

# Issues & Trends 2016

## Remediation and Redevelopment Program – WI DNR

Wednesday, Dec. 7, 2016  
12:00 p.m. – 1:00 p.m.

Dial: 1-855-947-8255  
Passcode: 6612 745#

# **Hazardous Waste Determinations and Management Options at Remediation Sites in Wisconsin**

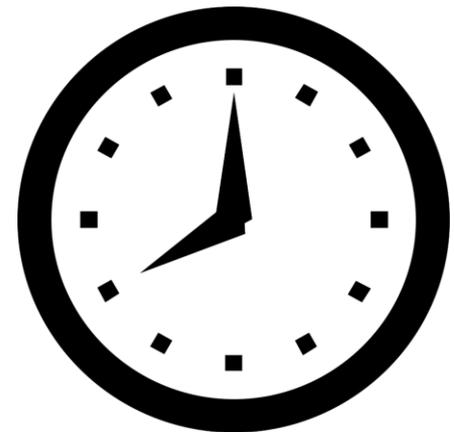
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# General Overview

I. Background

II. Determining if Contaminated Media is HW

III. Management Options



# I Background

# Background



- There is a comprehensive guidance document on HW Remediation, RR-705, “Guidance for Hazardous Waste Remediation”, on our Web site.
- The guidance document provides links to many other documents as well as correspondence between WDNR and EPA.

# Purpose of the Guidance

- Provide staff, RP's and others with the information necessary to determine if sites are contaminated with hazardous waste, and if so, the specific requirements that apply.
- To result in the best environmental outcome at the most reasonable costs while complying with the applicable HW requirements.

# Background

- The guidance confirms that the NR 700 series can be used for HW related cleanups including:
  1. Site Investigations,
  2. Evaluating and Selecting Remedies,
  3. Establishing Soil Cleanup Standards,
  4. Use of soil performance standards including engineering or institutional controls,
  5. Natural attenuation, and
  6. Site Closure.

**II**

**Determining if  
Contaminated Media is  
HW**

# Hazardous Waste Determinations

- State and Federal rules require the generator of a solid waste to determine if the waste is a HW.
- There are 2 major ways contaminated media can be defined as HW:
  1. The media **contains** a listed HW,
  - or
  2. The media exhibits a hazardous characteristic.

# “Contained-out” Determinations

- Media contaminated with listed HW that meets the industrial site specific, health based, direct contact numbers could be determined to no longer “contain” a HW.
- If the media does not exhibit a HW characteristic, then it would no longer be defined as a HW.
- This is called a “contained-out” determination.

# “Contained-out” Determinations (con’t)

- Media can be treated ex-situ on-site in an exempt unit or a unit approved under a variance to meet the contained out values and then managed as a non-hazardous solid waste. These management options are described later.

# “Contained-out” Determinations (con’t)

- Normally, the contained-out value for soil that is to be managed at a licensed in-state engineered landfill or possibly on-site under NR 718 is the industrial RCL for the contaminants that are the basis for listing. There is separate guidance fact sheets for these values.
- The contained-out value for groundwater is the ES.

## HW Determinations (cont.)

- Waste and contained out determinations should be made early in the process, normally at the Site Investigation stage, unless treatment is needed to meet contained out numbers – then likely at the RAOR stage.
- Generators are responsible for making these determinations; WDNR can't make them.

## HW Determinations (cont.)

- This is important because the regulatory status of the media and the selected remedial action can significantly affect the cost and timing of a project.

# Good Faith Waste Determinations

- Generators need to make a good faith effort to determine the source of contamination.
- Optional form available as guidance.
- If after a good faith evaluation, the evidence on the source of the contamination is either unavailable or inconclusive, it should be assumed the media is not a listed HW.

# Example No. 1

## Background

- Vacant shopping center with PCE found in both soil and groundwater.
- The proposed developer evaluates potential sources including a former dry cleaner, but a specific source is not found.
- Without a documented source, they can conclude the media doesn't contain listed HW.

## Example No. 1 (cont.)

- If a source area is found adjacent to the former dry cleaner or if documentation exists on the cause of the release, then the media may be a HW. It depends on:
  1. When the release occurred,
  2. Product spill vs. waste release, and
  3. Selected option for management of the contaminated media.

## Example No. 2

- A Company discovers foundry waste fill in an area of a proposed plant expansion.
- Material does not meet the definition of a listed HW
- Disposal took place in the 1970's, and therefore it's unknown if the material would not have been a characteristic HW at the time of disposal.

## Example No. 2 (cont.)

- Since the volume of waste is relatively small, the Company chooses to excavate the material and ship it off site for management.
- If the waste does not exhibit a HW characteristic at the time of excavation then it can be managed as a solid waste.
- If it does exhibit a HW characteristic, then it would require management as a HW.

## Example No. 3

- A developer determines that contamination at a former manufacturing facility is due to release of spent TCE.
- Release occurred prior to 1980.
- Installation/operation of an SVE system is not HW treatment because the media is not considered HW if managed in-situ.

## Example No. 3 (cont.)

- If an ex-situ remedy is planned, evaluate whether a contained-out determination can be made.
- If yes as found or after treatment, the media can be managed as a solid waste.
- If no, then the media must be managed as a hazardous waste.

# III

# Management Options

# Management Options for Media Defined as Hazardous

- In general, the treatment, storage or disposal of media requires a HW license, variance or an exemption from the rules.
- In the early 1990's WDNR determined that issuing a HW operating license for cleanup projects was not practical.
- Numerous other alternatives are available.

## Management Options (cont.)

- Exemptions by Rule:
  1. Wastewater treatment units,
  2. Publicly Owned Treatment Works (POTW's),
  3. Reinjection of contaminated groundwater, or
  4. Treatment in waste accumulation tanks or containers.

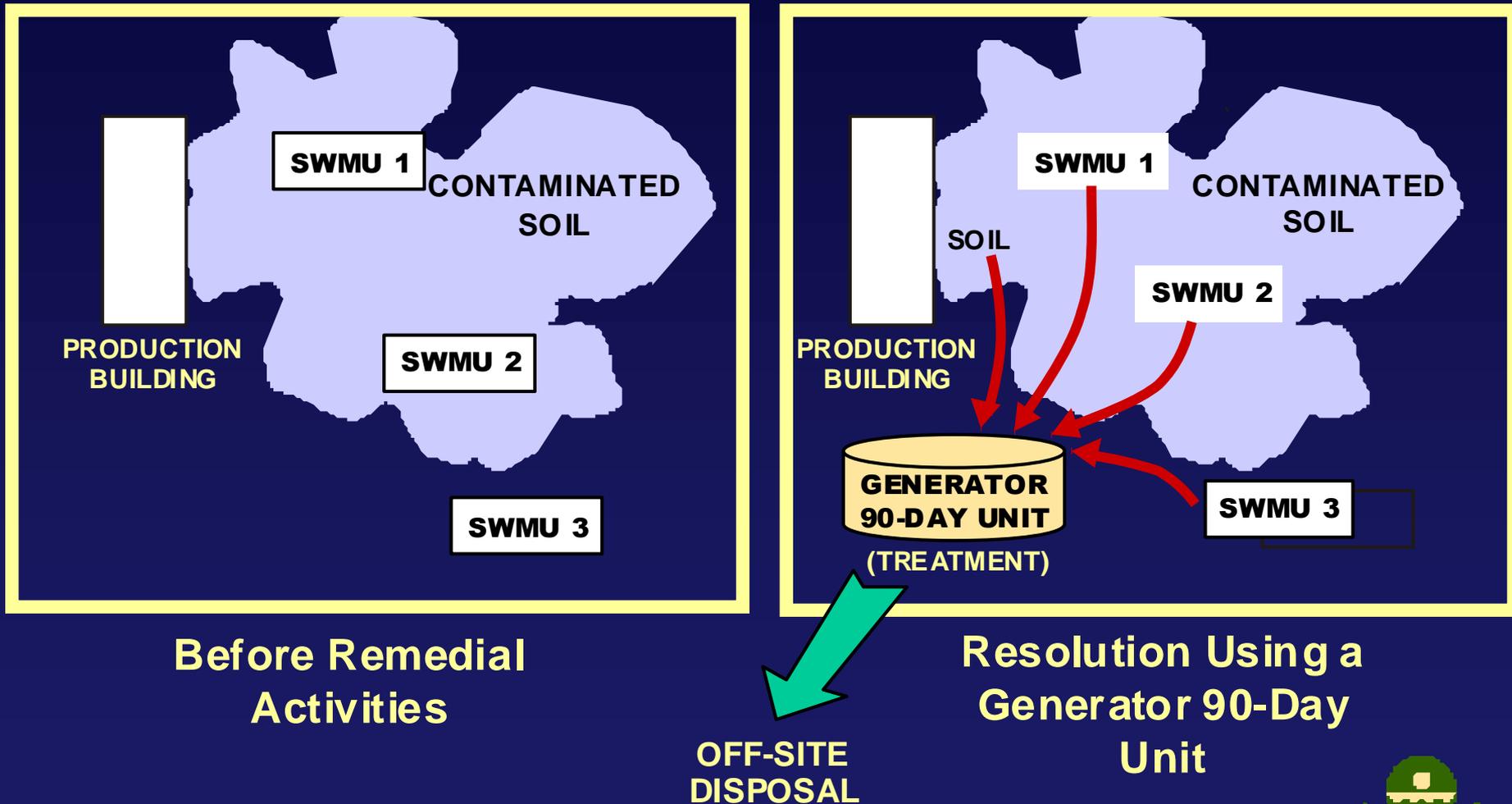
# Treatment in Accumulation Tanks and Containers

- NR 630.04(18) provides an exemption from licensing for generators that treat HW (including media) in containers and tanks.
- Need to follow the appropriate technical standards.
- Example

# Example

- Company discovers soil contaminated with lead that would fail TCLP.
- They estimate the volume to be approximately 30 cubic yards.
- They decide to treat the soil in roll-off containers with lime.
- A HW license or variance is not necessary if the container standards are met.

# Example of how a Generator 90-Day Unit may be Used at a Corrective Action Site



# Other Management Options

- HW Variances
- Area of Contamination (AOC)
- Corrective Action Management Units (CAMU's)

# HW Variances

- Variances can waive the requirement to obtain a HW operating license.
- Similar in nature to a remedial action plan under NR 700. Prepare in accordance with that rule.
- Proposed variances must be sent to EPA for review and require public participation.

## HW Variances (con't)

- Variances typically require a public comment period before a final decision is made.
- The RP is responsible for issuing the notice.
- DNR can provide assistance with the content of the public notice.
- Following the 30 day comment period, DNR responds to the comments and issues the final decision.

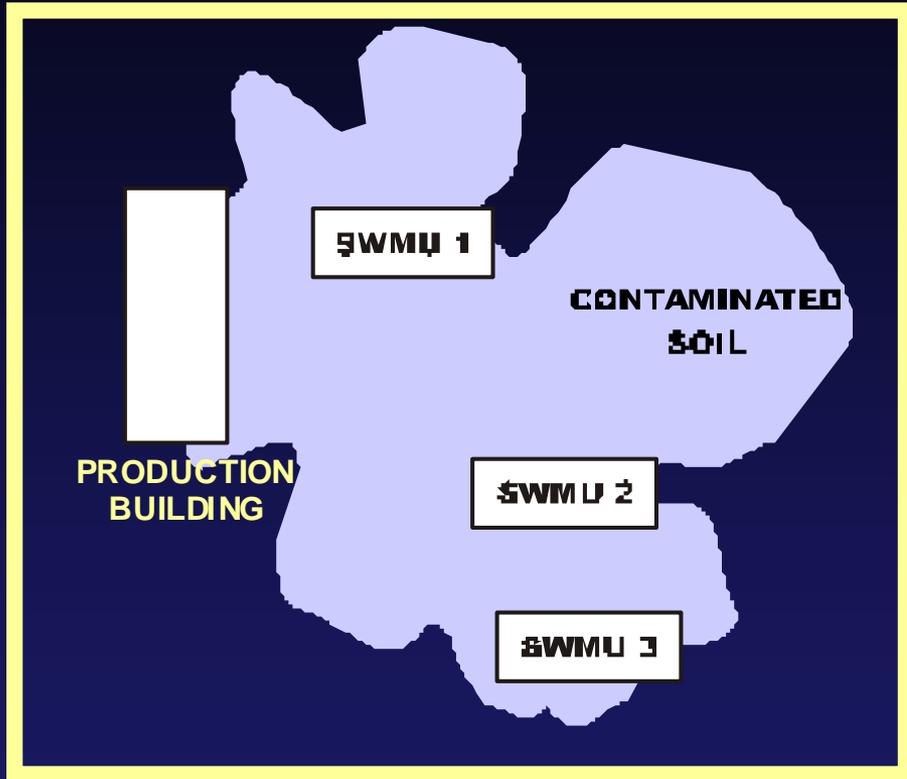
# Area of Contamination (AOC) Policy

- Since AOC's are considered land based units, consolidation or in-situ treatment does not result in a new point of HW generation.
- Ex-situ treatment or off-site disposal is not covered by the AOC policy.

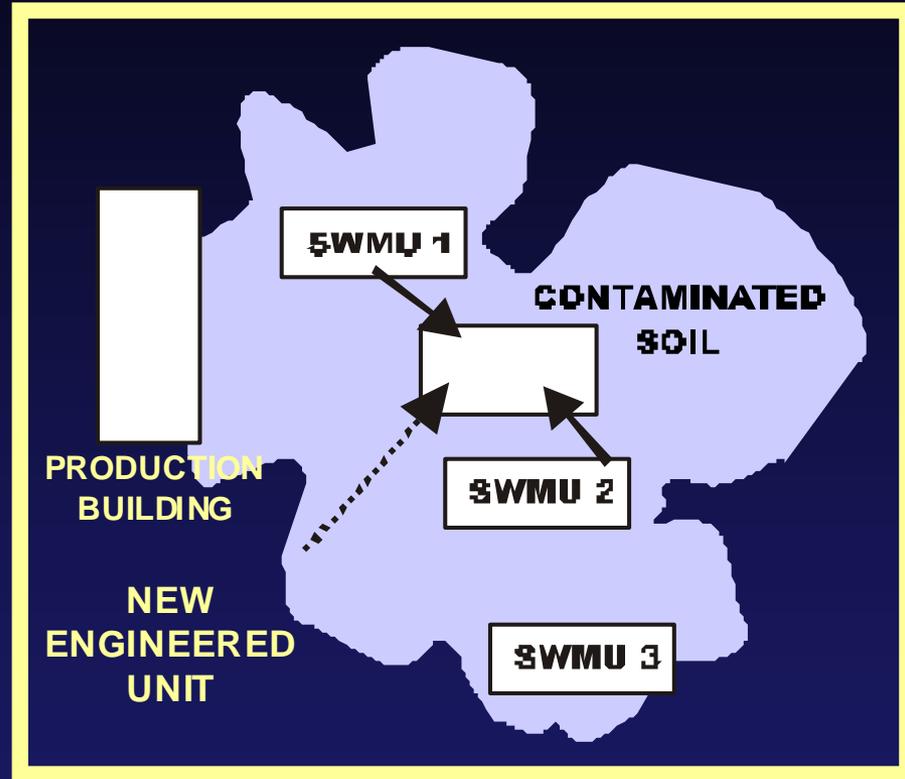
## AOC Policy (cont.)

- The AOC policy typically works best for situations where the contaminants are a direct contact concern.
- DNR project managers can use their judgment on a site-specific basis when designating an AOC.
- Example

# Example of how an AOC may be used at a Corrective Action Site



Before Remedial Activities



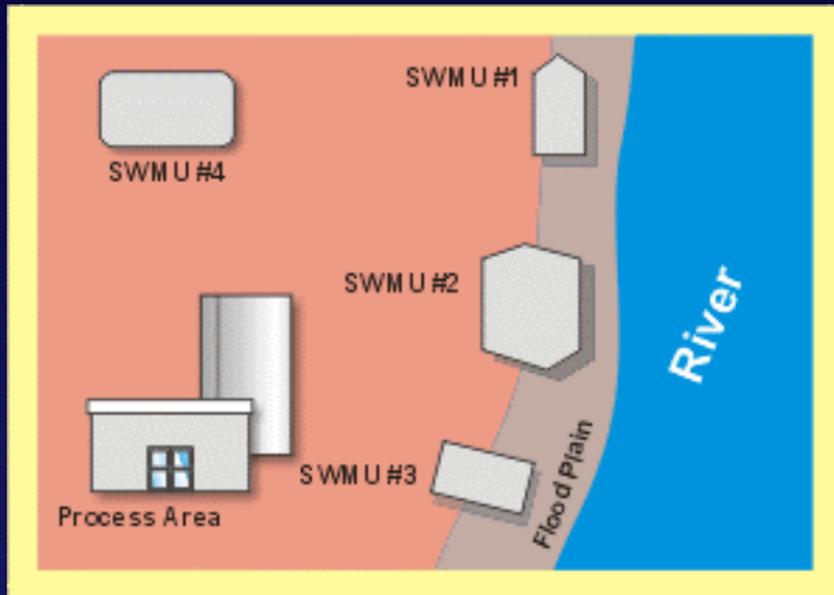
The Resolution Using an AOC



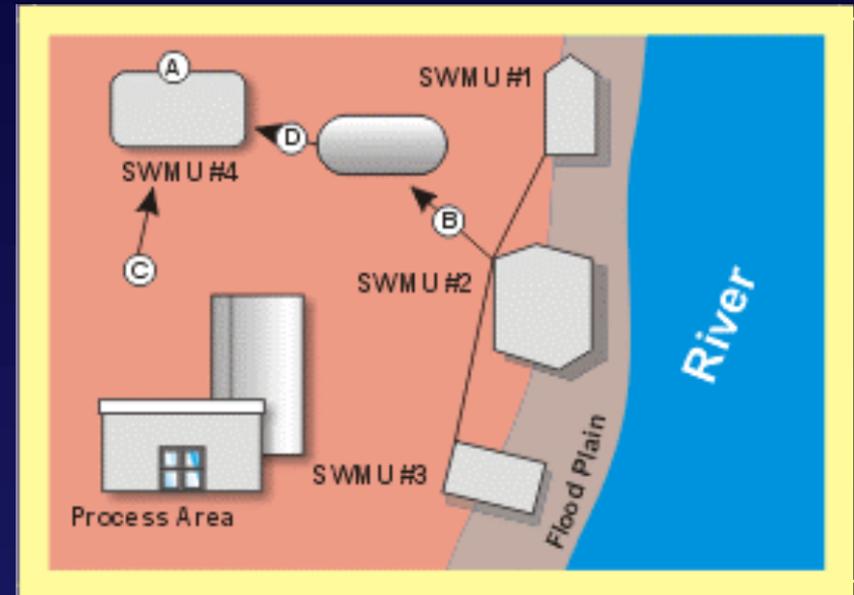
# Corrective Action Management Units (CAMU's)

- CAMU's allow remediation waste to be disposed of provided certain design and treatments standards are met.
- If treatment is the desired management approach, use an exempt unit or HW variance rather than a CAMU.
- If final disposal of hazardous remediation waste is needed, the best option is typically designation of a CAMU.

# Example of how a CAMU may be Used at a Corrective Action Site



**Before Remedial Activities**



**The Resolution Using CAMUs**



# Corrective Action Management Units (CAMU's) (con't)

- Explanation of the EPA diagram on the previous slide: The contaminated env. media generation areas (solid water management units or SWMUs) are discrete and different – aren't in the same area like an AOC. The media is managed in different ways – some treated first (B), and then disposed of in a lined unit (C and D into A).

# WDNR Review Functions, Fees and Roles

HW Review Item	Type of Submittal	Fee	WDNR Role
Waste Determination and/or Initial Contained Out Determination	Stand Alone	\$700	Provide assistance with understanding the process for making the determination(s) and ensuring the process is correct. Issue a written review and /or approval.
	In Site Investigation Report	\$1050	
	In Remedial Action Options Report	\$1050	The generator is responsible for these determinations; WDNR doesn't perform them; an approval doesn't mean WDNR has performed the determinations.

# WDNR Review Functions, Fees and Roles (Con't)

<p><b>Remediation                  Variance                  Application and                  Renewals</b></p>	<p><b>Stand Alone</b></p>	<p><b>NR 670                  Appx. II                  Tanks,                  Piles,                  Misc. -                  \$1600</b></p> <p><b>Combusti                  on units,                  land                  disposal                  units -                  \$4000</b></p>	<p><b>Review and issue variance.</b></p> <p><b>Send copy of the variance application to EPA for review and comment.</b></p> <p><b>Note: Applicant must publish a public notice and submit a copy of the notice as part of the hazardous waste variance application. Public comments are sent to WDNR.</b></p>
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# WDNR Review Functions, Fees and Roles (Con't)

Overall Remedy Implementation Plan accounting for HW Requirements	Remedial Action Options Report	\$1050	Provide technical assistance Issue a written review and /or approval.
	Design Report	\$1050	

# Summary

- Guidance now exists to help determine when contaminated media may be defined as hazardous waste.
- Numerous options are available for managing hazardous remediation waste.
- Good decisions about remedy selection should drive cleanups.

## Additional Resource

A more detailed presentation on this topic is available in the RR Program Training Library at ***[dnr.wi.gov/topic/Brownfields/TrainingLibrary.html](http://dnr.wi.gov/topic/Brownfields/TrainingLibrary.html)***.

It's the last presentation item near the bottom of the page. It's dated 3/6/14 and titled (Applicability of the Hazardous Waste Rules to Cleanups).

# Questions?





# Issues & Trends 2017

## PCBs in Wisconsin: Sampling & What's Next

**January 11, 2017 | 12:00 p.m.**  
(Note the Date – Second Wednesday of the Month)

Audio and information from today's presentation and future *Issues & Trends Series* events can be found on the RR Program Training Webpage at:  
[Http://dnr.wi.gov/topic/Brownfields/Training.html](http://dnr.wi.gov/topic/Brownfields/Training.html)

Questions/Comments/Suggestions regarding the  
*Issues & Trends Series* can be submitted to:  
**DNRRRComments@wisconsin.gov**

