SO YOU ARE GOING TO GET A PERMIT!!

Operating Permits Authority

✓ March 18 2008
✓ Governor Huntsman signed HB 222
✓ Water Quality Board Amendments
✓ ... issue construction or operating permits for the installation or modification of treatment works or any parts of the treatment works...
Operating Permits Background

- Most wastewater systems are permitted by one of four programs:
- Ground Water Quality Protection
- Underground Injection Control (UIC)
- Utah Pollutant Discharge Elimination System (UPDES)
- Permits for a Water Reuse Project
- This program is for everyone else !!!

Operating Permits Implementation

- 5 year permit “General Permits”
- “Individual Permits for land disposal facilities
- Multi-year phase in to program
- Required to apply for a permit by 1/1/10
Operating Permits Implementation

- Site visits by DEQ
- Talking to governing boards
- 1st round of permitting will focus on information gathering

Operating Permit Reporting

- FLOW !!
- Pond Depth
- COD
- pH
- DO
- E-coli
- Nitrogen

Everyone

Land Disposal
Flow Measurement
Flow Measurement Reporting

Need to measure
Daily Average
  Discharged during a 24-hour period
30-Day Average
  Arithmetic average of daily averages
Report flow rate in (Gallons per Day) GPD

Pond Depth Indicator
Pond Depth Indicator
Lagoon Liner Basics

- Liner - Barrier to groundwater
- Composed of soils - clays, bentonite
- Composed of synthetics - HDPE, PVC
- ALL LINERS LEAK!

Lagoon Liner Basics

- Seepage is a function of liner thickness
- Thicker liner gives lower seepage
- Seepage is a function of liquid depth
- Deeper depth gives higher seepage
Utah Liner Requirements

- It shall not exceed 6,500 gallons per acre per day.
- Hydraulic conductivity shall not exceed $1.0 \times 10^{-6}$ centimeters per second.

Clay Liners

Assume hydraulic conductivity at $1.0 \times 10^{-6}$ centimeters per second.
Synthetics Liners

Assume hydraulic conductivity at $1.0 \times 10^{-9}$ centimeters per second.
Neighboring States

Lagoon Liner Requirements
Why?

E-Coli, Nitrogen
Bacterial Standards

Bacteria Indicators

- Total coliforms are ubiquitous in the environment
- Fecal coliforms are a subset of “total”
- E. coli is a subset of “fecal”
- E. coli is a more host specific indicator (mammalian)
Utah Surface Water Quality

The Board as required by Section 19-5-110, shall group the waters of the state into classes so as to protect against controllable pollution the beneficial uses designated within each class as set forth below.

Class 2A -- Protected for primary contact recreation such as swimming

*E. coli* bacteria shall not exceed a 30-day geometric mean of 126 organisms per 100 milliliters, and a maximum of 576 organisms per 100 milliliters
Nitrogen

**Nutrient Management Plan (NMP)**

- A NMP provides a plan to economically and efficiently manage wastes and produce crops while minimizing contamination of natural resources.
What are the elements of a NMP?

- Background and site information
- Wastewater handling and storage
- Land treatment practices
- Soil erosion and nitrogen and phosphorus risks
- Nutrient management
- Recordkeeping

Nitrite - Nitrate

Con 10 mg/L drinking water
Your Permit Responsibilities

- Apply for coverage under “general permit” by Dec 31.
- Record flow and pond depths on MOR.
- Submit MOR monthly to pkrauth@utah.gov.