

Preventing Groundwater Contamination Through Best Management Practices (BMPs)



Basic Training For Inspectors

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Preliminaries

BMP Inspections – Part of A Local Wellhead Protection Program

- ✓ **Notify and work with municipality**
- ✓ **Educate residents and businesses**
- ✓ **Perform BMP inspections**
- ✓ **Follow up inspections and ensure BMP rules are followed**

Preliminaries

BMP inspections minimize the release of substances that may...

- ✓ **Harm human health**
- ✓ **Contaminate groundwater**
- ✓ **Increase treatment cost & liability**
- ✓ **Result in loss of water supply (replacement cost)**
- ✓ **Lead to state or federal regulatory actions**



BMPs apply to Storage, Transfer and Handling Practices for...

- ✓ Any container \geq 5 gallons containing a regulated substance



5 gallon containers



55 gallon drums

- ✓ Includes above ground tanks up to 660 gallon capacity



ASTs up to 660 gallons

“Regulated Substances”

Includes -

- ✓ Gas, oil, antifreeze
- ✓ Degreasers
- ✓ Paints
- ✓ Thinners
- ✓ Industrial chemicals
- ✓ Cutting oils



Regulated substances are defined under Env-Wq 401



- (1) Oil as defined in RSA 146-A:2, III.
- (2) Any constituent for which an **ambient groundwater quality standard** has been established (RSA 485-C:6).
- (3) Any **substance** listed in 40 CFR 302, 7-1-05 edition.

Env-Wq 401 is online at www.des.nh.gov

***Inventory All PCSs but
Not Every PCS requires an Inspection***

PCSs From RSA 485-C:7

USUALLY REQUIRES INSPECTION

- ✓ Vehicle service & repair
- ✓ General service & repair
- ✓ Metalworking
- ✓ Manufacturing
- ✓ Waste & scrap processing
- ✓ Laboratories
- ✓ Hazardous waste facilities
- ✓ Concrete, asphalt, tar manufacturing

NO INSPECTION REQUIRED

- ✓ Cemeteries
- ✓ Salt sheds
- ✓ Transportation corridors
- ✓ Septic systems
- ✓ Snow dumps
- ✓ Stormwater infiltration pond or leaching catch basin

**Exemptions to Env-Wq 401 –
Not Subject to BMP Inspection**

- ✓ PCSs listed in RSA 485-C:7, II(j) includes certain agricultural uses
- ✓ Pesticides under RSA 430:28, XXVI
- ✓ On-premise heating systems (tanks, pipes, pumps, etc.)
- ✓ ASTs / USTs regulated under Env-Wm 1401, Env-Wm 1402



**How to find and inventory
PCSs to inspect?**

- A. Obtain map and initial PCS inventory from DES
- B. Update the DES inventory by conducting a windshield survey
- C. Does the PCS use regulated substances beyond "household quantities?"
- D. Remove from inspection list any PCS exempt under RSA 485-C or Env-Wq 401

Map your local PCS inventory online at
<http://www2.des.state.nh.us/gis/onestop/>

BMP Inspections look at...

- ✓ Indoor and outdoor storage areas
- ✓ Regulated containers and tanks (labels, how contents are transferred)
- ✓ Floor drains and work sinks and other potential pathways for contamination

Storage Areas

- ✓ An area where a regulated container is stored for 10 or more consecutive days



Storage of regulated substances

- ✓ On impervious surface
- ✓ Secondary containment & covered if outdoors
- ✓ Away from drains, wells and surface water



Container and tank inspection...

- ✓ Label of contents is accurate/legible
- ✓ Container is not rusted or leaking
- ✓ Cap or cover present & secured
- ✓ Funnels/drip pans present and utilized

Floor drain

An opening in a floor primarily for draining excess water



Work Sink



- ✓ A sink within which regulated substances are used (parts washer)
- ✓ Hand wash sinks should show no signs of regulated substance use
- ✓ May not discharge to the ground, surface, or septic system

Questions?



BMP Challenge – Games and Complete the Self-Test Questions

In Advance of **BMP Inspections**

BMP Inspection Preparation

- ✓ Review the BMP rules & inspection form
- ✓ Review the enforcement process



In Advance of **BMP Inspections**

What is a PCS inventory interview?

It's A Way to Figure Out What Businesses to Inspect

- ✓ Contact PCS and ask whether they use regulated substances
- ✓ Determine whether those substances are stored, transferred or otherwise handled in 5 gal or larger containers

IF YES TO THE ABOVE

Record the substances and quantities in use on the inspection form & schedule an inspection

In Advance of BMP Inspections

Send A letter to Schedule a BMP Inspection Appointment

- ✓ State intent of the BMP program
- ✓ Importance of proper management
- ✓ Legal requirements for PCSs
- ✓ What to expect during the inspection

Start with
DES model
letter

Emphasize mutual benefits (e.g. contamination may reduce property value, loss of permit)

BMP Inspection

Inspection Day: Verify Use of Regulated Substances

- ✓ Read the label of the regulated container and record the substance/s
- ✓ Ask for a copy of the Material Safety Data Sheet
- ✓ If needed, contact DES



Occupational Safety and Health Administration (OSHA)

BMP Inspection

Store/transfer over an impervious surface



- ✓ Check for joints, cracks or holes in impervious surfaces

Outdoor Storage Requirements

- ✓ Structural cover– NOT A LOOSE TARP
- ✓ Meet minimum setbacks: 50 ft to surface water or storm drains, 75 ft. to private wells, and outside SPA of public wells
- ✓ Have adequate secondary containment



Cover



Secondary containment

Outdoor - Cover, Impervious floor, Secondary Containment



Storage Areas must physically restrict access to be secure

- ✓ Secure against unauthorized entry



- ✓ Fencing outside, locking cabinets inside.

Other Storage/ Transfer Requirements



- ✓ Proper spacing
- ✓ Inspected weekly
- ✓ No corrosion, leaks, or sign of spills
- ✓ Kept tightly closed except during transfer of contents
- ✓ Use funnels, drip pans, etc.

Regulated Container Labels

- ✓ All regulated containers should be clearly and visibly labeled
- ✓ List contents of the container
- ✓ General use of contents



Work Sinks & Floor Drains

- ✓ No discharge to the ground, surface, or septic system, floor drains sealed
- ✓ Check for permit/registration and signs of illicit use or improper discharge
- ✓ Work sinks include parts washers, often produce hazardous waste, and business must certify as a hazardous waste generator with DES

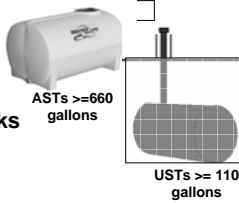


AST / UST Storage Tanks



Env-Wq 401 exempts:

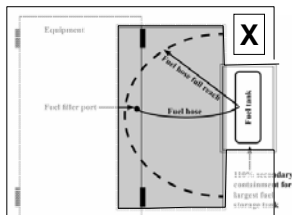
✓ Aboveground and underground storage tanks regulated by DES



✓ On-premise-use facilities as defined in RSA 146-E:2, III (e.g. home heating tanks)

Transfers involving AST / USTs may require BMPs

✓ Transfers of regulated substances must be over an impervious surface



Example: Fueling Heavy Equipment



- ✓ Spills/drips from equipment, fuel hose must only occur over impervious surface
- ✓ Must be cleaned up immediately

Spill Control and Containment – TIME MATTERS:



- ✓ Names and telephone numbers of individuals to be contacted in the event of a spill
- ✓ Instructions for containing the spilled material, including potential releases to the environment (e.g., protect floor drains)
- ✓ Location and inventory of spill control materials and personal protective equipment

Spill Control and Containment Measures

- ✓ Nearby and available for rapid deployment



- ✓ Able to quickly contain or absorb the spill
- ✓ Employees are trained and spill response information is posted

Spill Control and Containment Training



Training should ensure employees have:

- ✓ Understand the SPCC and Emergency Response Plans
- ✓ Ability to select and use the proper PPE
- ✓ Ability to perform basic control, containment and/or confinement operations



Setbacks



- ✓ 50 Feet from surface water & storm drains
- ✓ 75 Feet from private wells
- ✓ Outside protective area of public wells

Final Questions During Inspection

✓ Other discharges or issues not previously discussed (to septic, dry well or stormwater)

✓ Contact DES if you have question



Enforcement: Who has authority to enforce Env-Wq 401 BMPs?

- ✓ Water districts or towns that “reclassify” WHPAs or aquifers to GAA or GA1 through DES
- ✓ Towns with a groundwater protection zoning or health ordinance that references Env-Wq 401
- ✓ DES has authority under RSA 485-C

Objective is to have PCSs adopt BMPs, avoiding the enforcement process

“Voluntary” BMP Inspection Programs

✓ A “local entity” (town or water district) can still conduct education and BMP inspection activities

✓ But can *not* compel local businesses to allow inspections or to use BMPs.

Clean Drinking Water Is Up To You!



Where does your drinking water come from?
Your drinking water comes from either groundwater or surface water. Groundwater is the water that flows through the spaces between soil particles and through fractures in rock. It comes to the surface and becomes your drinking water through the ground.



Surface water comes from rainfall and snowmelt running over land and from groundwater seepage into lakes and rivers (including reservoirs).

Why should you be concerned?
While some pollutants (such as bacteria, viruses, and phosphorus) can be reduced by passing through soil under certain conditions, groundwater can be easily contaminated by chemicals and oils. Surface water is also affected by soil and pollutants picked up as water flows over the.

Enforcement:



- ✓ Document violations based on inspection
- ✓ Retain all BMP inspection forms, pictures, correspondence/phone calls
- ✓ When legal action is required, consult with DES, local governing body or town counsel

Guidance for Enforcement

✓ Enforcement process is outlined within:

Managing Groundwater Protection Areas: Guidance and Sample Letters, (DES, 2006)



Follow up Procedures: Write Inspection Follow-Up Letter



1. Inspector sends the follow-up letter to PCS within five business days of the inspection (See DES model letters)
2. Letter includes PCS facility name/address, date of inspection, copy of dated BMP inspection form, rule violations (cite the exact rule), and what must be done to comply

Follow up Continued...

3. Give PCS a reasonable timeframe (30-60 days) from the inspection date to correct violations
4. Contact PCS after 30-60 days to determine compliance (pictures or follow-up site visit)
5. Send a second warning letter to PCS if not in compliance after 30-60 days
6. Still not in compliance?
Refer to DES for assistance

"Must Reads" for BMP Inspectors

- ✓ Env-Wq 401, Best Management Practices for Groundwater Protection
- ✓ Survey Form and Instructions for Best Management Practices (DES)
- ✓ Managing Groundwater Protection Areas Guidance and Sample Letters (DES, 2006)

<http://des.nh.gov/organization/divisions/water/dwgb/dwspp/bmps/index.htm>

Final Questions and Review of BMP Self-Test Questions