

New Jersey Water Environment Association  
2011 Fall Technology Transfer Seminar

Environmental Regulatory Compliance  
Refresher for Authorities



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**Energy and Sustainability Services**

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**NJDEP Today**

- o NJDEP Reorganization
- o Significant push to electronic reporting
- o Licensed Site Remediation Professional
- o Slowing of the development of new rules
- o Push to more sustainable practices
- o Enforcement.....any change?

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**TODAY'S TOPICS**

- o Construction Dewatering
- o Discharge Prevention Containment and Control
- o Underground Storage Tanks
- o Air Permitting and Compliance
- o Oil Storage & EPA's SPCC Rule
- o Basic Industrial Stormwater Permit

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*NJDEP*  
*Bureau of Surface Water Permitting*

**Construction Dewatering  
General Permit**

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**Construction Dewatering**

Two elements of all construction dewatering activities:

- o The "Diversion"
  - Where did it come from?
  - NJDEP Water Allocation Rule (N.J.A.C. 7:19-1)
- o The "Discharge"
  - Where is it going?
  - New Jersey Pollutant Discharge Elimination System "NJPDES" Regulations (N.J.A.C. 7:14A)

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**The "Diversion"**

Diversions of groundwater or surface water of 100,000 gallons per day or more is regulated by the NJDEP

- o Construction Dewatering projects may exceed this initially to lower the groundwater table
- o In some cases, continuous exceedances of this volume may be required
- o In either case, a permit is required for temporary or permanent diversions in excess of this volume

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## The "Diversion"

### Dewatering Permit By Rule

- o Must be from a coffer dam or a confined area to contain impacts from the diversion
- o Must submit a letter at least 30 days prior to the diversion describing the location and method to be used
- o Must repair/replace any well or surface water supply that becomes unusable due to the impact to capacity, quality or other reasons.

## The "Discharge"

Any Discharge of groundwater to surface water from construction dewatering activities is regulated by the NJDEP

- Options typically include:
  - o Transport and Dispose off-site at an approved facility
  - o Discharge to the local POTW with permission (C1 and CSO Areas)
  - o Obtain a NJPDES permit and discharge to surface water

## The "Discharge"

### Construction Dewatering General Permit

- o No application, but letter request must be submitted to NJDEP at least 14 days prior to the discharge
- o Not eligible for:
  - Known Contaminated Sites or those suspected to contain groundwater contamination
  - Stormwater discharges
  - Filter backwash
  - Sediment laden waters
- o The GP contains BMPs, temporary treatment units, and self monitoring without effluent limitations

## The "Discharge"

For sites that cannot meet the Construction Dewatering GP Requirements, options include:

- o Petroleum Product Cleanup Permit (B4B)
- o General Remediation Cleanup Permit (BGR)
  - Both permits have application requirements, initial groundwater characterization, sampling and effluent limitations.
  - Application requires public notice and NJDEP approvals
  - The BGR Permit also requires a TWA

*NJDEP*  
*Bureau of Release Prevention*

## Discharge Prevention Containment and Control

**"DPCC"**

## Discharge Prevention Containment and Control

### Applicability:

- N.J.A.C 7:1E
- 200,000 gallons of petroleum and hazardous substances
- 20,000 gallons (167,043 pounds) of hazardous substances
  - Polymers – percentages of Acrylamide and Adipic Acid
  - Acids
  - Sodium Hypochlorite
  - Sodium Hydroxide
  - Potassium Permanganate
  - Sulfur Dioxide
  - Chlorine
  - Calcium Hypochlorite
  - And many others...

## DPCC: Regulated Containers

All containers greater than 5 gallons containing:

- Liquid petroleum and petroleum products
- All chemical substances listed in Appendix A – liquid, powders and gases
- Solid metals > 100 micrometers excluded

## DPCC: Elements

Key provisions include:

- Discharge Prevention, Containment and Control (DPCC) plan, and a Discharge Cleanup and Removal (DCR) plan
- Testing and inspection of above-ground storage tanks
- Assuring adequate secondary containment
- Developing standard operating procedures
- Maintaining security
- Training employees
- Keeping required records

## NJDEP Site Remediation Program Underground Storage Tanks USTs

## Underground Storage Tanks

The NJDEP Regulates:

- Gasoline, diesel, motor fuels/oils and waste oil  
(Some farms & residential exemptions)
- Non-Residential Heating oil USTs greater than 2,000 gallons or
- Non-Residential Heating Oil USTs - Aggregate volumes at a site in excess of 2,000 gallons
- Hazardous Chemical Storage

## USTs: Program Elements

Regulated UST Systems (tanks and piping) require:

- Registration with NJDEP
- Release Response Plan
- Corrosion Protection
- Overfill Protection
- Spill Protection (all sumps)
- Leak Detection
- Proper Fill Port markings


## USTs: Examples

Common Types of Tanks:

- Bare Steel
- Cathodically Protected Metal
  - Sacrificial Anodes (SA) or Impressed Current (IP)
- Fiberglass Coated Steel
  - Tank coating must be at least 100mil thickness to meet standard
- Fiberglass-Reinforced Plastic (FRP)
- Internally Lined
- Industry Names: "STi-P3" and "ACT-100"

## USTs: Cathodic Protection

- Facility must keep evidence on-site that all registered USTs including buried piping are sufficiently protected against corrosion.
- ACT-100 USTs
  - Fiberglass coated steel tanks may not meet minimum corrosion protection standard.
- Stip-3 USTs
  - USTs with three layers of protection
    - Isolated bushings, fiberglass coating & sacrificial anodes
    - Must maintain CP system – test anodes every 3 years!


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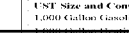
Contacts	Release Response Plan Phone #	Contact Name
NJDEP Hotline:	911	---
Fire Department:	908-659-7470 908-406-5405	Christopher Mechem, Motor Vehicles
Facility Owner - Operator:	908-654-9880	Les Jones, Health Official
County Health Department:	610-278-7203	Crompo, J.I.C.
Corrective Action Repair Contractor:	908-654-9881	Christopher Scatturo, OEM
Local Emergency Management	908-497-8900	Hindsall Services Group
Environmental Consultant		

Procedures		
1	Immediately notify the Facility Owner of any suspected release including all monitoring system alarms and observations of product within the piping sumps.	
2	Conduct a visual inspection of all readily accessible physical facilities (e.g. piping sumps) for evidence of leakage or discharge.	
3	Run diagnostic check on all monitoring systems. Check for a malfunction of the monitoring system. If alarm condition confirmed, take tank system out of service until repair contractor can evaluate cause of alarm.	
4	Contact tank system repair contractor, Crompo, J.I.C., to visit site and investigate suspected release.	
5	Facility Owner or designee must complete the investigation of a suspected release within 7 days of initial discovery. <i>N.J.A.C. 7:14B-7.1 Suspected releases</i>	
6	Facility Owner or designee shall immediately contact the New Jersey Department of Environmental Protection (1-877-927-6337) within 15 minutes of confirmation of the release.	
7	Refer to <i>N.J.A.C. 7:14B-8 Remediation Activities</i> or <i>N.J.A.C. 7:14B-9 Closure Requirements</i> for additional guidance following confirmation of a release.	
8	Facility Owner makes determination on what remediation activities are needed, consider contacting environmental consultant for additional guidance.	


UST Size and Contents	Tank ID #	Location Description
1,000 Gallon Gasoline	1	Cliffing, Hills Golf Course


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## USTs: Recordkeeping

What do I need to do?


- Monthly
  - Sump, fill port, and dispenser inspection logs
  - Keep evidence of leak detection tests (Veeder-Root Print outs)
- Every 60 Days – Check impressed current system function
- Pre-Delivery
  - Spill bucket inspection log
- Release Response Plan Posted
- Current UST Registration Posted
- If Needed:
  - Cathodic protection records
  - Stage II vapor recovery testing records
    - Daily Inspections of Vapor Recovery Equipment


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## USTs: Release Detection Monitoring

- Every Alarm must be investigated, recorded and resolved.
- NJDEP Enforcement will print alarm history dating back to their last inspection
- Your automatic RDM keeps it all in memory!



Alarm!


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GASOLINES		DISTILLATES			
Unleaded		Ultra Low Sulfur	Low Sulfur	High Sulfur	
High grade Filled red circle with white "+"					
Middle grade Filled blue circle with white "+"					
Low grade Filled white circle with black "+"					
American Petroleum Institute Publication #1637					
ALCOHOL-BASED FUELS		BIO DIESEL			
	Note: See 2.5.1 for specific labeling requirements		Note: See 2.4.1 for specific labeling requirements		
USED OIL	OBSERVATION OR MONITORING WELL	VAPOR RECOVERY			

Contacts	Release Response Plan Phone #	Contact Name
NJDEP Hotline:	911	---
Fire Department:	908-659-7470 908-406-5405	Christopher Mechem, Motor Vehicles
Facility Owner - Operator:	908-654-9880	Les Jones, Health Official
County Health Department:	610-278-7203	Crompco, LLC
Corrective Action Repair Contractor:	908-654-9881	Christopher Scatturo, OEM
Local Emergency Management:	908-497-8900	Hindsall Services Group
Environmental Consultant:		

Procedures	UST Size and Contents	Tank ID #	Location Description
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2. Conduct a visual inspection of all readily accessible physical facilities (e.g. piping sumps) for evidence of leakage or discharge.			
3. Run diagnostic check on all monitoring systems. Check for a malfunction of the monitoring system. If alarm condition confirmed, take tank system out of service until repair contractor can evaluate cause of alarm.			
4. Contact tank system repair contractor, Crompco, LLC, to visit site and investigate suspected release.			
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**NJDEP**  
 Air Quality Permitting Program  
**General Air Permits**  
 &  
**Stage II Vapor Recovery Systems**

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## NJDEP Air Permits

- Calculating Gross Heat Input
  - Measured in BTU/hr
    - British Thermal Units per hour
    - Also expressed as: 3.0 MMBtu/hr
      - 3.0 Million Btu/hr
    - NJDEP Standard energy values:
      - Diesel Fuel – 142,000 Btu per gallon
      - Natural Gas – 1,050 Btu per cubic foot
  - Take max fuel consumption x energy value
    - 14.2 gallons per hour x 142,000 Btu/gal = **2.02 MMBtu/hr**

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**STANDBY PRIME 60 Hz 175 kW 157.5 kW CATERPILLAR**

D175-2 (3-Phase)		Standby				Prime				
Power Rating		kW	kVA	175	218.8	157.5	196.9			
<b>Lubricating System</b>										
Type: Full Pressure										
Oil Filter: Spin-On, Full Flow										
Oil Cooler: Water-cooled										
Oil Type: Recommended: API/CEC 14, API/CEC										
Total Oil Capacity	L	U.S. gal	16.5	4.4	16.5	4.4				
Oil Pan	L	U.S. gal	15.6	4.1	15.6	4.1				
<b>Fuel System</b>										
Generator Set Fuel Consumption	L/hr	G/hr	53.8	14.2	50.2	13.3				
100% Load	L/hr	G/hr	43.7	11.6	41.2	10.9				
75% Load	L/hr	G/hr	34.7	9.1	33.2	8.8				
50% Load	L/hr	G/hr	24.7	6.5	23.7	6.3				
<b>Engine Electrical System</b>										
Volts: Generator 12V/Brushless										
Generator: Generator Ampere Rating	Amps		100		101					
<b>Cooling System</b>										
Water Pumps Type: Centrifugal										
Radiator Capacity: Capacity: Total Engine	L	U.S. gal	21.0	5.5	21.0	5.5				
Maximum: Capacity: Radiator Head	m <sup>3</sup> /h	ft <sup>3</sup> /h	8.9	28.0	8.9	28.0				
Constant Flow Rate	L/hr	U.S. gal/hr	12,960	3,424	12,900	3,424				
Minimum: Temperature: In Engine	°C	°F	186	367	186	367				
Temperature Rise: Across Engine	°C	°F	9	16.2	9	16.2				
Heat Rejected to: Coolant or Radiator Power	kW	Btu/min	23.5	5,322	23.5	5,322				
Total Heat Rejected to: Radiator Power	kW	Btu/min	18.2	4,122	18.2	4,122				
Radiator Fan Load	kW	hp	6.9	9.3	6.9	9.3				
<b>Air Requirements</b>										
Combustion Air Flow	m <sup>3</sup> /min	cfm	12.6	445	12.3	434.4				
Maximum Air: Demand Restriction	m <sup>3</sup> /min	cfm	8	282	8	282				
Radiator Cooling Air: (no restriction)	m <sup>3</sup> /min	cfm	455	16,282	455	16,282				
Allowable Air Flow: Restriction (per radiator)	m <sup>3</sup> /min	cfm	35.6	1,261	35.6	1,261				
Guiding Airflow: (5% rated speed)	m <sup>3</sup> /min	cfm	0.12	4.2	0.12	4.2				
Allowable Air Flow: Restriction (per radiator) (with restriction)	m <sup>3</sup> /min	cfm	415	14,853	415	14,853				
<b>Exhaust System</b>										
Maximum Allowable Backpressure	kPa	in. Hg	12.2	91.5	12.2	91.5				
Exhaust Flow at Rated kW	m <sup>3</sup> /min	cfm	29.7	1,068	29.6	1,061				
Exhaust Temperature at Rated kW	°C	°F	577	1,071	666	1,231				
Generator Set Noise Rating	dB(A)		100.8		100.6					

## Emergency Generators

- Emergency Generators
  - 37 kW and greater must comply with record keeping requirements
  - 1 MMBTU Gross Heat Input requires permit
  - Prior to testing emergency generators 37 KW and greater, must
    - Check the Air Quality Forecast
- <http://www.state.nj.us/dep/agpp/>  
AQ Forecast for Emergency Gen.
- New EG General Permit GP-005
- Generators are only approved for

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### EGs: Operating Scenarios

NJDEP Allows Operating Emergency Generators:

- During the performance of normal testing and maintenance procedures
- When there is a power outage or the primary source of mechanical or thermal energy fails because of an emergency; or
- When there is a voltage reduction issued by PJM and posted on the PJM internet website ([www.pjm.com](http://www.pjm.com)) under the “emergency procedures” menu.
- **Peak Shaving and Curtailment are Prohibited by the NJDEP EG General Permit**

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### EGs: Load Reduction

Use of engines to generate electrical power is permitted provided the equipment meets:

- NOx provisions of N.J.A.C. 7:27-19.8 & SOTA requirements of 7:27-8 and 7:27-22.
- These provisions usually require that a diesel engine be retrofit with selective catalytic reduction (SCR) and a particulate filter before being used as a non-emergency electrical generating engine

**This includes peak shaving, power curtailment & Interruptible Load Response (ILR)**

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### Air Quality Forecasts

- ❖ Emergency Generator Operation
  - Include AQ Forecast check in log book
  - <http://www.airnow.gov/index.cfm?action=airnow.fcsummary&stateid=35>
  - “Good” & “Moderate” – ok to run generators
  - “Unhealthy for Sensitive Groups” or worse – reschedule generator maintenance.

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Location	FORECAST			CURRENT AQI
	Max Sep 20	Min Sep 21	Avg Sep 21	
Bergen	45	40	32	32
Camden	45	35	28	38
Cherokee	45	40	25	35
Delaware	45	40	31	35
Hartford	45	40	28	35
Fort Lee	45	40	24	35
Gloucester	45	40	31	35
Monmouth	45	40	29	35
New Brunswick	45	40	25	35
New Jersey Highlands	45	40	28	35
Newark	45	35	29	35
Ocean County/Columbia Mills	45	40	29	35
Ramapo	45	40	29	35
Rose University	45	40	29	35

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#### EMERGENCY GENERATOR TESTING/MAINTENANCE RECORDS

FACILITY NAME: \_\_\_\_\_ LOCATION: \_\_\_\_\_ EG ID # \_\_\_\_\_ YEAR: \_\_\_\_\_

#### SAMPLE EMERGENCY GENERATOR LOG SHEET

Month	Run #	Date	Reason for Operation	Run Time		Air Quality	Meter Reading		Total Run Time	Operator Initials
				START	STOP		START	STOP		
January	1									
	2									
	3									
	4									
February	1									
	2									
	3									
	4									
March	1									
	2									
	3									
	4									
April	1									
	2									
	3									
	4									
May	1									
	2									
	3									
	4									

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### USTs: Vapor Recovery Systems



Vapor Balance System  
Stage II Vapor Recovery



Vacuum-Assist System  
Stage II Vapor Recovery

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### Stage II Vapor Recovery Testing

- **Test Annually:**
  - Pressure Vacuum Valve Test (CARB TP-201.1E)
  - Air to liquid Volume Ratio Test (CARB TP-201.5)
- **Every 3 Years:**
  - Dynamic Backpressure Performance Test (CARB) TP-201.4
- **Daily**
  - Inspect vapor recovery system boots, hoses, joints & connections. Keep daily log.

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### Balance Violations

Amazingly, this equipment is not functioning, so our trusty "red-tag" has been used. GDFs with General Permits are required to visually inspect their equipment and keep a log DAILY! Accept no excuses.

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### EPA Emergency Management: Oil Pollution Prevention Program **Spill Prevention Control and Countermeasures Program** **SPCC**

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### Spill Prevention Control and Countermeasures

If your facility meets these 3 conditions:

- Applies to owners or operators of facilities that drill, produce, gather, store, use, process, refine, transfer, distribute, or consume oil and oil products;
- Regulates the aboveground storage of oils in excess of **1,320 gallons stored in containers 55 gallons and greater;**
- Must have route to navigable waters or ability to migrate off-site.

**You are applicable to the SPCC Rule and should prepare a SPCC Plan.**

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SPCC<sub>41</sub>

### SPCC: Regulated Containers

- Aboveground Storage Tanks
- Mobile fueling tanks on vehicles
- Wet transformers
- Drums
- Generator sub-base tanks
- Waste Cooking Oil
- Stationary Equipment with Oil Reservoirs (i.e. hydraulic fluid)
- Inverters associated with Solar Systems




\*Remember: only containers 55 gallons and greater are regulated.

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## SPCC: Recordkeeping

Remember – Recordkeeping!

- Annual Employee Training Logs
- Monthly Tank inspections
- Periodic Tank Testing Records
- Spill Incident Records
- Updated SPCC Plan

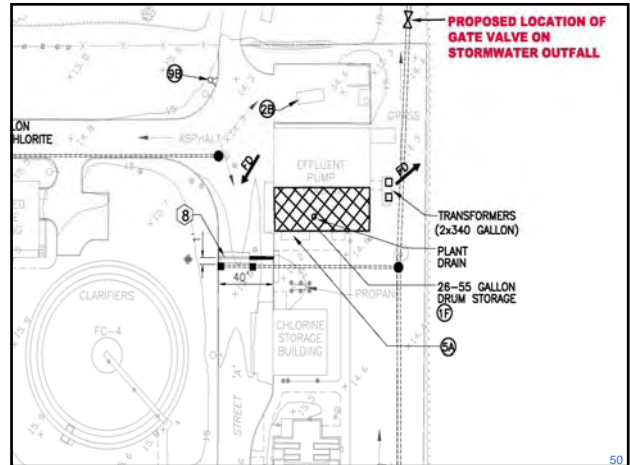
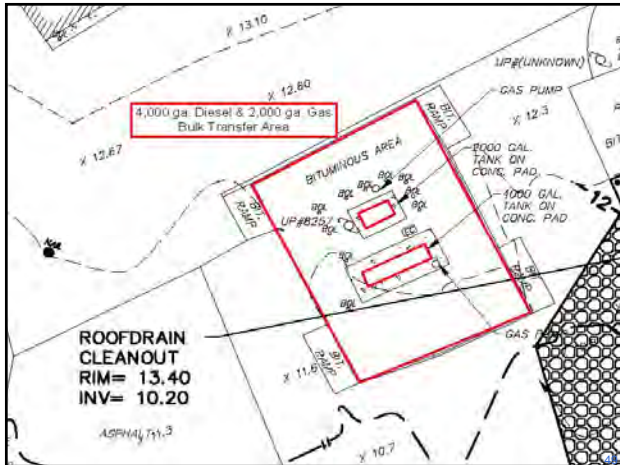
## SPCC: Underground Piping

Underground Piping Associated with ASTs must have:

- Corrosion Protection including a testing program
- Spill containment
- Leak detection
- Recommend keeping it aboveground whenever possible – If not, address as you would in regulated by NJDEP UST Regulation for design, inspection and testing







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## Industrial Stormwater Permitting Program

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### Stormwater Permit Applicability

- **WASTEWATER TREATMENT FACILITIES** with...
  - Design Flow of 1 Million Gallons per Day (MGD)
  - OR
  - Approved pretreatment program under 40CFR Part 403 (i.e. Delegated Facilities)

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### Basic Industrial Stormwater General Permit

- Authorizes new and existing industrial stormwater discharges to surface waters and/or groundwaters of the State.
- Goal is to eliminate exposure of source materials

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### Non Applicability Form (NAF)

- **Complete and submit to the NJDEP for approval if your facility meets one or more of the following:**
  - > All stormwater is directed to a CSO
  - > Stormwater discharge is authorized under existing NJPDES DSW or DGW Permit
  - > Permanent No Exposure – Source material and/or activities are performed within permanent structures

IF NOT.....

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## Permitting Process

- Request for Authorization (RFA) – Was due by March 3, 2004 for existing facilities.
- Complete Stormwater Pollution Prevention Plan – Due 6 mos. from EDPA.
- Implement SPPP within 18 mos. from EDPA
- Review and Recertify Annually

## The Industrial Stormwater Permit Does Not Cover...

- Floor drains
- Vehicle/equipment wash waters
- Compressor and boiler blow down
- Cooling tower bleed off
- Filter backwash water
- Hydrostatic testing water
- Water main disinfection water

## Industrial Stormwater Wrap-Up

- If your MUA has a designed treatment capacity 1.0 MGD and greater...
- And you have source operations or material present...
  - You are in!
  - Source Material includes – gasoline & diesel ASTs, fueling areas, generator fueling operations
  - Septage transfer areas that drain to Plant still qualify for Industrial Permit!
- Permanent No Exposure only applies if all operations & materials are inside a building!

## Links!

- Construction Dewatering
  - [http://www.nj.gov/dep/dwq/gp\\_dewater.htm](http://www.nj.gov/dep/dwq/gp_dewater.htm)
- Discharge Prevention Containment and Control
  - <http://www.state.nj.us/dep/rpp/brp/dp/index.htm>
- Underground Storage Tanks
  - <http://www.nj.gov/dep/srp/bust/>
- Air Permitting and Compliance
  - <http://www.state.nj.us/dep/aqpp/index.html>
  - <http://www.state.nj.us/dep/aqpp/gpllist.htm>
- Oil Storage & EPA's SPCC Rule
  - <http://www.epa.gov/osweroel/content/spcc/>
- Basic Industrial Stormwater Permit

## Questions?

Birdsall Services Group

800-879-6681

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