



EPA Rulemakings Affecting Sewage Sludge Incineration

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Proposed Rule: Identification of Non-Hazardous Secondary Materials that are Solid Waste

- Proposed rule issued June 4, 2010 (75 Fed. Reg. 31844) (EPA-HQ-RCRA-2008-0329)
- Explains how EPA plans to differentiate between non-hazardous secondary material that is solid waste and that which is fuel when burned in combustion units
- NACWA submitted comments on Aug. 3, 2010

Significance of the Identification Rule

- Units that burn solid waste are subject to CAA § 129, while units that do not burn solid waste (*i.e.*, they burn fuel) are subject to CAA § 112
- The proposed rule would define sewage sludge as a solid waste, subjecting SSI to § 129 requirements

Differences Between CAA §§ 129 and 112

§ 112

- MACT standards established for **major sources** of hazardous air pollutants (HAP). Non-major sources (area sources) are generally subject to less stringent controls.
- Requires control of emissions of 187 HAPs.

§ 129

- MACT standards apply to all solid waste incineration units in a given category, **regardless of size**.
- Requires numeric emission limits for nine pollutants (plus opacity): Cd, CO, dioxins/furans, HCl, Pb, Hg, NOx, PM, and SO₂.
- Includes requirements for operator training, pre-construction site assessments, and monitoring that are not included in §112.

Proposed Approach

- In general, non-hazardous secondary materials burned in combustion units are identified as solid wastes unless:
 - Remains in the control of the generator;
 - Used as an ingredient in a manufacturing process;
 - Has been sufficiently processed to produce a fuel, or;
 - Is the subject of an approved non-waste petition
- In addition, the material must meet all three fuel legitimacy criteria:
 - Managed as a valuable commodity
 - Has a meaningful heating value
 - Contains contaminants at levels comparable to or lower than traditional fuels

Summary of NACWA Comments

- Outlined the practical burdens on sludge management
- EPA should exempt sewage sludge from the definition of solid waste to preserve the current framework of SSI regulation under 40 CFR Part 503 and CAA § 112
 - Prevent regulatory duplication
 - CAA § 112 has express directive to regulate HAPs from POTWs under § 112
 - RCRA's domestic sewage exemption prevents EPA from regulating POTW sewage sludge as a solid waste
 - EPA specifically asked for comment on this issue

NACWA Comments, Cont'd

- Alternative to exemption: sewage sludge should be treated as a legitimate fuel
 - Managed as a valuable commodity and burned for energy recovery
 - Meaningful heating value
- EPA should clarify that the rule has no regulatory effects or implications on other forms of sludge management (e.g., land application)

Proposed Rule: CAA § 129 Standards for Sewage Sludge Incineration Units (SSI)

- Proposed rule issued October 14, 2010 (75 Fed. Reg. 63260) (EPA-HQ-OAR-2009-0559)
- Proposes § 129 new source performance standards (NSPS) and emission guidelines (EG) for new and existing SSI units
- NACWA will provide testimony at public hearing on Oct. 29, 2010; working on comments due Nov. 29, 2010

Maximum Achievable Control Technology (MACT)

- MACT Floor – the minimum level of stringency for emissions limits
 - For existing sources: the average emissions limitation achieved by the best performing 12% of units in the category
 - For new sources: the emissions control that is achieved in practice by the best controlled similar unit
- EPA may establish standards that are more stringent than the MACT floor (“beyond the floor”), but must consider cost and non-air-quality and other environmental impacts when doing so

Summary of Proposed Emissions Standards for SSI

- Numerical emissions limits for the § 129 pollutants, plus opacity limits
- EPA proposes different standards for 2 subcategories of SSI units to account for emissions variability in design type
 - Multiple Hearth (MH)
 - Fluidized Bed (FB)
- EPA set the standards on a pollutant-by-pollutant basis
 - Result may be that no actual source currently achieves floor emissions limits for all pollutants
- Beyond the floor emissions limits proposed for Hg for existing MH units
- Title V permits

Requirements, Cont'd

- For new sources, the best performing source is FB, even for the MH subcategory
 - MH construction or modification will trigger the emission limits for the best performing FB incinerator, making new construction and retrofitting projects for MH sources impractical
- EPA proposes that the standards apply at all times – no startup, shutdown and malfunction (“SSM”) standards (but EPA proposes to add an affirmative defense to civil penalties for exceedances caused by malfunctions)
- Expected technologies
 - Activated carbon injection (Hg, CDD/CDF)
 - Fabric filters (metals, PM)
 - Packed bed scrubbers (acid gases)
- Other requirements include testing and monitoring, recordkeeping and reporting, and operator training

Table of Proposed Emissions Limits

Pollutant	Normalized Units (7% O2)	Existing Units		New Units	
		MH	FB	MH	FB
Cadmium (Cd)	mg/dscm	0.095	0.0019	0.00051	0.00051
Carbon Monoxide (CO)	ppmvd	3900	56	7.4	7.4
Dioxin/ Furans (D/F TMB)	ng/dscm	5.0	0.61	0.024	0.024
Dioxin/ Furans (D/F TEQ)	ng/dscm	0.32	0.056	0.0022	0.0022
Hydrogen Chloride (HCl)	ppmvd	1.0	0.49	0.12	0.12
Lead (Pb)	mg/dscm	0.30	0.0098	0.00053	0.00053
Mercury (Hg)	mg/dscm	0.02	0.0033	0.0010	0.0010
Oxides of Nitrogen (NOx)	ppmvd	210	63	26	26
Particulate Matter	mg/dscm	80	12	4.1	4.1
Sulfur Dioxide (SO2)	ppmvd	26	22	2.0	2.0
Opacity	X	10	0	0	0

Implementation and Applicability

- New SSI units that commence construction on or after 10/14/10 or are modified 6 months or more after the date of promulgation would have to meet the NSPS limits within 6 months after the promulgation date or upon startup (whichever is later)
- EG are enforced through EPA-approved SIPs (or possibly a FIP)
 - States would be required to submit a plan to implement and enforce the EG not later than 1 year after EPA promulgates the EG
 - The state plan must be effective no later than 3 years after the state plan is approved or 5 years after the EG are promulgated, whichever is earlier

EPA-Estimated Impacts

- If all SSI comply with proposed emissions limits
 - Total emissions reduction of 2,610 tpy
 - \$225 million in capital investment + \$105 million in annual costs
- If large entities comply with the emissions limits and small entities switch to alternative disposal
 - Total emissions reduction of 6,330 tpy
 - \$200.9 million in capital investment + \$88.7 million in annual costs
 - EPA estimates that alternative disposal (landfilling) will result in a secondary increase of 274.65 tpy

Possible Topics for Comment

- POTW SSI units should not be subject to § 129
 - Reiterate comments to the RCRA identification rule that EPA must regulate POTW SSI under 40 CFR Part 503 and CAA § 112
- Subcategories
 - Other incinerator designs or bases for recognizing additional subcategories?
 - Proposal to base NSPS on the best performing FB unit, even for the MH subcategory
- Variability and EPA's statistical analysis in setting the MACT floors
 - Assess the accuracy of EPA's claim that sludge is homogeneous (lower variability than other incinerator feedstocks)
 - Critically analyze the dataset EPA used to extrapolate emissions from the best performing sources – questionable whether EPA had enough representative data to characterize the entire population and identify the best performing sources for each pollutant

Possible Topics for Comment

- Object to EPA's pollutant-by-pollutant approach
 - The approach results in EPA using a fictional facility to determine the MACT floors because there is likely no source in the country currently achieving all of the standards
 - Argue CAA plain language / legislative history requires that a proposed MACT standard be "achieved in practice"
 - EPA unlikely to budge: the approach has been a point of contention in other recent MACT rulemakings and is currently being litigated in a challenge to the HMIWI MACT. *Med. Waste Inst. v. EPA*, No. 09-1297 (D.C. Cir. Oct. 6, 2009).
- Are lack of startup/shutdown/malfunction standards acceptable?
 - EPA assumes SSI units will meet emissions limits during startup (when they burn gas/oil to reach optimum temperature) and shutdown (when materials are almost fully combusted)
 - EPA's basis for refusing SSM standards is at issue in the HMIWI MACT case

Possible Topics for Comment

- Are there space constraints or other impracticalities at wastewater treatment facilities that would affect the feasibility of installing air pollution control devices?
- Dispute EPA's conclusions about the magnitude of Hg emissions attributable to SSI and illustrate alternative efforts to address Hg through source control (to undermine beyond the floor standard)
- Address financial and social costs of increased landfilling, as well as practical impediments
- EPA should discuss land application as a viable alternative (and should clarify that defining sludge as a solid waste for SSI purposes should have no impact on other forms of biosolids management)
- EPA requests comment on specific monitoring requirements. See 75 Fed. Reg. at 63277-63282.

Timing and Next Steps

- Comment period – until Nov. 29, 2010
- Public hearing at EPA (Research Triangle Park, NC) – October 29, 2010
- EPA operating pursuant to a court ordered deadline to sign a final RCRA identification rule and SSI rule by January 16, 2011

Judicial Review

- Petition for review must be filed within 60 days from the date the final rule is published in the federal register
 - Possibility of two different publication dates for identification rule and SSI rule
- Filed in the U.S. Court of Appeals for the D.C. Circuit
- May file parallel petition for reconsideration with EPA
 - Opportunity to raise legal arguments again with EPA; would stay the judicial challenge pending reconsideration
- Important to lay the groundwork for judicial challenge in comments



Comments or Questions?