



# **An Introduction to the Clean Water Act and Safe Drinking Water Act NPDES and UIC programs**

An introduction to requirements that may apply to discharges from your wastewater treatment plant

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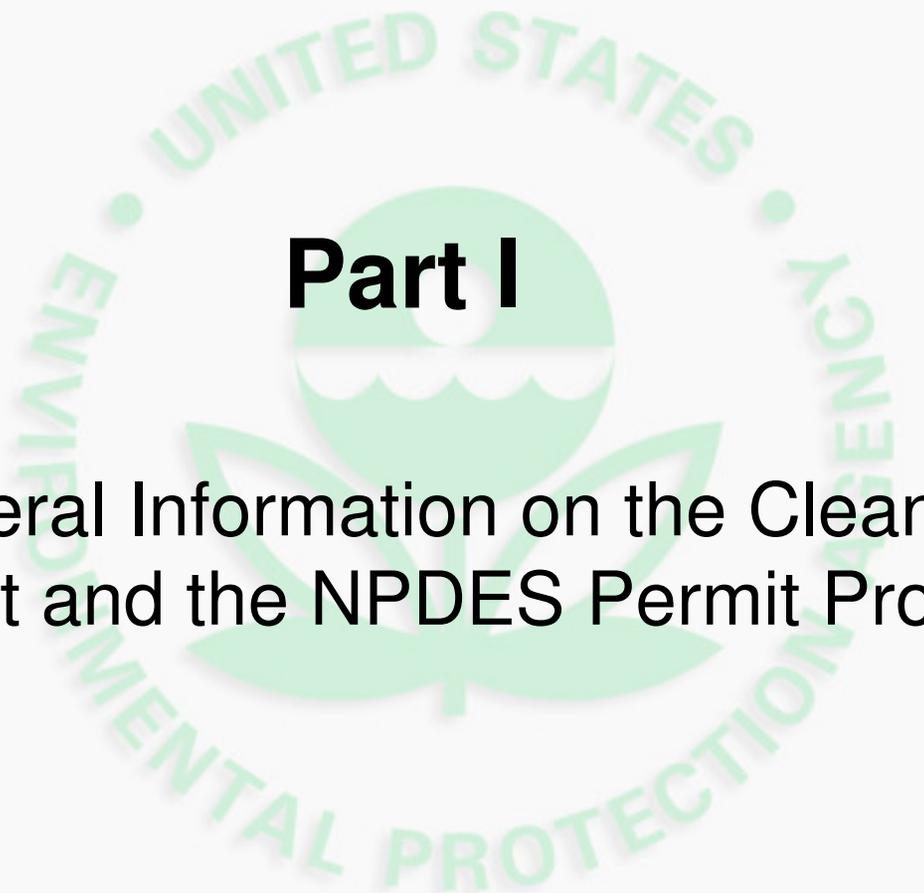
## Protecting Water Resources

- ❖ Purpose of both the NPDES and UIC programs is to protect your community's water resources
- ❖ NPDES protects surface water
- ❖ UIC protects groundwater



## General Outline

- ❖ Part I - General Information on the Clean Water Act, NPDES Permit Process
- ❖ Part II - Planning for a Wastewater Treatment Plant
- ❖ Part III – NPDES Permit Application Process
- ❖ Part IV – Safe Drinking Water Act, UIC Program Requirements



# Part I

## General Information on the Clean Water Act and the NPDES Permit Process



# Clean Water Act



**Goal: "To restore and maintain the chemical, physical, and biological integrity of the nation's waters."**



# Why is the EPA involved?

## CWA

Promulgated in 1972 | Amended in 1987

- ❖ Sec 301(a): Except as in compliance with this section and sections 302, 306, 307, 318, 402 and 404 of this Act, the discharge of any pollutant by any person shall be unlawful.
  - CWA Section 301 requires an NPDES permit for the discharge of pollutants to waters of the United States
  - Section 402 is the NPDES Permitting Program



## What is NPDES?

- ❖ National Pollutant Discharge Elimination System; Section 402 of the Clean Water Act (CWA)
  
- ❖ A permit is a license
  - Issued by the EPA, a tribe or a state ((once authorized)
  - Granting permission/controlling point source discharges of pollutants into waters of the US
  - A permit is a privilege not a right
  
- ❖ Permit limitations are based on Technology-based limitations, Water Quality Standards (WQS) and/or Total Maximum Daily Load (TMDL) allocations



## Section 402 of the CWA

Either EPA or a state/tribal government with the delegation authority to administer the NPDES Program under the CWA:

- ❖ Develops permits with technology or water-quality based limits (the more stringent of either)
- ❖ Issues permits to dischargers
- ❖ Tracks permit compliance
- ❖ Conducts compliance inspections
- ❖ Takes enforcement actions



State/Tribal role during CWA 401 Certification  
Permit must comply with WQS



## Region 10 Tribes with EPA Approved WQS

- ❖ Puyallup Tribe of Indians – Effective 10/31/94
- ❖ Confederated Tribes of the Chehalis Reservation – Effective 2/3/1997
- ❖ Spokane Tribe of Indians – Effective 4/22/2003
- ❖ Kalispel Indian Community of the Kalispel Reservation – Effective 6/24/2004
- ❖ Confederated Tribes of the Colville Reservation (Federal 40 CFR 131.35) – Effective 7/1/2005



## Region 10 Tribes with EPA Approved WQS

- ❖ Port Gamble S’Klallam Tribe – Effective 9/27/2005
- ❖ Confederated Tribes of the Warm Springs Indian Reservation – Effective 7/20/2006 \*\* Not all provisions were approved by EPA
- ❖ Makah Tribe – Effective 9/29/2006
- ❖ Lummi Nation – Effective 9/30/2008
- ❖ Confederated Tribes of the Umatilla Indian Reservation – Effective 2/11/2010
- ❖ Coeur d’Alene Tribe – Effective 6/12/2014



## Who Needs a Permit?

All “point sources” discharging “pollutants” into “waters of the U.S.”



Must obtain an NPDES permit from EPA or an approved state\* or tribe

\* States are not authorized to write permits on tribal lands



## Definition of Point Source

- ❖ **Point source** means any discernable, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged



## Definition of a Pollutant



- ❖ **Pollutant** means dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water



# Types of Permits

## ❖ Individual Permit

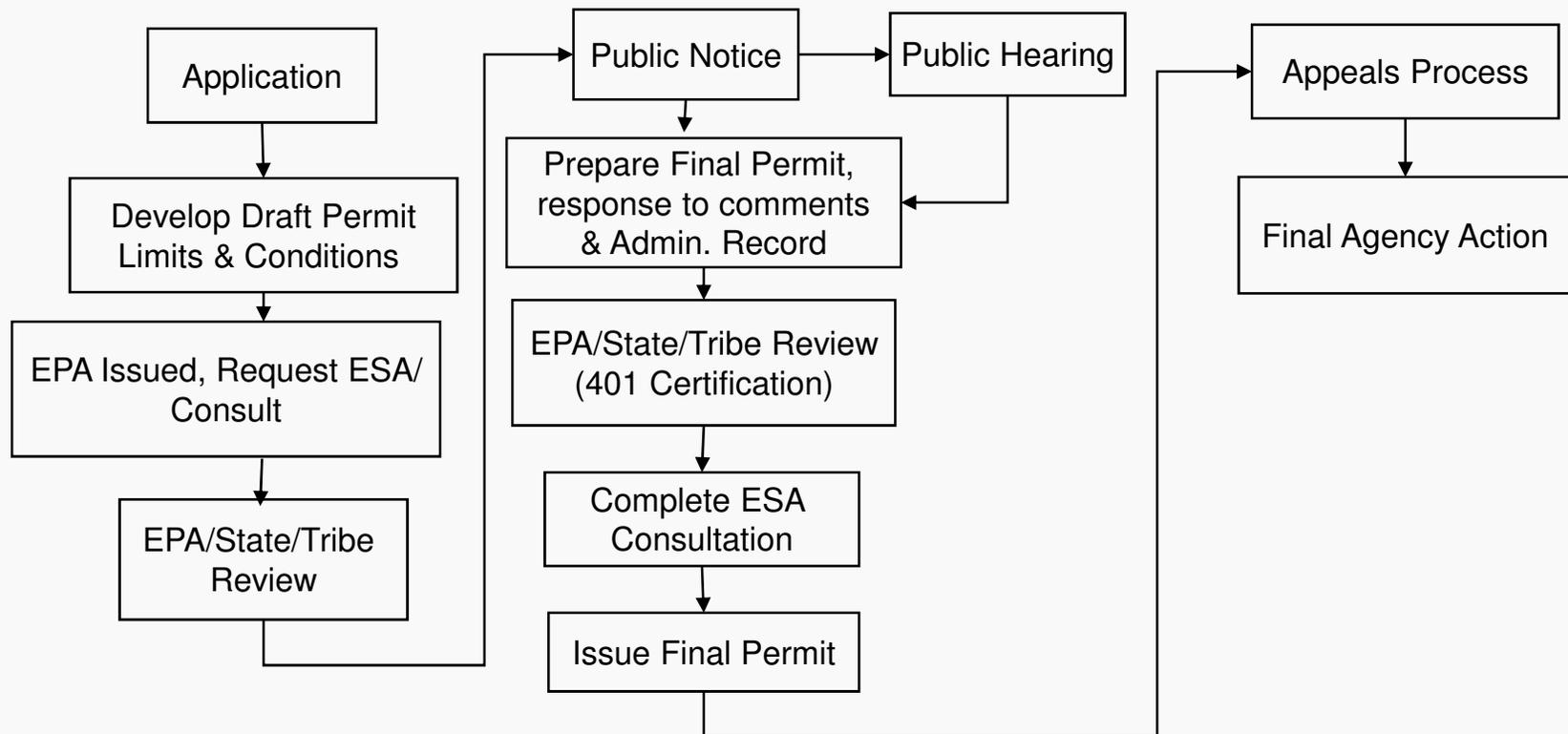
- For a single applicant
- Permit valid for 5 years
- Examples – Municipal WWTP, Single Industrial Facility

## ❖ General Permit

- Available to several applicants
- Only one permit issued, valid for 5 years
- For a specific category of activity (mining, stormwater, seafood, oil and gas, etc.)
- Same geographical area (statewide, watershed)

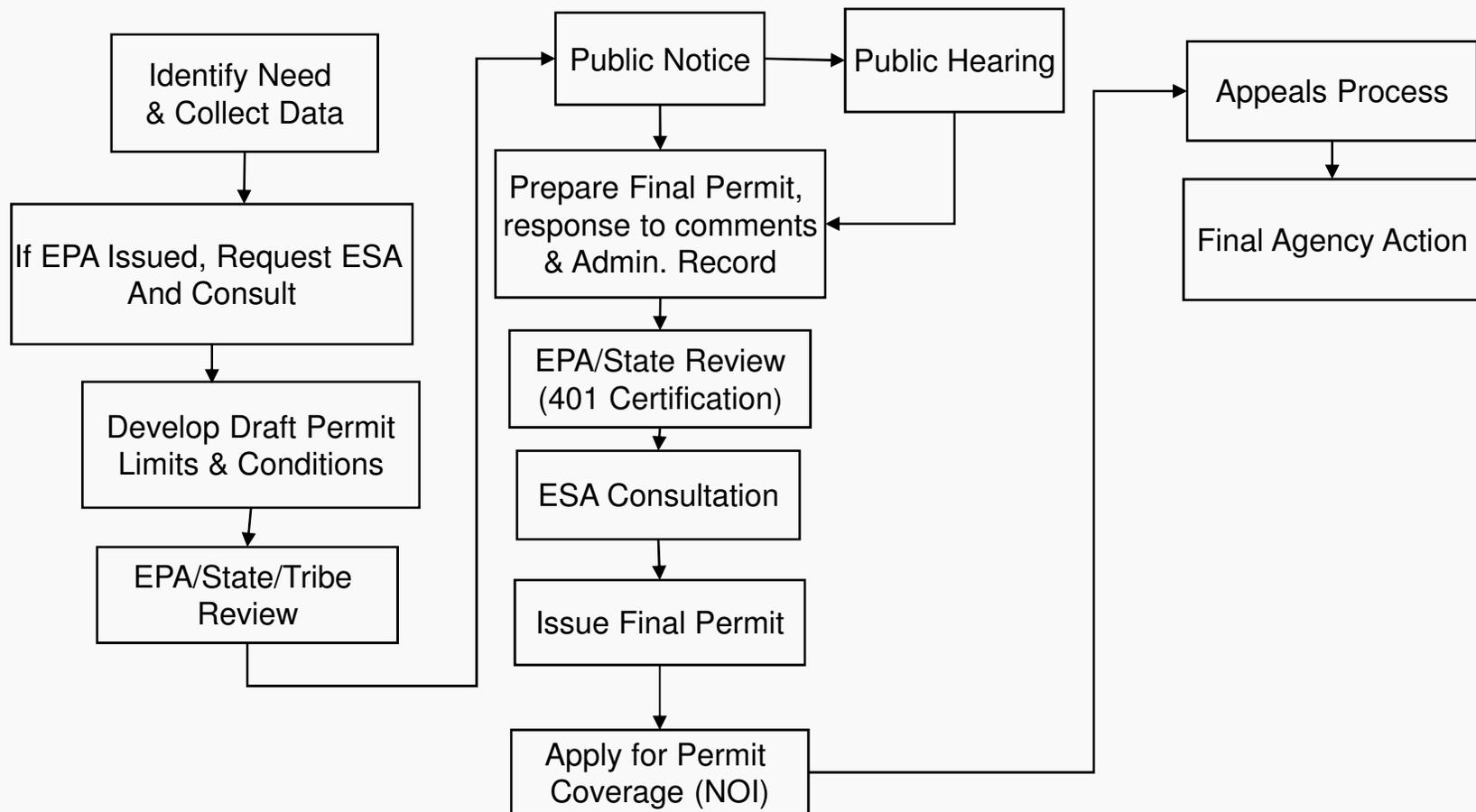


# Individual Permit Process





# General Permit Process



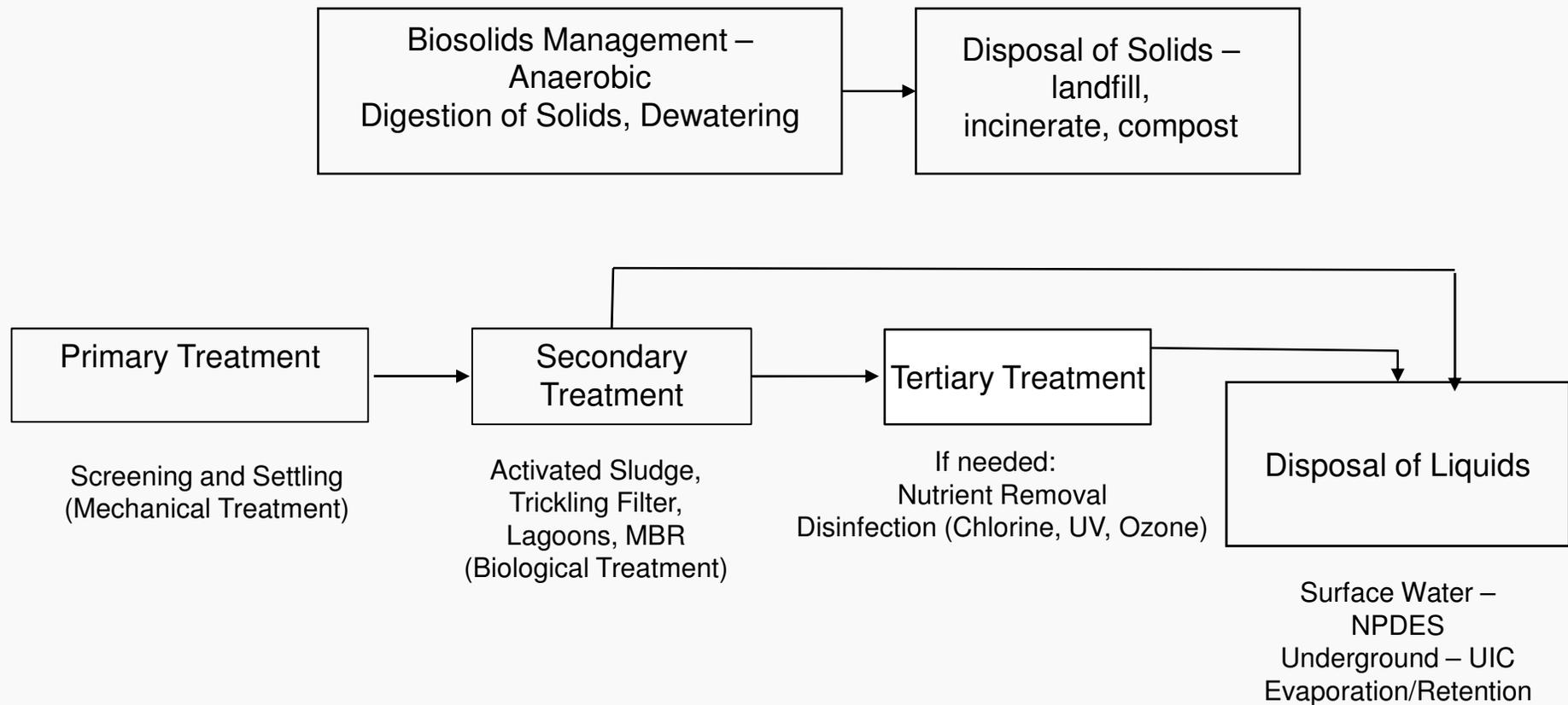


## **Part II**

# Planning to Build/Install A Wastewater Treatment Plant



# Wastewater Treatment Processes





# Key Points While Planning

## ❖ Location

- Are there drinking water wells nearby?
- Are there wetlands?
- How is the soil quality?
- Will there be a surface water discharge?
- Where is the water table? Will wastewater be injected?



# Key Points While Planning

## ❖ Biosolids Management

- Any treatment plant producing/disposing of sewage sludge is subject to federal NPDES regulations and must complete NPDES Application Form 2S

- **Tony Petruska**

Biosolids Coordinator

USEPA Region 7

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Fax: 913-551-7765

[petruska.anthony@epa.gov](mailto:petruska.anthony@epa.gov)



## Key Points While Planning

- ❖ Monitoring treatment plant performance is a standard part of operating a WWTP. Operators usually monitor a combination of:
  - Influent – what’s coming in
  - Effluent - what’s going out (and the difference)
  - Receiving Water – are there measurable impacts on the surface water where the discharge is going?



## Key Points While Planning

- ❖ Your design should include monitoring points at different stages in the process (i.e. sampling influent, sampling effluent)
- ❖ You might want space for laboratory analysis onsite
- ❖ You may need to budget for contract laboratory support

# Part III

## NPDES Permit Application Process





# Permit Applications and Forms

- ❖ **NPDES Form 1 Application: General Information - Consolidated Permits Program**  
General information application. Must be submitted by all facilities applying for an individual Permit
  
- ❖ **NPDES Form 2A Application**  
Application for Permit to discharge municipal wastewater from new and existing facilities (POTWs/WWTPs)
  - If producing sludge at the facility, **EVEN WITHOUT NEEDING AN NPDES PERMIT**, Fill out and submit **Form 2S**
  
- ❖ **NPDES Form 2B Application**  
Application for Permit to discharge from concentrated animal feeding operations (CAFOs) and aquatic animal production facilities



## Forms Continued

### ❖ **NPDES Form 2C Application**

Application for permit to discharge for existing industrial facilities (including manufacturing, commercial, mining and silvicultural operations)

### ❖ **NPDES Form 2D Application**

Application for permit to discharge for new industrial facilities.

### ❖ **NPDES Form 2E Application**

Application for facilities which do not discharge process wastewaters

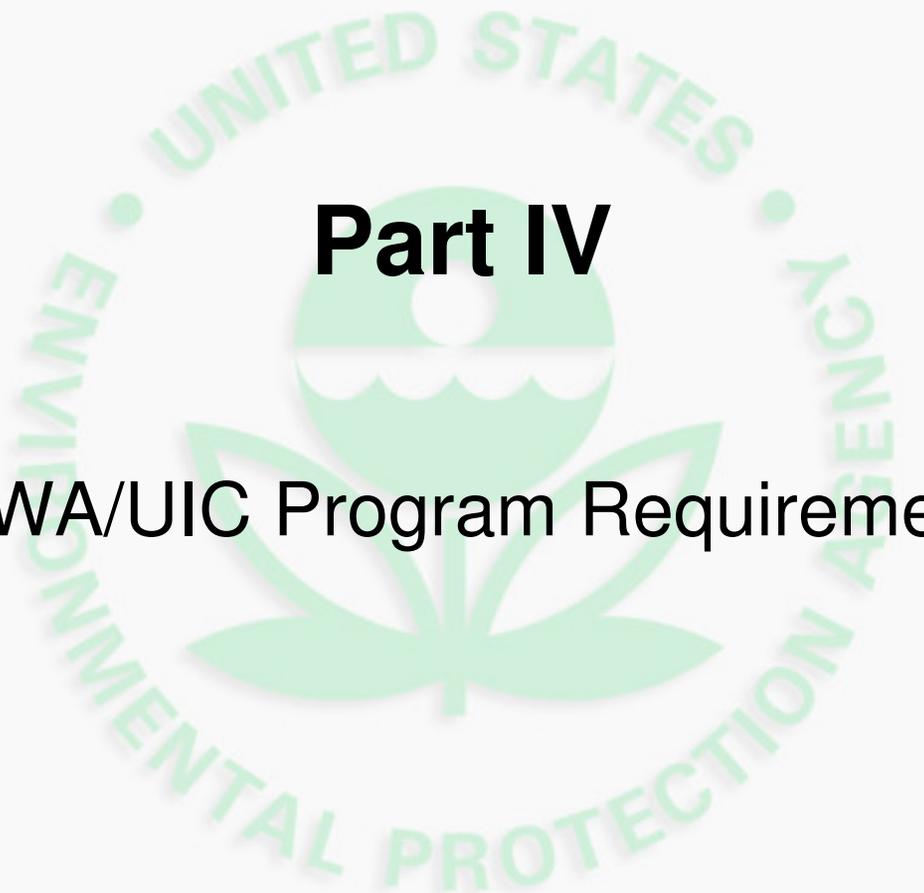
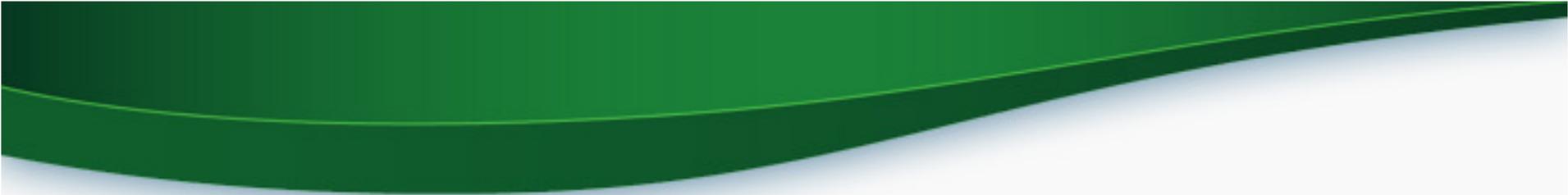
### ❖ **NPDES Form 2F Application**

Application for permit to discharge stormwater associated with new and existing industrial activity.



## Application Process

- ❖ All forms are found online (Google “EPA NPDES Application Forms”)
- ❖ Submit 180 days prior to operation
  - 40 CFR 122.21(c)(1)
- ❖ EPA review for completeness
- ❖ Add to permit queue – note regional backlog
  - Once assigned – 6-12 months process usually



## **Part IV**

# SDWA/UIC Program Requirements



## Underground Injection Control Program

- ❖ Part C of the Safe Drinking Water Act (SDWA)
- ❖ 40 C.F.R. Parts 144-148
- ❖ Protects Underground Sources of Drinking Water (groundwater) from contamination caused by subsurface emplacement/disposal of fluids below the ground surface



## Class V UIC Program

- ❖ 6 classes of wells
- ❖ Class V program regulates discharges of fluid above or into underground sources of drinking water (“shallow” disposal)
- ❖ EPA directly implements the Class V program in Alaska and on Indian lands in Idaho, Oregon, and Washington



## Injection Wells



- ❖ Bored, drilled or driven shafts, or dug holes that are deeper than they are wide;
- ❖ Improved sinkholes;
- ❖ Subsurface fluid distribution systems (e.g., perforated pipes, drain tiles)



## Injection Wells



- ❖ Drainfields and drywells are the most common Class V well construction
- ❖ Class V wells are categorized by the types of fluids they inject
- ❖ Currently more than 100 Class V wastewater treatment plant effluent disposal wells on Indian lands in Region 10. Most are drainfields.



## Endangerment is prohibited

- ❖ Injection activities “cannot allow the movement of fluid containing any contaminant into underground sources of drinking water, if the presence of that contaminant may cause a violation of the primary drinking water standards, other health based standards, or may otherwise adversely affect the health of persons.”



- ❖ The burden of proving that the non-endangerment requirements are met is on the owner/operator
  
- ❖ If your WWTP will utilize underground injection\*, you must submit information about the injection system to the UIC program.

\* you must submit info about all injection activities, whether you're injecting effluent or any other fluids, such as stormwater, at your facility

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Parker, Jennifer, 9/5/2014



❖ For a WWTP effluent disposal well, submit:

- EPA Form 7520-16 (the Inventory of Injection Wells Form)
- Description of proposed injection well(s), including:
  - schematic drawing and map showing location
  - info about geologic unit into which it will inject fluids
- Description of proposed injectate, including:
  - proposed volume & rate of disposal
  - effluent quality (including information about how it will meet the non-endangerment standard, monitoring and contingency plan in the event of quality issues)



- ❖ The EPA may ask for more information in order to determine if the injection activities can be authorized by rule or requires a permit
  - Authorization by rule: You must comply with all UIC program requirements but you don't have to get an individual permit
  - Note: Your system is subject to inspection whether authorized by rule or permitted



- ❖ If the EPA determines that any injection activity may endanger drinking water resources, the EPA may:
  - Require closure of the well
  - Require the owner/operator to apply for a permit
  - Order the owner/operator to take other actions as appropriate to negate the potential endangerment to the drinking water source.



## Submitting UIC inventory info

U. S. Environmental Protection Agency, Region 10  
Ground Water Unit  
1200 Sixth Avenue, Suite 900, OCE-082  
Seattle, Washington 98101  
  
Phone: 1-800-424-4EPA

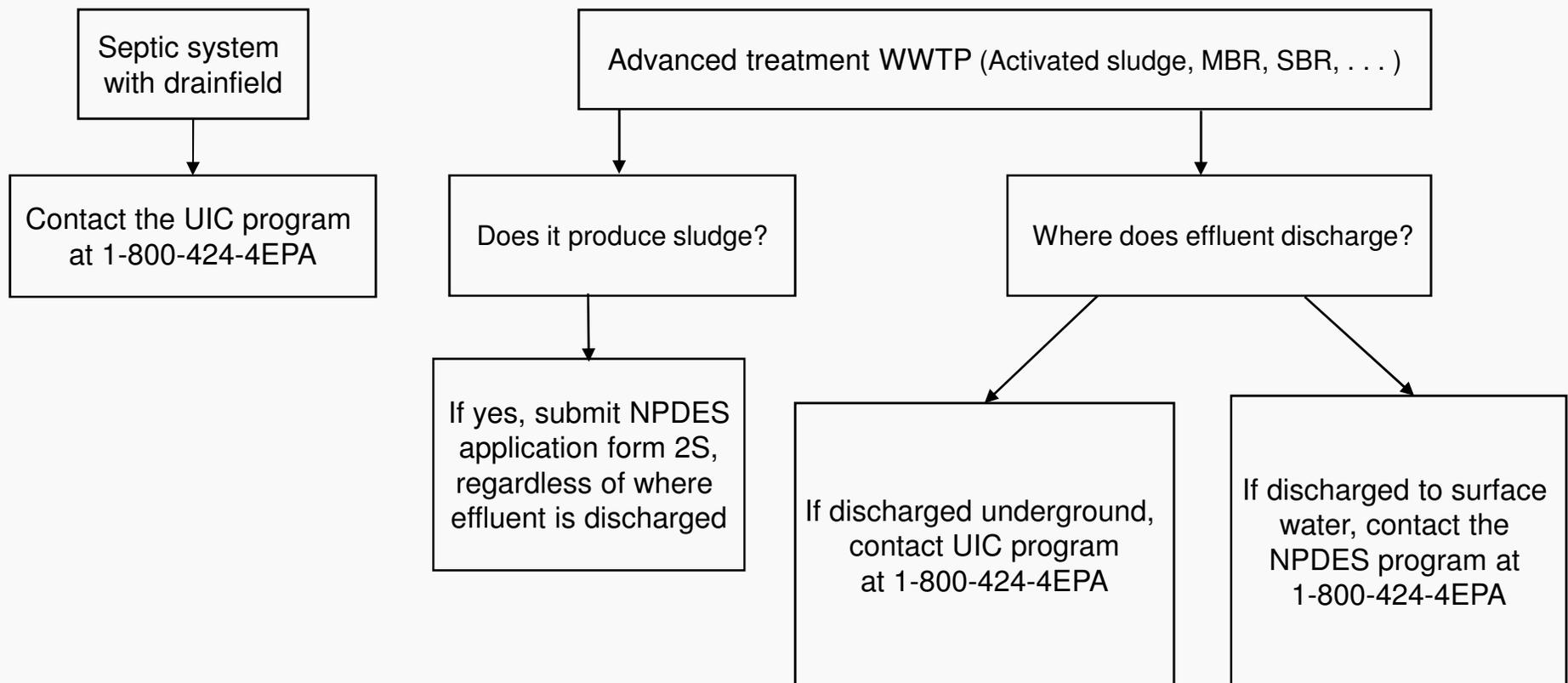


## IHS assistance

- ❖ The EPA UIC program has partnered with the Portland Area Indian Health Service (PAIHS)
- ❖ IHS staff can provide technical assistance related to design, operation, and maintenance of injection systems
- ❖ Operator trainings will be offered
- ❖ Contact Captain Mathew Martinson  
503-414-7780



# Which program to contact





## Additional info:

- ❖ EPA issues Air Permits based on predicted air emissions values. Permitting requirements may apply to your WWTP
- ❖ Contact the EPA Region 10 Office of Air, Waste, and Toxics for more information.  
1-800-424-4EPA



## Questions ??

- NPDES Program: Jill Nogi  
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UIC Program: Jennifer Parker  
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