

The Clean Air Act and POTWs

NACWA Developments in Clean Water Law Seminar

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Agenda

1. Brief Overview of Clean Air Act (CAA)
2. Current Cases Affecting NACWA Members
 - Sewage Sludge Incinerator Rule
 - Biogenic Deferral for GHGs under PSD and Title V Programs
3. Case Study: DC Water

Overview: Regulated Pollutants

- Criteria pollutants

- CO, NO₂, Ozone (VOCs and NO_x), Lead, SO₂, Particulate Matter

- Hazardous Air Pollutants

- *E.g.*, methanol, xylenes, methylene chloride, toluene, ethyl benzene, chloroform, tetrachloroethylene, benzene, naphthalene, heavy metals, chlorine

- Greenhouse Gases

- CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride

Overview: Relevant CAA Programs

- Construction Permits
 - New Source Review / Prevention of Significant Deterioration (NSR/PSD)
 - Minor Source Permitting
- Specific Source Category Controls (Initial & Ongoing Compliance Requirements)
 - New Source Performance Standards (NSPS)
 - National Emissions Standards for Hazardous Air Pollutants (*or* Maximum Achievable Control Technology Standards) (NESHAP/MACT)
 - Solid Waste Incinerator Requirements*
- Operating Permits & Reporting Requirements
 - Title V Operating Permits
 - Greenhouse Gas Reporting

SEWAGE SLUDGE INCINERATOR RULE

Sewage Sludge Incinerator (SSI) Rule

- Regulates SSIs under CAA § 129
 - New Source Performance Standards for new units
 - Emissions Guidelines for existing units
 - Fluidized bed or multiple hearth incinerators
- Establishes technology-based emission standards for nine pollutants
 - Maximum Achievable Control Technology
- Requires siting analysis for new SSIs
 - Evaluate alternatives to minimize risk to public health and environment
- Monitoring, testing, reporting, recordkeeping, training requirements

Mercury
Lead
Cadmium
Hydrogen Chloride
Particulate Matter
Sulfur Dioxide
Nitrogen dioxides
Dioxins/Furans
Carbon Monoxide

Sewage Sludge Incinerator (SSI) Rule: Compliance Deadlines

- Deadlines for Compliance with Emissions Limits
 - Existing Units: Within 3 years of state plan approval or by 03/21/2016, whichever is earlier
 - New Units on which construction commenced by 10/14/2010 or modified units on which modification commenced by 9/21/2011: Within 60 days after unit reaches feed rate at which it will operate or 180 days after initial startup, whichever is earlier

SSI Rule & Definition of “Solid Waste”

- SSI Rule regulates SSI under CAA §129 as “solid waste incinerators.”
 - Solid waste incinerators are those units that “combust solid waste that originates **from commercial or industrial establishments or the general public** (including single and multiple residences, hotels, and motels). (CAA §129(g)(1))
 - “Solid waste” as defined under RCRA
- Parallel RCRA rule: sewage sludge when incinerated = “solid waste”
 - EPA concluded statutory **exclusion for domestic sewage in RCRA** inapplicable to sludge generated from treatment process
 - “Solid waste” . . . does not include solid or dissolved material in domestic sewage.” RCRA §6903(27).
- EPA: SSI subject to §129 because sludge is solid waste that originates from “the general public” and industrial establishments
 - Conflicts with prior agency positions on the regulatory status of SSI
- NACWA: Sludge is generated by POTWs (not the general public) so units that combust sludge are not “solid waste incinerator units” subject to §129

CAA §112 or §129 – Why it Matters

- CAA §112 and §129
 - 1990 CAA Amendments created new § 112 provisions and §129 in its entirety
 - Mutually exclusive regulation
- CAA §129 – Regulates HAPs and other pollutants from solid waste incinerators.
 - MACT-level standards for all SWIs → **No distinction between major and minor sources**
 - Siting analysis required for new SWIs
- CAA §112 – Regulates HAPs from stationary sources
 - MACT-level requirements for Major Sources
 - Less stringent requirements for Non-Major (“Area”) Sources (“Generally Available Control Technology”)

SSI Rule Challenge: NACWA v. EPA

- Mar. 2011 EPA Publishes Final SSI Rule
- May 2011 NACWA Petitions EPA for Reconsideration
- Apr. 2012 EPA Denies Reconsideration
- May 2012 NACWA petitions D.C. Circ. Court of Appeals
- July 2012 NACWA files brief
- Oct. 2012 EPA files respondent brief
- Q1 2013 Oral Arguments (*anticipated*)
- Q2 2013 Decision (*anticipated*)

Issues Raised in NACWA Petition:

1. EPA lacks authority to regulate SSIs as solid waste incineration units under §129 rather than as part of POTWs under §112
2. EPA's establishment of MACT floors based on data from fewer than the best-performing 12% of SSIs and without accounting for variability in sewage sludge is unlawful;
3. EPA's refusal to establish additional SSI subcategories is unlawful

GREENHOUSE GAS REGULATION AND THE BIOGENIC CO₂ DEFERRAL

Biogenic CO₂ Emissions: Emissions of CO₂ from a stationary source directly resulting from the combustion or decomposition of biologically-based materials other than fossil fuels and mineral-based carbon.

The Biogenic Deferral: How We Got Here



Massachusetts v. EPA (2007)

- US Supreme Court decides CO₂ and GHG are “pollutants” under the CAA, opening the door to EPA regulation

EPA Makes Endangerment Finding (2009) & Issues Motor Vehicle Standards (2010)

- Once motor vehicle standards become effective, GHG are “regulated pollutants” subject to regulation under PSD program and Title V

Tailoring Rule (2010)

- EPA issues tailoring rule to implement PSD and Title V permitting in phases
- All GHG count towards permitting thresholds

Biogenic Deferral (2011)

- As signaled in Tailoring Rule and also in response to National Alliance of Forest Owner petition for reconsideration, EPA issues 3-year categorical exemption for all biogenic sources of CO₂

GHG Regulation & Deferral

- GHG Regulation under the Tailoring Rule:
 - PSD and Title V permitting and BACT apply to any “major source” of CO₂-e
 - Sources subject to PSD for other pollutants that have a potential to emit $\geq 75,000$ tpy CO₂-e
 - New sources that have potential to emit $\geq 100,000$ tpy CO₂-e
 - At existing sources with emissions $\geq 100,000$ tpy CO₂-e, any modification that has the potential to emit $\geq 75,000$ tpy CO₂-e
- Biogenic Deferral
 - 3 year exemption from PSD and Title V regulation for CO₂ emissions (applies only to CO₂ - not other regulated GHG)
 - During 3-year period, EPA will
 - Study biogenic emissions of CO₂ to develop scientifically sound and manageable accounting methods
 - Develop final rule on biogenic emissions for PSD and Title V programs

Why Did EPA Defer Biogenic CO₂?

- Biogenic emissions are offset by uptake of CO₂ by vegetation in a short-term, carbon-neutral carbon cycle
- Biogenic CO₂ emissions add “significant level of complexity to the permitting process”
 - May be carbon neutral or even beneficial (displace fossil fuels)
 - Biomass sources may differ over life cycle
- Deferral appropriate to allow EPA to study which biofuels result in net CO₂ emissions
- EPA believed deferral rule legally justified
 - Continuation of Tailoring Rule process and same justifications apply
 - Avoid impossible burden on administrative agencies
 - Avoid absurd result of restricting operations that result in net reduction of CO₂ emissions
 - Appropriate for EPA to implement regulation “one step at a time”

Biogenic Deferral Challenge: *Center for Biological Diversity v. EPA*

- April 2011 CBD files petition for review with D.C. District Court (brief filed March 2012)
 - May 2012 NACWA files brief as Amicus Curiae in support of EPA
 - July 2012 Petitioners, intervenors file final briefs
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- CBD Arguments:

- CO₂ became subject to PSD regulation automatically by operation of CAA when the vehicle standard took effect, and EPA must have – but lacks – “compelling justification” to deviate from the statute.
- EPA’s exemption is overly broad – any deviation from statutory mandate must be as narrow as possible.
- CAA doesn’t allow consideration of off-site CO₂ absorption when determining applicability of PSD and Title V programs

NACWA's *Amicus* Brief & Consequences of Regulation

- NACWA argued in *amicus* brief that biogenic sources – and especially biogenic sources originating at POTWs – are fundamentally different than anthropogenic CO₂ emissions and should not be regulated.
- In reply brief, CBD acknowledged NACWA's arguments might support a more narrow exemption under the PSD/Title V Programs (but noted that EPA did not craft a narrow exemption).
- If Deferral is vacated, PSD and Title V permitting and BACT apply to any “major source” of CO₂-e or major modification of such source

Case Study: DC Water Biosolids Project

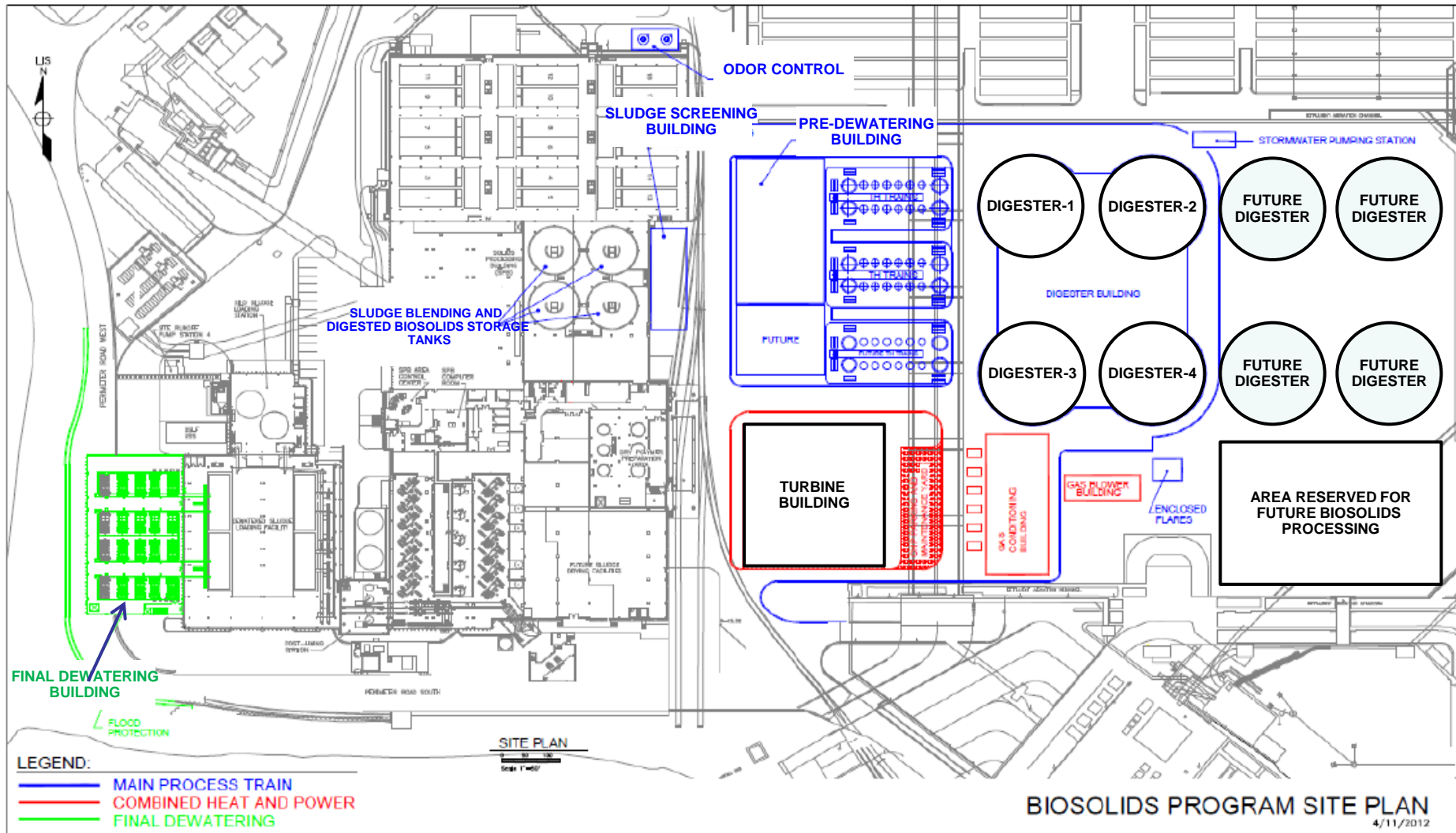
Project Overview – Air Sources

- Project Components
 - Main Process Train (MPT)
 - Combined Heat and Power Plant (CHP)
 - Final Dewatering Facility (FDF)
- Main Process Train
 - Thermal hydrolysis – CAMBI
 - Anaerobic digesters (Emergency flares)
 - Biological odor control scrubbers

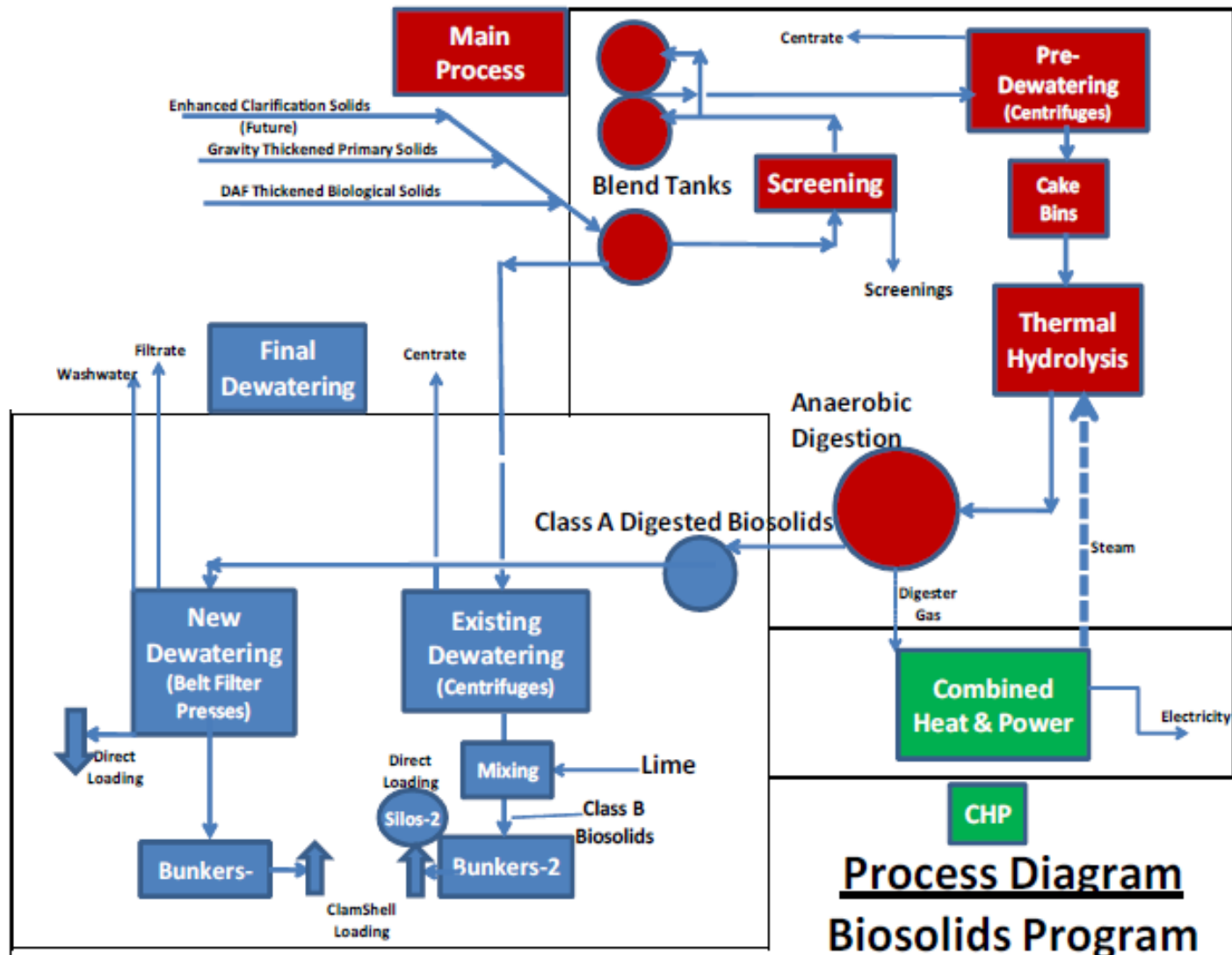


- Combined Heat and Power Plant
 - Three gas combustion turbines (CT) – 4 MW
 - Three heat recovery steam generators (HRSGs) with duct burners (DB)
 - Gas conditioning system
 - Auxiliary boiler
 - Black-start generator
- Final Dewatering and Other Equipment
 - 16 Belt filter presses
 - Chemical odor control scrubbers

DC Water Biosolids Program –Site Plan



DC Water - Process Overview



Process Diagram
Biosolids Program

Case Study: DC Water Biosolids Project

- **PSD/NNSR:**
 - Triggered NNSR for NOx
 - GHG threshold not exceeded due to biogenic deferral
- **NESHAPS:**
 - DC Water is a minor source of HAPs
 - Project triggered NSPS provisions of Reciprocating Internal Combustion Engines (Subpart ZZZZ)
 - Additional NESHAPs reviewed, but inapplicable: POTWs (Subpart VVV); Stationary Combustion Turbines (Subpart YYYY); ICI Boilers and Process Heater (Subpart DDDDD)
- **NSPS triggered:**
 - Small Industrial-Commercial-Institutional SGUs (Subpart Dc)
 - Stationary Compression Ignition Internal Combustion Engines (Subpart IIII)
 - Stationary Combustion Turbines (Subpart KKKK)
- **Greenhouse Gas Monitoring & Reporting**
 - Biosolids project triggered reporting due to methane and nitrous oxide

THANK YOU

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