



Environmental Auditing

Staying in Compliance with Environmental Regulations and Reducing Risk of Environmental Loss






Who Sponsors the Audits?


- ❖ **EJIF**
 - ✓ The Environmental Joint Insurance **Fund** (EJIF) is a public, non-profit entity, administered by a Board of Commissioners that act in MEMBER'S best interests
 - ✓ The Fund insures your Municipality/Authority against economic losses due to environmental cleanups
- ❖ **Birdsall Services Group (BSG-PMK)**
 - ✓ BSG-PMK Group is not the insurance company
 - ✓ BSG-PMK Group is the environmental consultant hired by the EJIF to:
 - Determine compliance with environmental regulations – Audits
 - Develop programs to reduce risk – Seminars & Environmental Alerts
 - Investigate potential claims – 24/7 Hotline: 1-800-289-6681





Auditing Rationale

- ❖ **Rule of Self-Insured**
 - ✓ The EJIF is a Public Agency
 - ✓ Losses have a detrimental effect on the Fund and reduce the surplus available to help members and control costs
 - ✓ Approximately 60% of releases to the environment resulting in claim investigations are potentially avoidable by implementing SOPs, including regular inspections
 - UST discharges
 - AST/Drum discharges
 - Truck/Hydraulic Line discharges



The Typical DPW

POLLUTION SOURCES

Vehicle Storage
Salt Dome
Raw Material Storage
Recycling Dumpsters
Short-term Leaf/Wood Chip Storage
Outdoor Supply Storage
Offices & Garage (Boilers, Generators, Air Compressors, Drums, Floor drains, etc)
Used Oil Igloo
Gas & Diesel ASTs (not shown - USTs)
Loading Ramp

Environmental Services Group
Planning & Consulting

The "Old" DPW - History


Four photographs showing cluttered storage areas with various containers and equipment, illustrating the historical state of DPW facilities.

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 The "Old" DPW - History



 The Typical DPW



Receptors

Air


Soil and Groundwater

Sensitive Receptors

POTW

Storm Drains

Surface Water

 B3 REGIONAL SERVICES GROUP
Business & Community

The Typical DPW - Now

Secondary Containment

Storm Drain Protection During Filling

External Protection

Temporary Booms Around Fueling Area 11. 2007

Audit Methodology

- ❖ The Site Visit
- ❖ The Checklist
- ❖ Reports
- ❖ Data Management
- ❖ Claims

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Insurance & Compliance

The Site Visit

- ❖ Personal Interaction
- ❖ Observe Practices and Procedures
- ❖ Evaluate Infrastructure
- ❖ Review Paperwork/Recordkeeping...

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Insurance & Compliance




The Site Visit - Preparation

- ❖ Please have the following available for the audit (details to follow):
 - ✓ UST Registration Certificates
 - ✓ UST Recordkeeping
 - ✓ SPCC Plan (and/or DPCC Plan) & Recordkeeping
 - ✓ NJPDES (Stormwater) SPPP & Recordkeeping
 - ✓ Air Permits & EG Recordkeeping
 - ✓ Solid Waste/Recycling Approvals & Recordkeeping




The Checklist - USTs

- ❖ Underground Storage Tank regulations (N.J.A.C. 7:14B) are extremely complicated to interpret and every UST system is different!
- ❖ Discharges from improperly managed USTs comprise a significant portion of losses to the Fund. Since 2004:
 - ✓ 1 out of every 3 claim investigations are UST related
 - ✓ About twice the number of claims as the next category: vehicle-related spills (49 UST claims vs. 26 vehicle claims)
- ❖ USTs are NOT covered by your EJIF policy unless all paperwork is submitted to and reviewed by BSG-PMK.
 - ✓ BSG-PMK does not issue UST insurance.







The Checklist – USTs (cont.)

- ❖ Regulated UST Systems (tanks and piping) require:
 - ✓ Proper registration with NJDEP, triennially renewed
 - ✓ Release Response Plan
 - ✓ Corrosion Protection – Non-corrosive material or triennial testing of cathodic protection/ impressed current
 - ✓ Overfill Protection – Alarm and/or flow restrictor
 - ✓ Spill Protection (all sumps) – Spill buckets; monthly and pre/post-delivery recordkeeping
 - ✓ Leak Detection – Systems may require up to three forms
 - Tank – 4 Stick tests per week or if automatic, monthly recordkeeping
 - Pressurized piping – Line Leak Detectors & annual testing or monthly monitoring
 - Suction piping – Monthly monitoring or triennial testing
 - ✓ Proper Fill Port markings...

The average cleanup cost for a leaking UST is about \$50,000, but can run into the millions.

Deductions have been added to the checklist for these items

The Checklist – USTs (cont.)

❖ American Petroleum Institute, Publication #1637

UNDERGROUNDS		OVERLAYS	
Underground	Ultra Low Buflar	Low Buflar	High Buflar
High grade At least 20" above 2nd floor	U	Yellow circle	Yellow circle
Medium grade At least 12" above 2nd floor	+	Orange diamond	Purple diamond
Low grade At least 6" above 2nd floor	+	Green diamond	Green diamond
	U	Orange diamond	Green diamond

ALCOHOL BLENDED FUELS: Note: See 2.1.1 for specific labeling requirements.

BIOMETHANE: Note: See 2.4.2 for specific labeling requirements.

USED OIL: Note: See 2.1.1 for specific labeling requirements.

WATER RECOVERY: Note: See 2.4.2 for specific labeling requirements.

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The Checklist – USTs (cont.)

❖ Non-Regulated UST Systems
(Heating Oil Tanks <2000 gallons, site aggregate)

- ✓ Environmental time bombs
- ✓ EPA & NJDEP agree that the risk for a bare steel UST to leak increases substantially after 10-15 years
- ✓ EJJIF requires annual integrity (tightness) testing after 15 years

A deduction has been added to the checklist for this item


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The Checklist - ASTs

❖ Aboveground Storage Tanks require only periodic visual inspections (unless regulated)

❖ Problems:

- ✓ Tanks that are ≥10% buried = USTs
- ✓ Underground piping
- ✓ Inspections Discharges from ASTs and drums account for 11% of all claim investigations since 2004.
- ✓ Spill Kits
- ✓ "Self-serve" used oil tanks
- ✓ Secondary containment & Rain cover
- ✓ Stormwater Regulations
- ✓ SPCC...



Deductions have been added to the checklist for these items

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The Checklist - SPCC

❖ Spill Prevention Control & Countermeasures - **SEPA**

Oct. 15, 2007
SPCC Rule Proposal Published in Federal Register

Dec. 5, 2008
SPCC Rule Amendments Published in Federal Register

Feb. 3, 2009
FR Notice: Delay of Effective Date and Request for Comment

Apr. 1, 2009
FR Notice: Delay of Effective Date

Nov. 2009
Final action in the FR

Jan. 14, 2010
Effective Date of SPCC Rule Amendments

Nov. 10, 2010
Compliance Date

- ❖ Facilities with existing SPCC plans must amend and implement SPCC Plans by the compliance date in accordance with revisions to the SPCC Rule promulgated since 2002.
- ❖ Started in 1973 as part of the Clean Water Act
- ❖ Applicable facilities with no SPCC Plan are in violation.

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MEMBERS & CONSULTANTS

The Checklist - SPCC

- ❖ **Applicability:**
 - ✓ A facility's aggregate petroleum storage capacity of containers (55+ gallons) >1320 gallons, AND
 - ✓ A release could potentially impact "navigable" waters
 - Navigable waters = all surface waters of the State of NJ
- ❖ **Requirements:**
 - ✓ SPCC Plan (Tier 1 Qualified Facilities can use Appendix G and self-certify; Tier 2 Qualified Facilities cannot use Appendix G, but can self-certify)
 - ✓ Secondary containment of tank, hose, and transfer truck
 - Includes bulk transfers and vehicle fueling from USTs
 - ✓ Inspection schedule
 - ✓ Annual Employee training

A deduction has been added to the checklist for this item

BIOSCIENCE RESOURCE PROJECT
MEMBERS & CONSULTANTS

The Checklist - Maintenance

- ❖ **Salt Storage**
 - ✓ When applied to road surface = public safety
 - ✓ Your site = your source material = your responsibility
- ❖ **Permanent Structures** – NJDEP now allows structures without doors, providing it is otherwise compliant
- ❖ **Fabric Structures** – Must be constructed to meet Permit specs




Good Housekeeping SOP: Must keep salt inside shed

The Checklist – Maintenance (cont.)



- ❖ Unused Vehicles – Can leak, unnoticed
 - ✓ Active Fleet
 - Vehicle Maintenance SOP
 - ✓ Damaged/Disabled Vehicles
 - Store inside or under cover, and use drip pans while undergoing repairs
 - ✓ Decommissioned Vehicles
 - Drain fluids if stored on-site
 - ✓ Impound Vehicles
 - Store on impervious surfaces, away from surface water conduits

Discharges of fluids from trucks, usually those on active duty, account for 16% of all claim investigations since 2004, roughly 4 events per year




The Checklist - NJPDES

- ❖ New Jersey Pollution Discharge Elimination System
 - ✓ Point-source pollution reduction
 - Floor drains
 - Oil-water separators
 - Air compressor blowdown
 - Boiler blowdown
 - Spill Kits
 - ✓ Non-point-source (NPS) pollution reduction
 - Municipal Stormwater Permit Requirements
 - Storm Drains
 - Vehicle Washing
 - Drum/Dumpster Storage
 - Source Material Inventory
 - Standard Operating Procedures

The Checklist - Road Waste

- ❖ Sweepings & Catch basin cleanings contain:
 - ✓ Oils/Greases/Petroleum residuals
 - ✓ Heavy Metals/Car slough
 - ✓ Litter/NPS Run-off
 - ✓ Fertilizers/Chemicals
 - ✓ Particulates
- ❖ Storage
 - ✓ Cover and store in water-tight container or on impervious ground or drying pad
- ❖ Disposal
 - ✓ Reuse – Extremely limited possibilities due to contamination; may require sampling
 - ✓ ID 27 (Dry Industrial Waste) – more expensive, no sampling required
 - ✓ ID 10 (Municipal Solid Waste) – cheaper, may require sampling, can be used as landfill cover



 **The Checklist – Waste Management**

- ❖ All waste should be contained and covered
 - ✓ Latex Paint
 - ✓ Tires (solid waste, stormwater, mosquitoes)
 - ✓ Contaminated Absorbent
- ❖ Universal Wastes must also be labeled, dated and tracked
 - ✓ Expired Pesticides
 - ✓ Used Rechargeable Batteries - USDOT regulations also require separating terminals for transport
 - ✓ Fluorescent Bulbs
 - ✓ Electronics
- ❖ Appliances must be stacked neatly until properly drained of refrigerant




 **The Checklist – Waste Management**





All materials are stored, labeled, dated, and picked up quarterly. Even the Area is labeled.



 **The Checklist – Container Management**

- ❖ Compressed Gas Cylinders
 - ✓ Cap and chain to a wall for safety, or use a cabinet
 - ✓ Incompatible cylinders must be stored at least 20 feet apart or separated by a noncombustible barrier at least five (5) feet high having a fire-resistance rating of at least one-half hour [29 CFR 1910.253(b)(4)(iii)].
- ❖ Drums
 - ✓ Label
 - ✓ Cover
 - ✓ Contain
 - ✓ Clean





The Checklist – Air Emissions


- ❖ Ultra-Low Sulfur Diesel (ULSD)
- ❖ After October 15, 2006, all on-road diesel vehicles must use ULSD
- ❖ Delivery ticket must contain pre-printed product
- ❖ Dispensers must display proper decal

**ULTRA-LOW SULFUR
HIGHWAY DIESEL FUEL**
(15 ppm Sulfur Maximum)

Required for use in all model year 2007 and later highway diesel vehicles and engines.


Recommended for use in all diesel vehicles and engines.

The decal, such as this one, must be legible, and high-contrast



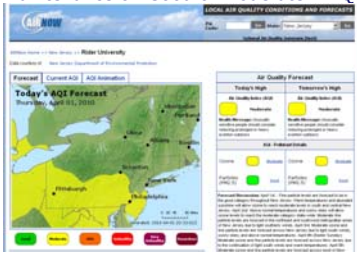
The Checklist – Air Emissions (cont.)

- ❖ Fuel combustion equipment rated at 1MMBTU/hr or greater must be permitted
- ❖ Gasoline Tanks 2,000 gallons or greater must be permitted AND require Stage II Vapor Recovery IF they dispense 10,000 gallons/month (12 month rolling average)
 - ✓ Stage II Vapor Recovery requires 2-3 annual tests and 1 triennial test depending on the type of system.
 - ✓ If you have Stage II Vapor Recovery, but don't need it, tests still must be conducted as scheduled
 - ✓ DAILY !!! Vapor recovery equipment inspections are required by your permit!




The Checklist – Air Emissions (cont.)

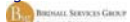
- ❖ Emergency generators 37 kW and greater can only run for maintenance on Good or Moderate Air Quality days




✓ www.airnow.gov/index.cfm?action=airnow.local_state&stateid=31


 **The Checklist – Air Emissions (cont.)**

- ❖ Material processing equipment (tub grinders/wood chippers)...
 - ✓ Requires an air permit if the combined weight of raw materials can exceed 50 pounds in any one hour, **OR** if the engine of the equipment is 1MMBTU/hr gross heat input or greater
 - ✓ Mobile vehicles are exempt if the engine powers both the processing equipment and vehicle itself
- ❖ Parts Washers...Heated units, and unheated units using a solution containing 5% or more of VOCs, HAPs, or a combination...
 - ✓ Require an air General Permit when the open-top measures more than 6 square feet, **OR** if the solvent storage capacity is more than 100 gallons, **OR** use ½ gallon or more per hour, **OR** use a conveyORIZED surface cleaner, or
 - ✓ Are subject to Operating Rules if they store 2-gallons or more of solvent

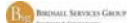


 **The Checklist – Water & Sewer**

- ❖ Water and Sewer infrastructure continues to age.
- ❖ New questions on checklist regarding Municipally operated utilities
- ❖ Emergency Response Plans should be in place if any pump/lift station loses power or fails.


Sewage (pipeline ruptures, blockages, power outages, etc) account for 14% of all claim investigations since 2004, roughly 3 events per year


A deduction has been added to the checklist for this item





 **The Checklist – Recycling**


- ❖ New laws and regulations were adopted in 2008 and 2009, with more anticipated in 2010.
 - ✓ Certified Recycling Coordinator requirement extended to 2013
 - ✓ E-waste landfill ban becomes effective 1/1/11
 - ✓ Rechargeable Alkaline batteries no longer need to be recycled unless designated by your District Solid Waste Management Plan. If comingled with rechargeables, they are still regulated by DOT
- ❖ Stormwater Program allows for Municipal dumpsters to remain uncovered but still prohibits discharges from same
- ❖ NJDEP is stepping up enforcement of "Exempt" Leaf Compost Sites and Transfer Stations
- ❖ Beware of self-serve Used Oil tanks




 **The Checklist – Score/Signature**


- ❖ Following the Audit, the inspector will review the checklist with you and will give you a score based on the point deductions in the checklist.
- ❖ Your signature confirms that you participated in the audit of the facility(s).
- ❖ A copy of the checklist will be left with you for your records.




 **Reports**


- ❖ A report summarizing the audit will be sent to an executive officer (Mayor, Administrator, Executive Director, ...)
- ❖ Copies of the report will be sent to
 - ✓ EJIF
 - ✓ PERMA, EJIF's management company
 - ✓ EJIF underwriting managers
 - ✓ Your Town's/Authority's Risk Manager
 - ✓ You
- ❖ You may respond if you wish to advise us of corrections or improvements.




 **Data Management**


- ❖ The results of the audit and all updated information is added to BSG-PMK's database
- ❖ Following the audit season, the following data are submitted to EJIF/PERMA
 - ✓ DPW info & Scores
 - ✓ UST info
 - ✓ AST info
 - ✓ Recycling Center info




 **Claim Investigations**

- ❖ BSG-PMK may be called upon to investigate a possible claim when:
 - ✓ A spill or release is called in to the EJIF Emergency Hotline (1-800-289-6681), or
 - ✓ Requested by EJIF Officers, Risk Managers or Underwriting Managers, or
 - ✓ Requested by the Claims Administrator, Peter J. King, Esq., or
 - ✓ In an emergency situation.
- ❖ BSG-PMK reviews actions taken by Members and contractors, timelines, causes, and costs and submits reports to the Claims Administrator



 **Resources**

- ❖ BSG-PMK can provide you with the following resources:
 - ✓ [Rules](#) and/or [Guidance](#) on all of the above
 - ✓ BSG-PMK Hotline Poster
 - ✓ Environmental Alerts (2003 – current)
 - ✓ UST Release Response Plan Template
 - ✓ UST Fill Port Guidance (API #1637)
 - ✓ SPCC Template, or Boilerplate for Tier 1 Qualified Facilities
 - ✓ Stormwater Training Video - www.njmel.org/stormwater.html
 - ✓ Stormwater SOP Checklists & Source Material Inventory Template
 - ✓ Air General Permit Applications & Compliance Plans
 - ✓ ULSD Label Template
 - ✓ Emergency Generator Recordkeeping Log
 - ✓ More.




 **Resources**


www.njejif.org

- ❖ **Environmental Information**
 - ✓ Audit Paperwork and Associated Information
 - ✓ Environmental Alerts
 - ✓ Annual Seminar Presentations
- ❖ **Claims Procedures**
 - ✓ EJIF/BSG/NJDEP Hotline Poster
 - ✓ Emergency Response Plan Guidance
- ❖ **Contacts**
 - ✓ Executive Committee
 - ✓ Fund Professionals
 - ✓ Member JIFs



 **Conclusion**

- ❖ BSG-PMK is retained by the EJIF to provide service to you and protect then Municipalities and Utility Authorities in the Fund
- ❖ Regulations continue to change with the goal of improving the NJ environment; BSG-PMK is there to help you keep up with changing requirements
- ❖ Our checklist is designed to be a multi-media approach to managing compliance with environmental regulations, help reduce harmful impacts to the environment, offer suggestions for improvements in site conditions
- ❖ From 1997 to 2009, average scores have increased from 60s to 90s



 **QUESTIONS**



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