

New Jersey Utility Authority JIF
December Safety Meeting

Environmental Regulatory Compliance
Refresher for Authorities



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NJDEP Today

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

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TODAY'S TOPICS

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

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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:

- The "Diversion"
 - Where did it come from?
 - NJDEP Water Allocation Rule (N.J.A.C. 7:19-1)
- 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

- Construction Dewatering projects may exceed this initially to lower the groundwater table
- In some cases, continuous exceedances of this volume may be required
- 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

- Must be from a coffer dam or a confined area to contain impacts from the diversion
- Must submit a letter at least 30 days prior to the diversion describing the location and method to be used
- 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:
 - Transport and Dispose off-site at an approved facility
 - Discharge to the local POTW with permission (C1 and CSO Areas)
 - Obtain a NJPDES permit and discharge to surface water

The "Discharge"

Construction Dewatering General Permit

- No application, but letter request must be submitted to NJDEP at least 14 days prior to the discharge
- Not eligible for:
 - Known Contaminated Sites or those suspected to contain groundwater contamination
 - Stormwater discharges
 - Filter backwash
 - Sediment laden waters
- 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:

- Petroleum Product Cleanup Permit (B4B)
- 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!

Release Response Plan		
Contacts:	Phone #	Contact Name
NJDEP Hotline:		---
Fire Department:	911	---
Facility Owner / Operator:	908-659-7470 908-400-5405	Christopher Meehan, Motor Vehicles
County Health Department:	908-654-9880	Les Jones, Health Official
Corrective Action/Repair Contractor:	610-278-7203	Crompco, LLC
Local Emergency Management	908-654-9881	Christopher Scatturo, OEM
Environmental Consultant	908-497-8900	Birdsall Services Group
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, Crompco, LLC, 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	Gallopings Hills Golf Course

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



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!

GASOLINES		DISTILLATES	
Unleaded		Ultra Low Sulfur	Low Sulfur
High grade Filled red circle with white "+"		Filled yellow hexagon with black "U"	Diesel
Middle grade Filled blue circle with white "+"		No. 1 Fuel Oil	
Low grade Filled white circle with black "+"		No. 2 Fuel Oil	
American Petroleum Institute Publication #1637		Kerosine Filled brown hexagon	
ALCOHOL-BASED FUELS		BIO DIESEL	
E85	Note: See 2.5.1 for specific labeling requirements	B2	Note: See 2.4.1 for specific labeling requirements
USED OIL Filled purple square	OBSERVATION OR MONITORING WELL 	VAPOR RECOVERY Filled orange circle	

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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 142,00 Btu/gal = **2.02 MMBtu/hr**

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STANDBY PRIME 60 Hz 175 kW 157.5 kW CATERPILLAR

D175-2 (3-Phase) Generator Set Technical Data — 1800 rpm/60 Hz

Materials and specifications are subject to change without notice.

			Standby	Prime
Power Rating	kW	kVA	175	218.8
Lubricating System				
Type: Full Pressure				
Oil Filter: Spin On, Full Flow				
Oil Control: Watercooled				
Oil Type Required: API CH-14; API C15				
Total Oil Capacity	L	U.S. gal	18.5	4.4
	L	U.S. gal	15.5	4.1
Fuel System				
Generator Set Fuel Consumption	L/hr	Q/hr	63.8	14.2
100% Load	L/hr	Q/hr	43.7	11.2
75% Load	L/hr	Q/hr	34.7	8.8
Engine Electrical System				
Voltage/Ground: 12V/Ground				
Battery Charging Generator Ampere Rating	Amps		100	101
Cooling System				
Water Pump Type: Centrifugal				
Radiator System Capacity incl. Engine	L	U.S. gal	21.0	5.5
Maximum Coolant Static Head	m H ₂ O	ft H ₂ O	8.0	26.0
Coolant Flow Rate	L/hr	U.S. gal/hr	12 960	3 424
Minimum Temperature to Engine	°C	°F	85	185
Temperature Rise Across Engine	°C	°F	9	14.2
Heat Rejected to Coolant at Rated Power	kW	Btu/min	93.5	6 322
Total Heat Radiated to Room at Rated Power	kW	Btu/min	16.2	922
Radiator Fan Load	hp		8.0	10.7
Air Requirements				
Combustion Air Flow	m ³ /min	cfm	12.8	445
Maximum Air Cleaner Restriction	kPa	in Hg	8	32
Radiator Cooling Air (zero restriction)	m ³ /min	cfm	495	16 082
Generator Cooling Air	m ³ /min	cfm	30.8	1 081
Allowable Air Flow Restriction (after radiator)	kPa	in Hg	0.12	0.5
Cooling Airflow (Q rated speed)	m ³ /min	cfm	415	14 663
Rate with restriction				
Exhaust System				
Maximum Allowable Backpressure	kPa	in Hg	12.2	91.5
Exhaust Flow at Rated kW	m ³ /min	cfm	29.7	1 049
Exhaust Temperature at Rated kW — Dry Exhaust	°C	°F	677	1251
Generator Set Noise Rating** (Without Attenuation) at 1 m (3 ft)	(dB(A))		100.6	100.6

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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/aqpp/>
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) under the "emergency procedures" menu.
- Peak Shaving and Curtailment are Prohibited by the NJDEP EG General Permit**

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EGs: Load Reduction

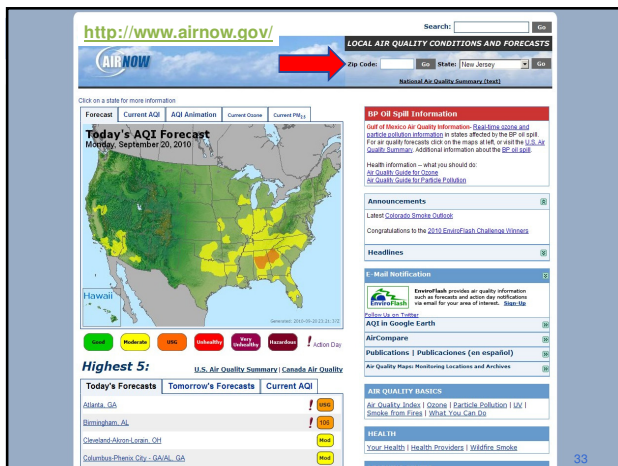
Use of engines to generate electrical power is permitted provided the equipment meets:

- 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)

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.



New Jersey Air Quality Forecasts and Current Conditions Summary

Data courtesy of: New Jersey Department of Environmental Protection

Location	FORECAST		CURRENT AQI
	Mon Sep 20	Tue Sep 21	
Bridgeton	45	40	32
Camden	45	15	36
Chester	45	40	25
Clarkstown	45	45	31
Flemington	45	45	26
Fort Lee	45	45	24
Millville	45	45	31
Summit	45	45	29
New Brunswick	45	45	25
New Jersey Highlands	45	45	26
Newton	45	15	36
Ocean County/Collins Mills	45	45	29
Ramapo	45	45	25
Rider University	45	45	25

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									

USTs: Vapor Recovery Systems



Vapor Balance System
Stage II Vapor Recovery

Vacuum-Assist System
Stage II Vapor Recovery

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.

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.

EPA
Emergency Management:
Oil Pollution Prevention Program

Spill Prevention Control and Countermeasures Program

SPCC

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.

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.**

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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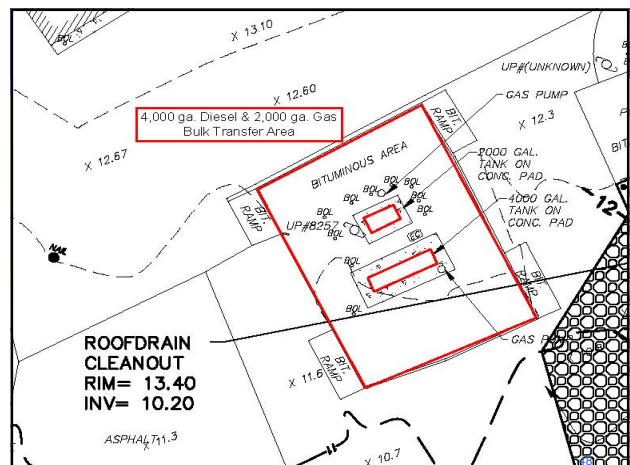
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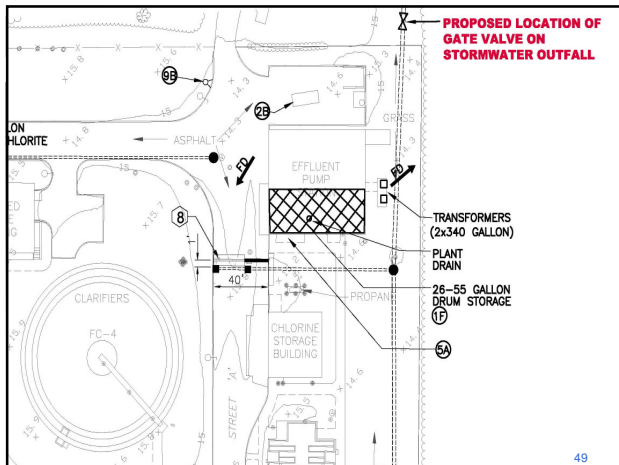


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The Industrial Stormwater Permit Does Not Cover...

- 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!

New Alerts

New EPA Rule for Boilers burning Fuel Oil

What is required?

Boiler Details	Requirements	Compliance Dates
Small Boilers (<10 MMBtu/hr)	Tune-up every other year	Compliance by 3/21/12 Notification of compliance by 7/19/12
Existing Large Boilers (≥ 10 MMBtu/hr, in operation before 6/4/10)	Tune-up every other year	Compliance by 3/21/12 Notification of compliance by 7/19/12
	One-time energy assessment	Compliance by 3/21/14
New Large Boilers (≥ 10 MMBtu/hr, in operation after 6/4/10)	Tune-up every other year	Compliance upon start-up or 5/20/11
	Emission limit for PM (Initial performance test)	Compliance by 3/21/14

NOTE: Boilers 5 MMBtu/hr or greater in size are already required to conduct an annual tune-up (combustion adjustment) and submit a report to NJDEP as per N.J.A.C. 7:27-19.

More info: <http://1.usa.gov/rX15v1>

Links!

- Construction Dewatering
 - 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/gpulist.htm>
- Oil Storage & EPA's SPCC Rule
 - <http://www.epa.gov/osweroet/content/spec/>
- Basic Industrial Stormwater Permit

Questions?

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