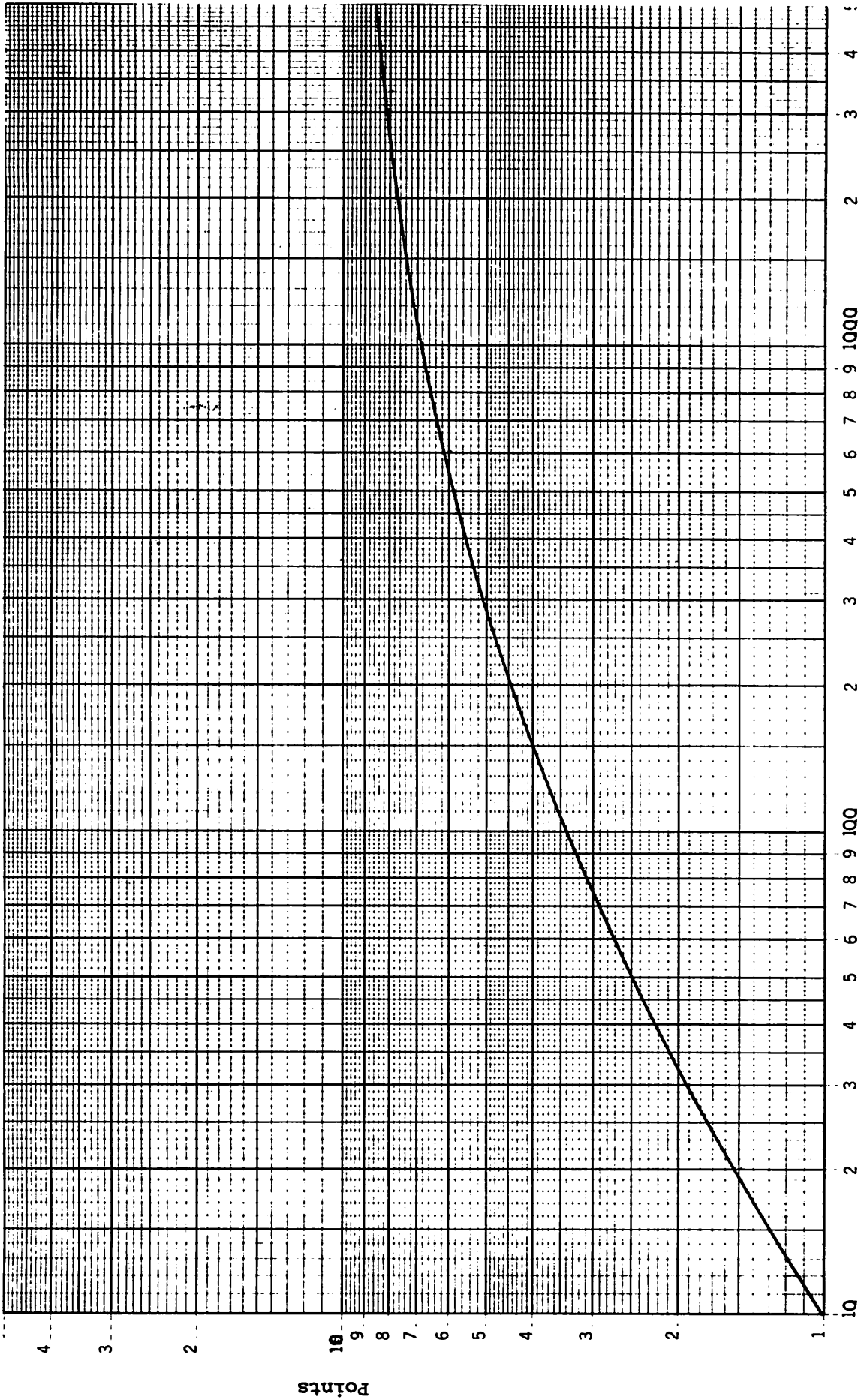
NOTE: Selection of Regular, Intermittent, or Only During Rains will be determined from Department pre-rating inspection reports.

TABLE V

	<u>Environmental Condition</u>	<u>Environmental Condition Factor</u>
A.	Divert to another sewage treatment plant	2.0
B.	Abandon sewage treatment plant	2.5
C.	Serve Existing Area	
	Septic Tank Overflow:	
	General Area	1.0
	Limited Area	0.75
	Only During Rains	0.5
	No Overflow	0.0
D.	Serving Projected Population	0.5

FIGURE 1

Population Density Point Curve



Average Population Density Per Square Mile

Points

SERIES 12 METHOD FOR WASTE LOAD EVALUATION

Introduction

This summary describes the information developed in evaluating the effects of the discharge of pollutants into Texas waters. The study of these effects, as described in Waste Load Evaluations, will serve as aids in the issuance of waste discharge permits, and that these studies will become a part of the Texas Continuing Planning Process.

Each stream segment in the state has certain properties and conditions which make it unique. For this reason, each might be handled in a slightly different manner. A certain amount of uniformity is necessary in the format to be used in reports dealing with the waste load evaluation of these segments. Therefore each waste load evaluation should contain, but not be limited to, the following:

Evaluation Content

A. An INTRODUCTION including:

- 1) A general paragraph on the purpose of waste load evaluations.
- 2) A discussion of the parameter or parameters evaluated in the report.
- 3) A discussion of the dates of past evaluations and the date of the present evaluation.

B. SEGMENT DESCRIPTION including:

- 1) A general description of the area in the vicinity of the segment under study including the following:

Geography

In a concise manner the segment location in the state, basin location, segment description and boundaries, counties encompassed by watershed, length of segment, area of watershed, elevations, major tributaries, proximity to major towns, etc. are discussed. Figures showing location in state and segment map are referenced.

Climatology

Air temperature, winds, precipitation, humidity, etc. are discussed.

Hydrology

Flows (7 day 2-year; annual average; min; max), slopes, widths, depths, tides, etc. are discussed.

Land Use Patterns

Predominant land use patterns are discussed.

- 2) A discussion of applicable water quality standards including desired water uses and numerical criteria.
- 3) A discussion of waste dischargers and waste loads which includes the number of dischargers separated out by municipal or industrial category. A Table showing existing, permitted and projected loads in terms of flow, BOD₅, NH₃-N, etc. is provided. The permit limitations in terms of effluent concentration for domestic discharges and pounds per day for industrial discharges is given. Figures showing the historical loading trends for wastewater flow, BOD₅, etc. from 1970 to the present are provided.
- 4) A discussion of past and present water quality conditions from available data. A summary of data from stream monitoring stations for the last four years is provided in a table for the parameters with specified numerical criteria. This table is discussed briefly. Figures showing the historical trend of water quality conditions from 1969 to present are shown and discussed. Intensive surveys may be referenced. However, detailed discussion of the intensive surveys used for model calibration or verification will appear later in the report.
- 5) Discussion of classification (effluent limited or water quality limited) and rank within the State (See Series 13).

Classification and rank are taken from the State of Texas Water Quality Inventory prepared by the Texas Department of Water Resources pursuant to section 305(b) of the Federal Water Pollution Control Act, as amended, segments are classified as water quality limited if applicable water quality criteria cannot be met following incorporation of best practical treatment (BPT) for industries and/or secondary treatment for municipalities. Segments are classified as effluent limited if they are presently meeting or will meet applicable water quality criteria following incorporation of BPT for industries and/or secondary for municipalities. Segments are currently ranked 1 to 311 with 1 indicating the highest priority for water quality controls and 311 indicating the lowest priority for water quality controls.

C. DOCUMENTATION OF THE WATER QUALITY MODEL including:

- 1) A discussion of the selection and formulation of the model.

Model selection is dependent on the amount of available data and the complexity of the water quality problem. In certain situations Environmental Protection Agency guidance allows the use of simplified water quality models, i.e. Streeter-Phelps. When guidance requires a calibrated/verified model, the State will use QUAL-TX.

QUAL-TX is a modified version of QUAL-II that has been developed by the Water Quality Management Section of the Texas Department of Water Resources. The original QUAL-II model was developed by Water Resources Engineers (now Camp, Dresser & McKee) for the U.S. Environmental Protection Agency. Since that time, many modifications have been made to QUAL-II by many people. QUAL-TX is a user-oriented model incorporating many of those modifications and is intended to provide the basis for evaluating waste load allocations in the State of Texas.

The theoretical basis and program documentation for QUAL-TX is not yet available. However, the basic solution technique and theory does not drastically deviate from the original QUAL-II model. Any QUAL-II documentation can provide this information. The QUAL-TX User's Manual is available from the Texas Department of Water Resources in Austin, Texas.

- 2) A discussion of the calibration/verification of the model including discussion of the data and calibration/verification technique.

A discussion of the intensive survey data used to calibrate the model. Summaries of flow, field, and laboratory data collected at stream stations are shown in Tables. Summaries of flow, field, laboratory, and self-reporting data collected from wastewater discharges are shown in tables.

Discussion of the data input for model calibration includes which flows, BOD, $\text{NH}_2\text{-N}$, etc. were used (i.e., survey data, self-reporting, calculated, estimated, etc.). Discussion of the calibration procedure includes how the biological coefficients were chosen and the differences between the observed and predicted water quality profiles. Some of the major rate coefficients (base e) for the calibration run are summarized. The discussion of the data input and the verification modeling follows the calibration effort. However, in addition the discussion includes why biological coefficients were changed if they are changed.

D. WATER QUALITY PROJECTIONS including:

- 1) A discussion of the predictive use of the model including the critical conditions to be utilized.

Tables are included which show the coefficients used in the alternative computer runs. Discussion will include why biological coefficients were changed if they are changed. When running

advanced treatment alternatives modeling rates from the literature may be considered. It is felt that site specific data may often fall out of the range of expected values but are still preferable whenever future stream conditions are expected to be near or representative of past conditions. When modeling dissolved oxygen, biochemical oxygen demand is input as BOD_5 in the alternative runs using a BOD_u/BOD_5 ratio of 2.3. The critical flow evaluated is the seven-day, two-year low flow determined from a frequency analysis of USGS discharge records. This flow is distributed throughout the watershed on a flow per unit area basis. Tables are included showing the distributions of the flow. Water quality for the baseflows are assumed to be at background levels and are shown in a table. The critical stream temperature is based on the average water temperature for June, July and August plus one standard deviation and is obtained from USGS temperature records from Texas Department of Water Resources stream monitoring data.

- 2) A discussion of waste load projections to be simulated by the model.

Included in the alternatives is the no load alternative representing the no discharge projection in which no wastewater discharges are occurring. Although, realistically, it is not a viable alternative, it represents a baseline from which to compare the other alternatives. Other typical alternatives may include runs with existing flows, ultimate permitted flows, projected flows, and intermediate projected flows. Existing flows are based on the latest calendar year self-reporting data. Ultimate permitted flows are based on the final flow values in existing permits plus the flows from pending permit applications. Projected flows for an approximate 20 year planning period are obtained from approved basic planning reports or proposed revisions to those reports. Projected flows for intermediate years likely will be based

on straight-line interpolation between existing and projected flows.

Alternative effluent limitations to be examined for the various municipal flow projections are as follows:

30-Day Average		
Level	CBOD ₅	NH ₃ -N
X	30	-----
0	30	-----
1	20	-----
2	10	-----
2N	10	3
Other	10	2
Other	5	2

Ambient ammonia nitrogen concentrations for the alternatives not requiring nitrification will be documented. Effluent levels of dissolved oxygen for all alternatives will be documented. Alternative effluent limitations for industrial discharges will include BCT and in some cases a percentage reduction which will be between BCT and BAT. Ambient ammonia nitrogen concentrations and effluent dissolved oxygen concentrations for the industrial dischargers will be documented. Any variance in CBOD₅ and NH₃-N from the effluent sets indicated in the above table will be fully documented.

- 3) A discussion of the predicted water quality conditions for projected waste loads.

In stream segments where there is a cumulative impact from all discharges, all discharges will be evaluated at the advanced treatment levels shown in the previous section. In cases where localized problems exist, only the dischargers causing the localized problems will be evaluated at advanced treatment levels. Plots of predicted water quality profiles resulting from the waste load projections at critical stream conditions are presented. These results are summarized and a table is shown describing description of alternative,

minimum parameter concentration, number of kilometers and miles the parameter concentration falls below the criteria.

- 4) A discussion of the sensitivity of the model to various model parameters.

The results of a sensitivity analysis indicate which parameters are most affected by uncertainties and to what extent these uncertainties may affect the predictions. In the sensitivity analysis, all but one parameter are held constant, and the remaining parameter value is varied by a certain percentage. The selection of the percent variation is purely arbitrary and provides a relative measure of comparison.

Sensitivity analyses at a minimum are performed on the following parameters: Temperature, stream baseflow, BOD decay rate, ammonia decay rate, benthic rate, and reaeration rate. Figures are presented which indicate the relative sensitivity of the dissolved oxygen concentrations using the chosen treatment alternative as the basis for comparison.

E. NONPOINT SOURCE ASSESSMENT including:

- 1) A discussion of present nonpoint source problems.

Available designated and undesignated Area 208 program assessments of nonpoint sources will be discussed and referenced.

- 2) A discussion of future nonpoint source problems.

If future stormwater and in-stream sampling indicates nonpoint source related water quality problems, control strategies for nonpoint sources may be required.

F. ANALYSIS OF ALTERNATIVES including:

- 1) A discussion of the indicated treatment levels necessary to meet water quality standards.

- 2) A discussion of the feasibility of change the standards.
- 3) A discussion of permit variances including seasonal discharge and statistical adjustments.

Seasonal temperature and monthly seven-day, two-year stream flows will be evaluated from USGS data. A maximum of four seasonal alternatives will be evaluated.

G. CONCLUSIONS AND RECOMMENDATIONS including:

- 1) A summary of the analysis.
- 2) A summary of the recommended treatment levels and other recommendations.

**TYPICAL SCHEDULE
FOR
WASTE LOAD EVALUATION REVIEW AND CERTIFICATION**

ACTIVITY	AVERAGE TIME*
Initial draft of new/revised WLE circulated to other TDWR divisions/sections/units for review (also sent to 208 planning agency if related to a special study in the agency's contract)	30 days
TDWR Modeling Unit reviews initial draft comments and makes appropriate revisions	15 days
At this point a determination is made whether to immediately schedule the public hearing on the individual WLE, and the review distribution associated therewith, or to defer those actions until several reports can be scheduled for a joint hearing. Special consideration will be given to proceeding with any WLE's for which prompt certification is desired to avoid construction grant project and/or permitting delays.	
When ready to proceed following the above determination, the finalized draft is distributed to EPA and relevant State agencies for review; a public hearing is set and affected permittees and the public are advised of the availability of the report in the public hearing notice and an appropriate fact sheet; a public hearing is held following the 45 day minimum notification period	60 days
TDWR Modeling Unit reviews comments from EPA and the State agencies involved in the review process, and the comments received at the public hearing, and makes appropriate revisions to the WLE	30 days
Final WLE report is submitted to the Texas Water Development Board for approval and recommendation to the Governor	45 days
TWDB approved report is transmitted to the Governor for certification	15 days
Governor's Office certifies the WLE report to EPA	15 days
EPA review of certified WLE report	150 days

SERIES 13 SEGMENT CLASSIFICATION AND RANKING

Segment Classification

All segments within the state have been classified as either water quality limited or effluent limited.

1. Water Quality Limited: The procedures for classifying segments as water quality limited are based on three considerations.

Segments are classified as water quality limited if monitoring data (TDWR SMN data and/or USGS data) has indicated there have been significant violations of the water quality standards applicable to the segments. A significant violation is considered to be at least two values which do not meet the appropriate criteria in the Water Quality Standards. To be considered a violation (due to sampling and laboratory test variability), a dissolved oxygen value has to be more than 0.1 mg/l below the criteria; the pH value has to be more than 0.2 pH units above or below the criteria; and the temperature value has to be more than 1 degree F above the criteria. Chloride, sulfate, and total dissolved solids values are considered to be in violations if the annual mean (at least four measurements) is greater than the criteria. Fecal and Total Coliform values in excess of the criteria are used in the segment ranking process, but are not considered violations unless the sampling frequency conforms to the requirements in the General Statement of the Water Quality Standards. If a significant deviation from the criteria is due to natural causes (e.g. high temperatures in some streams with no waste discharges), it is not considered a violation of the Water Quality Standards.

Segments are classified as water quality limited if the effluent limitations for point source dischargers required by Section 301(b)(1)(A) and Section 301 (b)(1)(B) of P.L. 97-117 are not stringent enough for the receiving waters to meet the appropriate Water Quality Standards.

Some segments are classified as water quality limited if advanced waste treatment for municipal point source discharges is required to protect the water quality. Examples of these are domestic water supply reservoirs,

waters in prime recreational areas, or waters with existing high water quality.

2. Effluent Limited Segments: Other segments are classified as effluent limited. These segments are presently meeting applicable water quality standards or will meet applicable water quality standards following incorporation of best practicable treatment (BPT) for industries and secondary treatment for municipalities. Effluent limited segments which have all, or any portion of the drainage area in a Standard Metropolitan Statistical Area (SMSA) are considered to be priority effluent limited segments and are ranked higher than other segments in this classification category.

Segment Rank

This system for ranking segments is based on several considerations. The first consideration in the segment rank system is based on the water quality a segment has exhibited for the past four water years as compared to the numerical criteria applicable to the segment as identified in the Texas Water Quality Standards. The second consideration is whether the segment is classified as water quality limited or effluent limited according to the above described procedure. In addition, consideration is given to those effluent limited segments which are located in areas with a comparatively high potential for future water quality problems (SMSA's).

Segment Ranking System

The segment ranking system as described above is represented by the following mathematical expression which is used to rank all classified segments in Texas:

$$\begin{aligned}
 \text{YSRS} &= W_1 \frac{\text{DO } 1.10 \text{ DO SAT}}{\text{DO OBS}} + W_2 \frac{\text{DO DO CRIT}}{\text{DO OBS}} \\
 &+ W_3 \frac{\text{pH or pH CRIT}}{\text{pH OBS}} + W_4 \frac{\text{TEMP TEMP CRIT}}{\text{TEMP OBS}} \\
 &+ W_5 (\text{FC}) + W_6 (\text{FM}) + W_7 \frac{\text{DO SAT} - \text{DO ACT}}{\text{DO SAT} - \text{DO CRIT}} \\
 \text{TSRS} &= (\text{YSRS}) \times \text{PA} \times \text{WU} + \text{SCF} + \text{SMSA} + \text{UF}
 \end{aligned}$$

where:

YSRS = yearly segment ranking score.

TSRS = total segment ranking score (for the most recent four complete water years).

SCF = segment classification factor (1000 if the segment is water quality limited, 0 otherwise).

SMSA = Standard Metropolitan Statistical Area Priority Factor (100 if effluent limited segment has all or a portion of drainage area in SMSA; 0 otherwise).

UF = Unsewered Area Factor (Segment Treatment Facilities Cost ÷ Total Treatment Facilities Cost x 1000).

DO 1.10 DO SAT = number of observed dissolved oxygen values greater than 110% of the saturation dissolved oxygen value at the applicable temperature and chloride levels.

DO OBS = total number of dissolved oxygen observations.

DO DO CRIT = number of observed dissolved oxygen values less than the dissolved oxygen criteria for the given segment.

pH or pH CRIT = number of observed pH values outside of the range of the pH criteria for the given segment.

pH OBS = total number of pH observations.

TEMP TEMP CRIT = number of temperature observations greater than the temperature criteria for the given segment.

TEMP OBS = total number of temperature observations for the given segment.

FC = a term that is set at .1 if the log yearly mean of fecal/total coliforms exceed the fecal/total coliform criteria or more than 10% of the individual samples exceed two times the fecal/total coliform criteria for the segment. FC is set at 0 otherwise.

FM = a term that is set at .1 if the annual mean of either TDS, Cl, or SO₄ exceeds the TDS, Cl, SO₄ criteria for the given segment. FM is set at 0 otherwise.

DO SAT - DO ACT = sum of the dissolved oxygen values at 110% saturation at the measured temperature and chloride levels minus the sum of the dissolved oxygen measurements.

DO SAT - DO CRIT = sum of the dissolved oxygen values at 110% saturation at measured temperature and chloride levels minus the sum of the dissolved oxygen criteria values.

PA = A factor that takes into account the population density of a segment's drainage area:

- 1.02 High population density
- 1.01 Low population density

WU = a factor that takes into account the predominant water use of a segment's drainage area:

- 1.5 Contact Recreation
- 1.4 Propagation of Fish and Wildlife
- 1.3 Noncontact Recreation
- 1.2 Domestic Water Supply
- 1.0 No designated use

W₁, W₂, W₃, W₄, W₅, W₆, W₇ are relative weighting factors reflecting the relative importance of the criteria and terms in the equation to water quality:

- W₁ = 1.0
- W₂ = 3.0
- W₃ = 0.1
- W₄ = 0.1
- W₅ = 1.0
- W₆ = 1.0
- W₇ = 1.0

The total segment scores are summed and then ranked in descending order to produce the State's classified segment ranking.

Desirable Water Use

The uses for which the water of each segment can safely be utilized as specified in the Texas Water Quality Standards adopted April, 1981:

- 1 = Contact recreation
- 2 = Non-contact recreation
- 3 = Propagation of fish and wildlife
- 4 = Domestic raw water supply

ENFORCEMENT

SERIES 14 STATE OIL AND HAZARDOUS SUBSTANCES POLLUTION CONTINGENCY PLAN

Purpose

The purpose of this plan is to provide guidance for an effective and efficient response to spills of oil or hazardous substances with emphasis on coordination of the state agencies concerned with protection of the environment and the public health and welfare. Also, this plan outlines notification procedures by which spills shall be reported to state and federal agencies.

Plan Revision

The State of Texas Oil and Hazardous Substances Pollution Contingency Plan (SCP) is revised periodically to reflect changes in authority, organization and technological advancements. Presently, a revision to the October 1981 SCP is underway. The proposed new SCP will in particular accommodate additional information from a Texas Department of Water Resources (TDWR) Spill Response Mapping Project. A series of coastal maps have been developed to display information critical to spill response (e.g., sensitive environments, endangered species habitats, finfish, and shellfish habitats, washover areas, water intakes, marinas, boat launches, and waste disposal sites). Work on a similar series of inland maps is in progress at this time. Support data for mapped features and response procedural information will be made available for each map. This information will be digitized and computerized by the TDWR to facilitate updating and to provide for computer generated maps and support data in the future.

Other changes to be reflected in the next revision are the additional authorities granted the various agencies by amended or new laws including the Texas Hazardous Substances Spill Prevention and Control Act, State Solid Waste Act and the Federal Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act.

Other agencies with significant involvement in the SCP and spill response are:

Texas Railroad Commission
State Department of Highways and Public
Transportation
Texas Department of Public Safety
Texas Department of Health
Texas Air Control Board
General Land Office
Office of the Governor of Texas
Environmental Protection Agency, VI
United States Coast Guard, Eighth District

SERIES 15 AMBIENT MONITORING NETWORK

Network Descriptions

The ambient monitoring program provides surface water data necessary to support all the agency's activities related to permitting, planning, compliance, and assessment. The Statewide Monitoring Network fulfills these functions.

- determining the State's existing water quality;
- defining desired uses of the State's waters and determining whether desired uses are in fact attainable;
- estimating the present/potential impacts of waste discharges on receiving streams;
- determining waste treatment levels necessary to maintain and/or improve ambient quality;
- detecting water quality problems; and,
- evaluating the success of State pollution abatement efforts.

The routine surface water quality monitoring program, known as the Statewide Monitoring Network (SMN) includes 580 department sampling sites. Additionally, 659 river authority and municipal sites and 793 U.S. Geological Survey sites are also included in the SMN computer file.

Sampling frequency varies from monthly to annually with at least one quarterly station in each designated stream segment. Reservoirs are currently involved in a special monitoring program whereby each reservoir is sampled quarterly on a triannual basis. The Environmental Protection Agency's Basic Water Monitoring Program (BWMP) is also conducted by the Department at the 37 stations listed on pages 103-105.

The Department maintains and changes its ambient monitoring program according to the guidelines and criteria outlined below. This same criteria is utilized for biological monitoring described in Series 16 of this document.

Major Guidelines

- Maintain the same level of monitoring at each of 37 BWMP stations.
- Maintain a minimum of one active station in each designated segment. There are currently 488 stations located in specified stream segments.

- Provide monitoring stations in nondesignated water of significance. There are currently 69 stations located in nondesignated waters.

General Criteria for Evaluating Proposed Changes

- Is the station located downstream from a significant point or nonpoint source of pollution be it municipal, industrial or agricultural in origin?
- Will additional data help better describe known water quality problems of unknown origin?
- Will additional data help describe the water quality or uses of waters that might be expected to be impacted in the future?
- Will the data help resolve significant water quality complaints?
- Will the data be useful in determining the effectiveness of changes in wastewater treatment?
- Is the water body unique and important such as some of our natural springs?
- Will the proposed monitoring change conflict with or duplicate a monitoring program currently in effect such as that operated by a city, river authority or the USGS or the International Boundary and Water Commission?
- Is an intensive survey scheduled for that water body that will satisfy data needs?

Each year the Department's divisions and district offices are asked to suggest the additions and deletions from the upcoming annual ambient monitoring program which will satisfy their long and short term data needs. Recommended additions and deletions which satisfy the guidelines and criteria listed above will be implemented to the extent allowed by budget limitations.

Basic Ambient Monitoring Stations

District	Segment	Description	Monitoring
1	0101.0300	Canadian River at bridge on Plemons Road	1 FD, CH, BA 3 SD, PS
1	0102.0100	Lake Meredith northwest of Sanford	2 FD, CH, BA, PK 3 SD, PS, TP
1	0200.2200	Prairie Dog Town Fork of the Red River At low water crossing in Camp Harrington, Boy Scouts of America Camp	1 FD, CH, BA 3 SD, PS
2	1200.1000	White River East of Crosbyton	1 FD, CH, BA 3 SD, PS
2	1232.0400	Clear Fork Brazos near Nugent	1 FD, CH, BA, IC 3 SD, PS
3	1226.0100	Bosque River northeast of Clifton	1 FD, CH, BA 3 SD, PS
3	1242.0300	Brazos River northeast of Rosebud	1 FD, CH, BA 3 SD, PS
4	0214.0100	Wichita River west of Byers	1 FD, CH, BA 3 SD, PS
4	0805.0300	Trinity River below Dallas	1 FD, CH, BA, IC 3 SD, PS, MT, BN
4	0806.0200	West Fork Trinity River in Fort Worth	1 FD, CH, BA 3 SD, PS, MT
4	0822.0100	Elm Fork Trinity River in Dallas	1 FD, CH, BA 3 SD, PS
5	0201.0100	Red River at Index, Arkansas	1 FD, CH, BA 3 SD, PS
5	0406.0100	Black Bayou north of McLeod	1 FD, CH, BA 3 SD, PS
5	0804.0400	Trinity River northeast of Oakwood	1 FD, CH, BA 3 SD, PS, BN
6	0503.0100	Sabine River north of Deweyville	1 FD, CH, BA 3 SD, PS, MT
6	0504.0100	Toledo Bend northeast of Milam	2 FD, CH, BA, PK 3 SD, PS

District	Segment	Description	Monitoring
6	0601.0100	Neches River tidal north of Port Arthur	1 FD, CH, BA 3 SD, PS, MT, TP
6	0602.0100	Neches River in Evadale	1 FD, CH, BA 2 BN 3 SD, PS
6	2411.0100	Sabine Pass adjacent to Coast Guard Station	1 FD, CH, BA 3 SD, PS, MT, TP
12	1304.0100	Caney Creek Below Sargent	1 FD, CH, BA 3 SD, PS
7	1005.0100	Houston Ship Channel at Morgan's Point	1 FD, CH, BA, 2 MT, BN, PK 3 SD, PS, PW, TP
7	1007.0100	Houston Ship Channel in Turning Basin	1 FD, CH, BA, 2 MT, BN, PK 3 SD, PS, PW
7	1402.0300	Colorado River at Columbus	1 FD, CH, BA, IC 3 SD, PS
7	2421.0400	Galveston Bay between Smith and Eagle Point	1 FD, CH, BA, BN, PK 3 SD, PS, MT
7	2424.0100	West Bay at Carancahua Reef	1 FD, CH, BA, BN, PK 3 SD, PS
8	1427.0100	Onion Creek north of Buda	1 FD, CH, BA 3 SD, PS
8	1901.0200	San Antonio River southwest of Falls City	1 FD, CH, BA, IC 3 SD, PS, TP
8	1900.2590	Medio Creek at IH 35	1 FD, CH, BA 3 SD, PS
8	2112.0300	Nueces River northeast of Laguna	1 FD, CH, BA 3 SD, PS, MC
9	1410.0100	Colorado River north of San Saba	1 FD, CH, BA 2 BN 3 SD, PS
9	1417.0100	Pecan Bayou southeast of Brownwood	1 FD, CH, BA 2 BN 3 SD, PS, TP

District	Segment	Description	Monitoring
10	2308.0100	Rio Grande Upstream from American Dam	1 FD, CH, BA 2 BN 3 SD, PS
11	2302.0300	Rio Grande below Falcon Lake Dam	1 FD, CH, BA 3 MT, PW
12	1801.0100	Guadalupe River tidal northeast of Tivoli	1 FD, CH, BA 3 MT, PW, TP
12	2101.0100	Nueces River tidal north of Viola	1 FD, CH, BA 3 SD, PS
12	2473.0100	St. Charles Bay northeast of Goose Island State Park	1 FD, CH, BA 3 SD, PS
12	2483.0100	Redfish Bay between Aransas Pass and Port Aransas	1 FD, CH, BA 3 SD, PS

Type of Record

FD field parameters in water
 CH chemical parameters in water
 PW pesticides in water
 PS pesticides in sediment
 MT metals in water
 SD sediment; includes chemical and metals in sediment
 IC inorganic constituents

 BA bacteriological samples in water
 BN benthic macroinvertebrates
 PK plankton; includes phytoplankton and zooplankton
 NK nekton
 MC macrophytes
 PE periphyton
 TP tissue parameters (contaminants in fish, shellfish, et al)

Frequency of Sampling

1 monthly or more frequently
 2 quarterly
 3 annually
 4 bimonthly
 5 semi-annually

Physical and chemical measurements at SMN sites are dependent in part upon the water quality problems particular to a locale. Based upon either known or suspected problems, monitoring parameters are selected from the following four groups:

(1) Physico-chemical (* indicates field measurements)

ammonia nitrogen	salinity
bicarbonate	silica
biochemical oxygen demand	sodium
calcium	secchi disc* (at
carbonate	reservoir and bay
chemical oxygen demand	stations
chloride	streamflow (at time of
chlorophyll <u>a</u>	sampling)*
conductivity*	sulfate
dissolved oxygen*	temperature*
fecal coliform (at non-tidal stations)	total alkalinity
fluoride	total coliform (at tidal
kjeldahl nitrogen	stations)
magnesium	total dissolved solids
nitrate nitrogen	total organic carbon
nitrite nitrogen	total phosphate
ortho phosphate	total suspended solids
pH*	turbidity* (at stream
pheophytin <u>a</u>	stations)
potassium	volatile suspended solids

(2) Sediment

arsenic	chromium	mercury	zinc
barium	copper	nickel	total phosphate
boron	lead	selenium	chemical oxygen demand
cadmium	manganese	silver	Kjeldahl nitrogen
			volatile solids
			oil and grease

(3) Metals in water

arsenic	cadmium	iron	mercury	silver
barium	chromium	lead	nickel	zinc
boron	copper	manganese	selenium	

(4) Trace organics in water and sediment

2,4-D	DDD	endrin	methoxychlor
2,4,5-T	DDE	hexachlorobenzene	methyl parathion
silvex	DDT	heptachlor	parathion
aldrin	diazinon	heptachlor epoxide	pentachlorophenol
chlordane	dieldrin	lindane	phthallic esters
		malathion	toxaphene
			PCBs

SERIES 16 BIOLOGICAL MONITORING

Monitoring Process

The department conducts ambient biological monitoring at selected stations throughout the State. In determining sampling stations, both point source discharge locations and localized areas of non-point source pollution are considered. Monitoring is usually conducted on a quarterly basis to allow for seasonal representation in the samples. Biological sampling is scheduled at 118 stations but field personnel collect and analyze biological samples only when their other tasks are completed.

1. Benthos

Benthic macroinvertebrates are collected at selected stream and estuarine stations to determine diversity indices and the presence of indicator organisms. Samples are collected with surber samplers, Ekman or Petersen dredges.

2. Macrophytes

Macrophytes are collected at selected stream and estuarine stations to determine nuisance aquatic plant growth. Samples are collected along transects with a one meter square quadrat.

3. Nekton

Nekton are collected for special studies and at a few select stations to obtain semiquantitative data on species abundance, and tissue analysis for synthetic organics and trace heavy metal determinations. Samples are collected by using gill nets, seines, trawls, electroshock, or impingement on intake screens such as collections made in the Houston Ship Channel.

4. Phytoplankton

Phytoplankton samples are collected at selected reservoir stations to determine trophic status, factors affecting taste and odor problems, cause(s) of nuisance blooms, and the presence of pollution indicator species. Samples are collected from a composite sample of the water column through photic zone (3 times secchi disc depth).

5. Zooplankton

Zooplankton samples are collected at selected reservoir stations to determine trophic status in conjunction with phytoplankton data. Samples are collected by vertical tow using a #20 Wisconsin-style plankton net.

SERIES 17 PERMIT COMPLIANCE ASSURANCE

Introduction

To insure the continued validity of the permit system as an effective water quality management tool, the Department has adopted a Permit Compliance Assurance Program. The program relies upon comprehensive monitoring to detect permit violations coupled with timely application of the regulatory responses provided in the Department's enforcement mechanism. Compliance monitoring consists of three basic elements: discharger self-monitoring reports; discharger progress reports; and, discharger inspections by Department personnel. Regulatory responses to violations include warning letters, citations, compliance agreements, enforcement orders, and judicial enforcement.

Self-Reporting

Monthly self-reports are received by the Self-Reporting Section of the Enforcement and Field Operations Division where they are reviewed for completeness and accuracy. They are then forwarded to data processing for entry into the master self-reporting file. From the master file, a monthly printout is generated listing effluent quality data by discharger for the past 12 months. Another monthly printout is generated which lists permittees who failed to submit a required report. An initial failure to report causes a warning letter to be issued from the Self-Reporting Section. Citations can be issued for subsequent failures to report and upon repeated failure to submit reports the permittee is referred to the enforcement staff to determine what other enforcement action is warranted.

Compliance Schedules

Compliance schedules contained in permits and enforcement documents are entered into an automated compliance schedule monitoring system which generates a monthly listing by due date of permit requirements. Each month permittees having deadlines occurring during the succeeding month are forwarded an advanced reminder of the approaching deadline. Follow up is conducted to insure that compliance schedule reports or progress reports are submitted. Permittees who fail to submit required reports are referred to the Enforcement staff to determine what other enforcement action is warranted. When a determination is made that a permittee has failed to comply with a waste disposal facility improvement project schedule, a notification will be forwarded to the appropriate section of the Enforcement and Field Operations Division. This

group will determine, in coordination with other sections of the agency what other enforcement actions is warranted.

Effluent Limit Compliance

Permittee effluent limit compliance is monitored under two coordinated programs: 1) Self-Reporting Data Analysis; and 2) Routine Compliance Inspections. As described below, the effluent data in the self-reporting master file is assessed periodically for conformance to permit effluent limits. Nonconforming permittees are identified and cross-referenced to various compliance schedule monitoring systems. This information is reviewed manually to assess the adequacy of noncompliance responses already addressed or to schedule appropriate noncompliance responses.

Compliance Inspections

Routine compliance inspections are conducted by the Department's district offices. The inspection schedules are updated in response to self-reporting effluent data review. Where preliminary indications are that the permittee is noncompliant, inspections are planned and conducted to support an appropriate enforcement response. For permittees who appear to be compliant, inspections are conducted to confirm their compliance.

District Supervisors may respond to minor violations detected during inspections by issuing warning letters or citations. Major violations and chronic minor violations are referred to the enforcement staff to determine what other enforcement action is warranted.

Effluent samples collected during inspections are preserved, handled, and analyzed in accordance with the Memorandum of Understanding between the Texas Department of Water Resources and the United States Environmental Protection Agency for analytical quality assurance. The samples are handled in accordance with chain of custody procedures judged adequate by the State Attorney General.

Compliance Monitoring Management System

Computerization has been adopted to aid compliance assurance through the Department's Compliance Monitoring Management System. Permit effluent limits and compliance schedules are entered into a Master Permit file. The Self-Reporting File accesses the Master File for effluent limits, and the Compliance Schedule Monitoring File accesses the Master File for compliance schedules. These reports in conjunction with the Environmental

Protection Agency majors lists are used as a guide for establishing the inspection schedules and for updating the schedule as needed. The Inspection Summary Report enters into the Compliance Inspection Accounting Report the date and type of inspection for activity summary purposes. Responses to noncompliance are entered into the Noncompliance Response System for inventory and suspense purposes.

The overall system provides:

- a. An inventory of permit requirements;
- b. A periodic review of the compliance status of all permittees; and,
- c. A suspense system to trace pending enforcement activities.

The system also provides a centralized overview of the Department's monitoring and enforcement programs.

SERIES 18 ENFORCEMENT

The actual enforcement mechanism of the Department is predicated on the principal that enforcement activities be concentrated on substantive matters involving pollution rather than on minor procedural and administrative matters. When an enforcement action is deemed to be necessary, the enforcement mechanism will conduct its activities in accordance with Department procedures.

The enforcement activities of the Department will be conducted in such a way as to promote and encourage cooperation with the Department and compliance with its rules, permits and orders.

General Procedure

- a. Scope. This procedure applies to enforcement actions pursuant to Chapter 26, Chapter 27, and the Solid Waste Disposal Act.
- b. Technical Responsibilities. The Enforcement and Field Operations Division has primary responsibility for the following aspects of the Department's wastewater, solid waste and injection well enforcement program:
 - (1) processing enforcement actions;
 - (2) coordinating enforcement activities with the activities of other technical divisions;
 - (3) documenting evidence in support of the enforcement action;
 - (4) developing technical recommendations for corrective action; and
 - (5) monitoring compliance with permits, Enforcement Compliance Directives, Enforcement Orders, and Court Orders.

Permits Division and Construction Grants and Water Quality Management Division are responsible for providing technical comments on proposed and pending enforcement actions. Other technical divisions will provide comment when their activities relate to the subject of pending enforcement action.

c. Coordination

- (1) The Enforcement and Field Operations Division should be advised of all communications concerning the subject of the pending enforcement action.
- (2) Communications with attorneys representing the subject of the pending enforcement action should be referred to the Office of the General Counsel.
- (3) All communications with District Offices concerning technical or substantive aspects of the pending enforcement action should be coordinated through the Enforcement and Field Operations Division.
- (4) All communications with the Attorney General's Office concerning the pending enforcement action should be coordinated through the Office of the General Counsel.

d. Relationship to Enforcement Actions and Permit Applications. To ensure that permit applications are processed in such a way as to avoid conflict with enforcement actions, the Permits Control and Reports Section will forward copies of the permit work list to the Enforcement and Field Operations Division and the Office of the General Counsel. The Enforcement and Field Operations Division will notify the Permits Division and the Office of the General Counsel of any pending or completed enforcement actions against an applicant. If an enforcement action is pending, the Permits Division will hold further processing of the application in abeyance until it is determined by the General Counsel, the Director of Enforcement and Field Operations, and the Director of Permits that action on the application will not conflict with the enforcement action. If a past enforcement action has resulted in the issuance of an enforcement compliance directive, enforcement order or court order against the applicant, the Permits Division will hold further processing of the application in abeyance until the Director of Enforcement and Field Operation and the General Counsel have determined that

amendment of the permit would be consistent with the purposes of the directive or order.

Letters

If the Enforcement and Field Operations Division determines that a letter to the entity explaining certain deficiencies is warranted prior to requesting formal enforcement action, then a letter will be prepared by either the District Supervisor or the Director of the Enforcement and Field Operations Division and then forwarded to the entity.

Citations

The Texas Department of Water Resources may issue citations for minor violations of Chapter 26 and 27 of the Texas Water Code in accordance with the procedures described below. Each citation should describe in detail the act or activity alleged as a violation and should identify as precisely as possible where and when the violation occurred. It should also set forth recommendations, if any, for prompt correction of the condition which resulted in the violation.

Citations may be issued by the Director, Assistant Director, and District Supervisors of the Enforcement and Field Operations Division for violations of Chapter 26, Chapter 27, and the Solid Waste Act. Citations for violations of Chapter 27 may be issued by the Chief of the Solid Waste and Underground Injection Section of the Permit Division. The issuing officer will discuss all proposed citations with either the Director or Assistant Director of the Enforcement and Field Operations Division prior to issuance.

The Texas Department of Water Resources will render whatever assistance may be reasonably required for prosecution of criminal offenses pursuant to Section 26.212. Requests for such assistance should be referred to the Office of the General Counsel.

The decision whether to pursue a criminal action is solely that of the prosecutor. The Department may simultaneously pursue correction of the cited problem by civil or administrative means.

Initiation of Formal Enforcement Proceedings

This section describes procedures for initiating formal enforcement proceedings pursuant to Chapter 26, Chapter 27, and Solid Waste Disposal Act.

- a. Request for Enforcement Action. Upon making a preliminary determination that enforcement proceedings are warranted, the District

Office or Division should forward the investigation report to the Enforcement and Field Operations Division with a Request for Enforcement Action. The request should describe in detail the acts or activities alleged as violations and should suggest technical recommendations for corrective action.

- b. Enforcement Summary. The Enforcement and Field Operations Division will review the request, collect any necessary additional information, schedule any necessary technical conferences, and prepare an Enforcement Summary listing the acts or activities alleged as violations and set forth technical recommendations. Copies of the enforcement summary will be sent to each enforcement coordinator and to the District Office or Division originating the request and the Office of the General Counsel.
- c. Review and Comment by Other Divisions. The Enforcement Coordinators will review the Enforcement Summary to determine whether the pending enforcement action will relate to any activities pending within their respective divisions. The Enforcement Coordinators for the Permits Division and the Construction Grants and Water Quality Planning Division will respond in writing to each enforcement summary within 10 days, indicating only whether or not the subject of the pending enforcement action is also the subject of some activity within their respective divisions. Enforcement Coordinators for other technical divisions need not respond to the enforcement summary unless the subject of the pending enforcement action is also the subject of some activity within their respective divisions.
- d. Enforcement Package. The Enforcement and Field Operations Division will prepare an Enforcement Package which will include the Request for Enforcement Action and the Investigation Report. The Enforcement and Field Operations Division will forward the Enforcement Package to the Office of the General Counsel.
- e. Presentation of Possible Enforcement Options. The Office of the General Counsel, the Enforcement and Field Operations Division,

and the originating Division will present the matter to the Executive Director for review of possible enforcement options and

determination of appropriate enforcement strategy.

Letter

If the determination is made that the proper enforcement strategy is the issuance of a letter, the Enforcement and Field Operations Division with the Office of the General Counsel will prepare the letter detailing all of the recommendations of the Executive Director for corrective actions.

Enforcement Compliance Directives

- a. Preparation for Enforcement Conference. If an enforcement compliance directive is selected as the appropriate strategy to be used, the Enforcement and Field Operations Division will arrange a date, time and place for the conference. The Enforcement and Field Operations Division will coordinate with the Office of the General Counsel to determine what manner of notice will be given and will approve issuance of notice. Upon such approval, the Enforcement and Field Operations Division will transmit a copy of the Enforcement Summary to the alleged violator with an appropriate forwarding letter.
- b. Enforcement Conference. The Enforcement and Field Operations Division and the Office of the General Counsel will be represented at the conference. The Enforcement and Field Operations Division will present the Department's position concerning the alleged violations, the cause(s) of the alleged violations and the necessary corrective measures. The alleged violator will be invited to comment on the alleged violations.
- c. Presentation to the Executive Director. Based on the information developed at the enforcement conference, the Office of the General Counsel in coordination with the Enforcement and Field Operations Division will prepare a proposed Enforcement Compliance Directive (ECD) for the Executive Director. The Office of the General Counsel and the Enforcement and Field Operations Division will present the ECD together with any comments by the violator to the Executive Director for his approval. The Office of the General Counsel will forward the approved ECD to the violator.

- d. Acceptance by Violator. The ECD will by its terms establish a definite time for acceptance by the violator not to exceed 30 days. Acceptance will be accomplished by a responsible official affixing in his signature to the ECD and returning it to the Department. If the violator refuses to accept the ECD, the Enforcement and Field Operations Division and the Office of the General Counsel will so notify the Executive Director and implement directions from the Executive Director as to further enforcement.
- e. Enforcement Compliance Directive: Any enforcement compliance directive is issued in the exercise of the Executive Director's prosecutorial discretion and represents only a determination that legal action will be withheld so long as the violator complies with the specified schedule. The enforcement compliance directive does not constitute a modification or waiver of any applicable requirement. In the event legal action is initiated, the Texas Department of Water Resources may seek civil penalties for all violations, including those which occurred prior to the issuance of the ECD.

Civil Suits

Chapters 26 and 27 of the Texas Water Code and the Solid Waste Disposal Act authorize the Executive Director to refer violations to the Attorney General for prosecution of a civil suit seeking injunctive relief and/or civil penalties.

If the Executive Director determines that legal action is warranted, the Office of the General Counsel will prepare the forwarding letter to the Attorney General.

The Department of Water Resources will furnish any assistance the Attorney General's Office may reasonably require in prosecution of the case. The coordination procedures listed in Section 1.01(c) of this Appendix should be observed in responding to requests for such assistance.

Enforcement Proceedings Before The Texas Water Commission

Chapter 26 of the Texas Water Code provides for various administrative remedies including orders pursuant to Sections 26.019 and 26.0191 and permit amendment, revocation or suspension proceedings pursuant to Section 26.029. The Solid Waste Disposal Act provides for proceedings to revoke or suspend permits for certain specified reasons. Enforcement proceedings before the Texas Water

Commission pursuant to these statutes will normally be initiated only in cases which require adjudication of matters within the Department's primary jurisdiction prior to the institution of civil litigation.

The Staff Attorney will file the Recommendations of the Executive Director with the Texas Water Commission and sign the certificate of service.

Subsequent proceedings will be conducted by the Texas Water Commission in the same manner as a contested case under the Administrative Procedure and Texas Register Act in accordance with Department operating procedures and Commission procedural rules.

The initiation of enforcement proceedings before the Texas Water Commission does not constitute a waiver of any applicable requirement nor imply that the Texas Department of Water Resources will refrain from instituting a civil action against the violator. If the Executive Director determines that a civil action is warranted, he may seek civil penalties for all violations including those occurring prior to the initiation of enforcement proceedings.

SERIES 19 STATE QUALITY ASSURANCE PROGRAM

Introduction

Ongoing policy of the Texas Department of Water Resources requires establishment of a centrally managed Quality Assurance (QA) Program. The implementation of this QA Program is the responsibility of the Quality Assurance Officer and any complimentary staff. Adherence to this QA Program will allow a single approach to data generation for or in agreement with the U.S. EPA and those programs funded in whole or in part by grants or contracts with the U.S. EPA.

In data gathering systems, QA is concerned with all of the activities that have an important effect on the quality of the data, as well as the establishment of methods and techniques to measure the quality of the data. Environmentally related measurement activities include all field and laboratory investigations that generate data involving the measurement of chemical, physical, or biological parameters in the environment; determining the presence or absence of pollutants in waste streams; and studies of measurements on pollution transport.

This document will provide QA goals and procedures for all environmental measurements funded by or through the TDWR involving EPA agreements and grants.

QA Program Goal

The goal of the Quality Assurance (QA) Program for the Texas Department of Water Resources is to ensure that all scientific data generated by or for the Department will be scientifically valid, defensible, and of known and acceptable precision and accuracy. This goal will be achieved by following QA procedures throughout the entire technical study, from planning to data usage.

Therefore, it is the goal of the Texas Department of Water Resources that:

- a. All scientific data generated by or for the Department will be of sufficient or greater quality to withstand scientific and legal challenge. This includes requiring equivalent quality data when obtained through contracts, interagency agreements, and cooperative agreements.

- b. The intended use of the data will be determined before the data collection efforts begin to ensure that the necessary level of data quality is available.
- c. All data produced by or for the Department will be of known and acceptable precision, accuracy, representativeness, completeness, and comparability.
- d. Where appropriate, all projects of the Department will receive adequate funding and staff to support an acceptable level of QA.
- e. The Quality Assurance Officer of the TDWR will have overall responsibility for the implementation of the Department's QA Program.

Quality Assurance Management

In order to properly coordinate the Quality Assurance (QA) activities within and for the Texas Department of Water Resources, an adequate system of QA program management will be established under the discretion of a Quality Assurance officer.

The overall responsibilities of the QA officer include:

- a) Being the official Department point of contact for all QA matters pertinent to Department programs.
- b) Coordinating all QA activities within the Department proper and between the Department and extramural entities.
- c) Ensuring that all data gathered for or in agreement with the U.S. EPA and those funded in whole or in part by grants or contracts with the U.S. EPA, will be of known and acceptable quality with respect to precision, accuracy, representativeness, completeness, and comparability.
- d) Providing technical QA assistance within the Department as well as for entities responding to legal requirements of the Department.
- e) Reviewing all existing projects and future project plans for QA adequacy and recommending modifications when necessary.
- f) Coordinating Department participation in QA laboratory evaluation program (e.g.,

performance evaluation studies, with audit samples, interlaboratory comparison studies, and periodic onsite inspections of a laboratory's QA system and physical facilities).

The system of communication and periodic reporting of QA program status and needs will be established and maintained within the Department.

It is important that the independence and integrity of the QA officer be protected within the system by being responsible directly to the appropriate level management. Management in turn will also respond to identified program plans, problems, and needs. Current and projected chain of command for QA officer to upper management is established.

QA operation reporting within the TDWR will be ongoing from the QA officer to upper management while QA operations will be reported annually to U.S. EPA Regional QA officer.

Whenever corrective action is determined to be necessary to assure quality operations, the QA officer will, with the concurrence of the Division Director, have responsibility for directing those actions.

The Department QA officer will adhere to document control procedures as described in QA Handbook, EPA-600/9-76-005.

Quality Assurance Officer Qualifications

The QA Officer should possess an acceptable knowledge through past education, training, and/or experience of the technical aspects of the QA program within his/her responsibility. The Officer should have as a minimum a Bachelor of Science degree in chemistry, biology, or engineering, and should have, as a minimum six years of experience within his/her discipline. Also, the Officer should have laboratory experience and should possess at least a general knowledge of all monitoring and analytical activities in the field and in the laboratory. Also, the Officer should have sufficient administrative and professional stature to deal effectively with project managers and organizational administrators, and have an acceptable knowledge of appropriate laws, regulations, and environmental monitoring guidelines.

Training Programs

Training programs will be administered, as necessary, to all personnel of the Texas Department of Water Resources who are deficient in skills required for their jobs. This training should include attendance at job related training courses, seminars, workshops, or professional meetings.

Facilities and Equipment

All prime contracted laboratory support facilities will be inspected at least annually by the Quality Assurance (QA) Officer and determined to be capable of producing acceptable quality data.

General field equipment will be inspected and determined to be in sufficient quantity which would provide acceptable quality environmental data.

In order to ensure consistently high quality data, routine inspections and preventative maintenance will be performed on all facilities and equipment. The maintenance will be performed by qualified technical personnel using prescribed procedures. Permanent records of all maintenance of all facilities and equipment will be kept locally, dated, and acknowledged by the responsible authority.

Data Generation

Quality Assurance (QA) Project Plans should be written for each project or for each continuing Operation by the responsible individual. The project plan should contain the following as applicable:

- a. Title page with provision for approval signatures.
- b. Project description.
- c. Project organization and responsibilities.
- d. QA objective for measurement data in terms of precision, accuracy, completeness, comparability, and representativeness.
- e. Sampling procedures.
- f. Sample custody.
- g. Analytical procedures.
- h. Calibration procedures and references.
- i. Internal quality control checks.

- j. Preventative maintenance procedures.
- k. Specific procedures to be used.
- l. Corrective action.
- m. QA reports to management.

QA project plans should provide for the review of all activities which could influence data quality and the determination of those operations which must be covered by Standard Operating procedures. Activities to be reviewed include:

- general network design.
- specific sampling site selection.
- sampling and analytical methodology.
- probes, collection devices, storage containers, and sample additives or preservatives.
- special precautions, such as heat, light, reactivity, combustibility, and holding times.
- Federal reference, equivalent or alternate test procedures.
- instrumentation selection and use.
- calibration and standardization.
- preventive and remedial maintenance.
- replicate sampling.
- blind and spiked samples.
- colocated samplers.
- QC procedures such as intralaboratory and intrafield activities, and interlaboratory and interfield activities.
- documentation.
- sample custody.
- transportation.
- safety.

- data handling procedures.
- service contracts.
- measurement of precision, accuracy, completeness, representativeness, and comparability.
- document control.

QA Project Plans must be prepared in document control format, with provision for revision, as needed, and with a record of the official distribution.

Standard Operating Procedures (SOPs)

SOPs should be developed and used to implement routine Quality Control (QC) requirements for all monitoring programs, repetitive tests and measurements, and for inspection and maintenance of facilities, equipment, and services.

Project planning and design should consider the following factors:

- a. The intended use for the data should be specified to determine the necessary level of analytical quality in terms of precision and accuracy. Laboratory QA activities which should produce analytical data of sufficient quality include:
 1. use of EPA-acceptable sample preparation and analytical methods.
 2. use of EPA-acceptable laboratory equipment.
 3. calibration of laboratory instruments before, during, and after use; reference standards should be used when necessary.
 4. periodic inspection, maintenance, and servicing of all laboratory equipment.
 5. use of reference standards and quality control samples (e.g., spikes, blanks, duplicates, splits) to determine the precision of procedures, instruments and operators and the accuracy of the results.

6. use of adequate statistical procedures (e.g., Quality Control Charts) to determine the precision and accuracy of the data and to establish acceptance limits.
 7. regular participation in external laboratory evaluations including the EPA Performance Audit Program.
 8. use of EPA-acceptable chain-of-custody procedures in the laboratory.
 9. maintenance and storage of complete records, charts, and logs of all pertinent laboratory calibration, analytical, and quality control data.
- b. To ensure that study objectives are met, representative sampling should be assured. Field activities which should ensure representative sampling include:
1. use of EPA-acceptable sample collection and field measurement methods.
 2. use of EPA-acceptable field equipment and instruments.
 3. calibration of field instruments according to EPA or manufacturer's specifications before, during, and after use in the field; these calibrations should be recorded as a permanent record.
 4. periodic inspection, maintenance, and servicing of all field office laboratory equipment and instruments.
 5. use of EPA-acceptable sample containers to prevent contamination and to ensure an adequate sample size.
 6. use of EPA-acceptable sample preservation methods and adherence to recommended sample holding times.
 7. use of EPA-acceptable chain-of-custody procedures in the field and during shipment.
 8. collection of quality control samples (e.g., field blanks and duplicate

samples) as needed for the laboratory quality control program.

Data Processing

Data processing includes collection, validation, storage, transfers, and reduction. Precautions shall be taken each time the data are reduced, recorded, calculated, and transcribed to prevent errors and the loss of information.

1. Collection

Each QA Project Plan shall address the checks which must be used to avoid errors in the data collection process.

2. Validation

Data validation is defined as "the process whereby data are filtered and accepted or rejected based on a set of criteria." Since this aspect of QA may include various forms of manual or computerized checks, criteria for data validation shall be specified in each QA project Plan.

3. Storage

Each QA Project Plan shall indicate how specific types of data will be stored, and the duration of storage. For every stage of data processing at which data are stored, procedures shall be established to ensure data integrity and security.

4. Transfers

Each QA Project Plan shall describe procedures which shall be used to ensure that data transfer is error-free, and that no information is lost in the transfer. Examples of data transfers are: copying raw data from a notebook onto a data form for keypunching; converting a written data set to punched cards; copying from computer tape to disk; and telemetering. Data transfer steps contained in each QA Project Plan shall be kept to a minimum.

5. Reduction

Each QA Project Plan shall contain procedures for ensuring and verifying the correctness of data reduction processes. Data reduction included all processes which change either

the form of expression or quantity of data items. It is distinct from data transfer in that it entails a reduction in the size (or dimensionality) of the data set. The QA Project Plan must identify the processes used to obtain the reduced data set.

Data Quality Assessment

The quality of all data should be determined before it is used based on the following five factors:

- a. can the accuracy of the data be demonstrated by comparison to known true values and reported as % recovery.
- b. can the precision of the data be demonstrated by the reproducibility of the measurement process and reported as % Deviation.
- c. are the data complete enough to support a planning or enforcement action.
- d. are the data representative of the actual conditions at the sampling location.
- e. are the data comparable due to standardized siting, sampling, methods of analysis, reporting units, and data format.

Corrective Action

Project plans will specify performance limits which, if not met automatically initiate corrective action. The Quality Assurance (QA) Officer will be informed of any major corrective action and of any changes in procedures or loss of data resulting. Also, upper level management should always be kept adequately informed of all program problems, needs, and overall status.

Corrective action should begin at the data collection level with the guidance and, if necessary, the initiative of the QA Officer. Such corrective action may be initiated by results of performance audits, systems audits, interlaboratory/interfield comparison studies, or failure to adhere to standard operating procedures.

Future contracts between the Texas Department of Water Resources (TDWR) and any entity providing data acquisition service will provide for any corrective actions to be the responsibility of the Director of Operations actually providing the data to the TDWR. Prime contractors will be required to assure necessary corrective action in operation

of any subcontractor. Once corrective action is deemed necessary by the QA Officer of the TDWR, the contracting Director of Operation has thirty days to respond to identify the source of unacceptable quality and specify what corrective action will be undertaken to upgrade the quality of service supplied to the TDWR. An additional sixty days will be allowed to implement any corrective action.

PERMITS

SERIES 20 POINT SOURCE PERMITS

Authority

Section 26.027 through 26.030, Texas Water Code, grants the Texas Water Commission permission to prescribe conditions of permits, issue permits, and amend, revoke or suspend permits. Since the statutes grant the Commission broad powers to establish conditions for permits, the provisions of Part 130 relating to total maximum daily loads, point source discharge allocations, schedules of compliance, and nonpoint sources of pollutants can be enforced pursuant to these provisions. Authority of the Department to regulate private sewage facilities pursuant to Section 26.031, Texas Water Code, enables the Department to regulate a class of nonpoint sources of pollutants that are not discussed specifically under the Federal regulations governing nonpoint sources.

Delegation of NPDES

The Texas Department of Water Resources will continue efforts, which began immediately after passage of the Federal Water Pollution Control Act in 1972, to assume authority under the National Pollutant Discharge Elimination System established by Section 402 of the Act for all permitting presently assigned to the Department under State law. Delegation is possible under either of the following situations: 1. The Texas Railroad Commission decides to join the Department in seeking delegation. 2. The Federal Act is amended to allow partial delegation. Until such time as the Department is delegated full permit authority, permit issuance will be conducted by agreement between the Environmental Protection Agency and the Department whereby the Department staff prepares the document which is subsequently sent to EPA for issuance.

Permit Development

The development of a permit requires the use of various data and consideration of various factors to assure that the permit complies with all Federal and State requirements and is consistent with applicable policies. Outlined below is a list of items/factors which are considered by the engineer in developing a wastewater discharge permit.

- Data submitted by the applicant including description/capability of treatment system.
- Appropriate data contained in the file.
- Existing permit, if an amendment or renewal.
- Self-reporting data.
- Field Report/Recommendation and Field Office.

- Temporary Order(s).
- Enforcement Orders/Litigation.
- Waste Load Allocation.
- Receiving stream standards.
- Stream modeling, if needed.
- Federal Guidelines; Development Document.
- Board Effluent Standards.
- Hazardous Metals Board Order.
- Ground-water protection.
- Sludge processing, handling, disposal.
- Health aspects if waste disposed of on areas accessible to the general public.
- Grants program, status.
- Comments from other divisions/agencies.
- Alternative plant locations, routes/points of discharge if located in sensitive/populated areas.
- Source of public water supply, relative to the discharge point and route of discharge.
- Adequacy of proposed treatment system, including (if applicable) irrigation system or evaporation system.
- Other TDWR policies/guidelines, as applicable.
- 208 Plans

Many permits need to be modified or amended, and NPDES permits which have expired require reissuance. The Department's permitting emphasis will be on the issuance of new and amended permits.

Several new requirements affecting permit issuance have come about. When feasible, permits will be written based upon the 1983 and 1984 requirements of the Act, referred to as the best available technology economically achievable or the "BAT requirements" and best conventional pollutant control technology or "BCT requirements". Priorities have been established by State/EPA agreement, and BAT/BCT permits are being completed based on this agreement. Where guidelines are not available, the BAT/BCT conditions are being included in permits on a best professional judgement (BPJ) basis.