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
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

Pond Depth Indicator
Pond Depth Indicator

Why?
Flow, Pond Depth
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 x 10⁻⁶ centimeters per second.

Clay Liners

Assume hydraulic conductivity at 1.0 x 10⁻⁶ centimeters per second.
Synthetics Liners

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

Sometimes they work
Clay Liners

Sometimes they don’t
Synthetics Liners

Not perfect either
Neighboring States

Lagoon Liner Requirements
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.