WASTEWATER TREATMENT PLANT OPERATOR
SPRAY IRRIGATION SYSTEM - GRADE 1 & 2 EXAMINATION STUDY GUIDE

The following is a general outline to serve as a study guide in preparing for the Spray Irrigation System - Grade 1 & 2 Wastewater Treatment Plant Operators Certification Exam. All subjects may not be covered on every exam but the exam will contain the number of questions in each broad category shown in bold type.

1. General Need to Know - 30 percent
   A. Sources of Wastewater - Identification
   B. Wastewater Characteristics - physical, chemical, biological
   C. Wastewater Treatment Processes - sequence, purpose, goals, and impact of each process on wastewater.
   D. Basic and Applied Math
   E. Safety
   F. Common Parameters and Conversion between them
   G. Electrical Concepts
   H. Hydraulics

2. Support Systems - 25 percent
   A. Mechanical Equipment
   B. Electrical Equipment
   C. Engines
   D. Plumbing
   E. Measuring Systems & Instrumentation
   F. Control Systems
   G. Preventive Maintenance - Pumps
   H. Preventive Maintenance - Motors

3. Treatment Unit Processes & Process Control - 30 percent
   A. Primary Treatment - Sedimentation
   B. Secondary Treatment - Lagoons
   C. Effluent Disposal and Reuse
   D. Flow Measurement
   E. Sampling & Analysis / Laboratory Tests
   F. Record Keeping
   G. Preventive Maintenance - Pumps
   H. Preventive Maintenance - Motors

4. Safety, Security and Administration - 15 percent
   A. Planning including Strategies, Objectives, and Financial Support
   B. Maintenance Management Systems
   C. Emergency Response Systems
   D. Safety Systems
   E. Rules and Regulations (Clean Water Act, Maine Pollution Discharge Elimination System Permits, Maine Wastewater Discharge License Requirements, Occupational Safety and Health Administration rules, etc.)

There are several publications which you may find useful as you study for the exam. It is not necessary to study all of these publications to do well on the test. This is by no means a complete list of publications which might help your studies.

Operation of Wastewater Treatment Plants, Volumes I & II (The Sacramento Course)
   Chapters 3, 4, 5 & 9 Treatment unit processes
   Chapter 1 & 2 - General need to know
   Chapters 15 - Support systems
   Chapters 14 - Safety, security and administration

The MEPDES Permit and Maine Wastewater Discharge License for a Spray Irrigation Wastewater Treatment Facility

The Sacramento Course can be obtained from: The Office of Water Programs
California State University, Sacramento
6000 J Street
Sacramento, CA 95819-6025