



Environmental Stewardship

John Dunn

Water Division

Region 7 EPA, Kansas City



Regulation 101

- Surf the STATE website and talk to state regulators.
- Get key permits early.
- You will be working in several program areas.
- Sorry, States don't always have "one stop shopping"



Permits you need first:

- Air Pollution – pre-construction
- Stormwater – prior to land disturbance
- Construction Permits – required by most states and some localities



NPDES Permits

- Stormwater
- Discharges – Wash water, cooling water, stormwater, etc.
- Pretreatment permits if discharge is to a municipal sewer.



Storage of Oil & Biodiesel

- SPCC plan – for storage of more than 1320 gallons
- Emergency Response Plan – for storage of more than 1 Million gallons



Solid Waste/Hazardous Waste

- Filter Cake
 - Spontaneous Combustion
- Methanol
- Fuels and Solvents



Other Requirements

- Community Right to Know – TRI Reporting
- Could be a Public Water Supply – If serving more than 25 people.



Crude Glycerin & Methanol

- Glycerin – low toxicity
- Methanol – moderate toxicity
- Characteristic Hazardous Waste
 - Flash Point of 140°F
 - Spontaneous Combustion of Solid Waste
 - Un-recovered Methanol
- Rapid Environmental Breakdown
 - High BOD, Fish Kill



Use/Disposal Options

- Animal Feed – 5-10% of feed, Methanol limited.
- Boiler Feed – Acrolin, Methanol Hazard
- Dust Control
- Land Application
 - No fertilizer value
 - Ties up Nitrogen
 - High risk if there is run-off



Discharge to a Treatment Facility

- Pretreatment Permit
- Must assess the treatment capacity of the plant
- Metering required – no batch loading
- Pay by the pound for BOD treatment



Co-Digestion

- When mixed with another waste in an anaerobic digester, crude glycerin is a great feedstock to make methane.
- Not well developed in the U.S.
- Some large treatment plants recover methane onsite.



Value Added Products

- Refined Glycerin
 - Thousands on products
 - New Market isn't fully developed
- Crude Glycerin as feedstock
 - Lots of R&D
 - Ethanol
 - Propylene Glycol
 - Etc., Etc.

- New Reactions, New Pollutants?