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Environmental Law Update

WEB CONFERENCE SERIES

U.S. EPA'S New Final Boiler MACT, CISWI, and Solid Waste Rules – Highlights and First Reactions

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Today's Presentation

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- RCRA
- CISWI
- Boiler MACT
- Follow-up Processes



Background

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- Four U.S. EPA proposed rules in June 4, 2010 Federal Register: one under Resource Conservation and Recovery Act ("RCRA"), three under Clean Air Act ("CAA"):
 1. Proposed RCRA rule defining "non-hazardous solid waste" for purposes of triggering Commercial and Industrial Solid Waste Incineration Units ("CISWI") rules under CAA §129 (75 FR 31844);
 2. Proposed emission limits for CISWI under CAA §129; utility and industrial boilers, incinerators and cement kilns potentially affected (75 FR 31938);
 3. Proposed "MACT" CAA § 112 emission limits on *major* source industrial boilers (75 FR 32006); and
 4. Proposed "MACT" and "GACT" CAA § 112 HAP emission limits on *area* source industrial boilers (75 FR 31896).



Few Basics

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- CAA §§ 112 and 129 mutually exclusive – coverage depends on whether unit combusts “non-hazardous solid waste” as defined in new RCRA rule.
- CAA § 112 “boiler MACT” rules ((3) and (4) above) cover industrial boilers but not utility boilers (utility boiler MACT coming soon). But utility boilers combusting “non-hazardous solid waste” are covered by new CISWI rule.
- Existing source compliance dates:
 - CAA § 112 “MACT” rules – 3 years.
 - CAA § 129 “CISWI” rules – 5 years.

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Few Basics

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- “Alternative” (non-virgin) materials possibly classified as “non-hazardous solid wastes” when combusted, include various (a) FUELS, and (b) INGREDIENTS:
 - a. FUELS – tires, plastics, municipal refuse, used oil, biomass, manure;
 - b. INGREDIENTS – mill scale, filter cake, furnace slag, foundry sand, coal ash.
- Boilers/industrial furnaces/incinerators combusting RCRA “hazardous waste” (Subtitle C) not affected by these proposals. Still covered by CAA § 112 “hazardous waste combustor” MACT rules. CAA § 129 explicitly excludes such sources.

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112 MACT versus 129 CISWI

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- Standard-setting process essentially same:
 - Existing sources – average of best 12% performers
 - New sources – best of the best
- **BUT.**
- a. Different pollutants
 - 112 MACT -- Hazardous air pollutants (“HAPs”)
 - 129 CISWI -- SO₂, NO_x, CO, and cross-over with some HAPs
- b. Different approaches to modifications triggering “new source” standards
 - 112 MACT -- Only truly new or “reconstructed” unit is “new”
 - 129 CISWI -- Any hourly emission rate increase triggers “new”
- c. Different approach to “area” (smaller) sources
 - 112 MACT – Area sources may be subject to “generally available control technology” (“GACT”) at U.S. EPA discretion
 - 129 CISWI – Area sources must be subject to same MACT as major sources

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Assumption: Most Sources Don't Want CISWI

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- For reasons explained above, 129 CISWI usually more harsh regime than 112 MACT.
- If U.S. EPA defines “non-hazardous solid waste” broadly in new RCRA rule, common assumptions:
 1. Many sources will stop using that fuel or ingredient (to avoid CISWI)
 2. Resulting in more landfilling of non-hazardous materials previously recycled

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Two Court Decisions In Background

- *NRDC v. EPA*, 489 F.3d 1250 (D.C. Cir. 2007) vacated U.S. EPA's earlier CAA §129 rule because it excluded coverage facilities that combusted certain types of solid waste for energy recovery. Rules (1) and (2) proposed in response.
- *Sierra Club v. Jackson*, 1:01CV01537 (D.D.C. 2006). For missed rulemaking deadlines, compels U.S. EPA to issue CAA §112 standards for major source and area source boilers. Rules (3) and (4) proposed in response.
 - Initial deadline in 2006, but extended several times with consent (last consented deadline: January 21, 2011).
 - December 2010 U.S. EPA moved for more time to re-propose; asked for new final deadline in April 2012.
 - Plaintiffs opposed, and Court granted U.S. EPA only one month extension: February 21, 2011 final deadline.
 - U.S. EPA did not appeal.



Resource Conservation & Recovery Act ("RCRA")



RCRA Rule (Non-Hazardous Solid Waste Definition)

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Summary of *Proposed Approach* (June 4, 2010)

- Draws basic lines on two fronts:
 1. Whether material in question will be combusted at same facility where generated;
 2. Whether material in question is “fuel” or “ingredient.”
- Contains two basic “trumps” –
 1. All material must meet “legitimacy criteria” to be excluded from the waste definition, regardless of whether fuel or ingredient, and regardless of whether combusted where generated.
 2. All material considered “discarded” must be deemed a waste unless and until it has been sufficiently “processed” to make a new fuel or ingredient.

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Basic Framework

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- For *non-discarded* materials –
 - Fuels meeting legitimacy criteria excluded if combusted where generated;
 - Ingredients meeting legitimacy criteria excluded no matter where used.
- For *discarded* materials –
 - Fuels and ingredients excluded only if sufficiently *processed* into new fuel or ingredients and if they then meet legitimacy criteria.
- Legitimacy criteria (very subjective):
 - i. Material managed as “valuable commodity;”
 - ii. Material must have “meaningful” heating value if fuel or provide “useful” contribution to process if ingredient;
 - iii. Fuel (or final product in case of ingredient) must contain “contaminants” at levels “comparable to or lower” than fuel or product assuming virgin fuels/ingredients had been used;
 - iv. For ingredients, must be used to produce “valuable” product or intermediate.

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Environmentalists' Reactions

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- Proposed rule did not go far enough in capturing materials as wastes. Especially strong reaction to the general exemption for combustion of materials generated on-site.

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Industry Reactions

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- U.S. EPA's proposed approach modeled after Subtitle C *hazardous* waste definition, even though materials in question are *non-hazardous*. Far more stringent than necessary to protect health and the environment, while discouraging recycle/reuse of non-hazardous materials.
- Proposed rule would capture as "waste" a great volume of fuels and ingredients now being used beneficially, thus discouraging such uses (because of desire to avoid CISWI), thus increasing costs, discouraging beneficial reuse/recycle, and promoting landfilling.
- Prime targets of industry:
 - i. "Legitimacy criteria" far too subjective and unnecessary in any event since *non-hazardous* materials are involved;
 - ii. Proposed approach to "processing" far too stringent and unnecessary. Best example: whole tires from piles or landfills.
 - iii. CAA § 129 cannot cover "ingredients" because they are not "combusted."

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Final RCRA Rule

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- Same “basic approach” followed in all respects
- Legitimacy criteria remain
- No concessions on “ingredients”

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EPA Identifies a Few “Major Changes”

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TIRES

- *Proposed:* Scrap tires considered solid waste unless they were sufficiently processed into a non-waste fuel product – “processing” included shredding and removal of all metal.
- *Final:* Scrap tires are not waste if “removed from vehicles and managed under the oversight of established tire collection programs.” Tires from landfills/piles still must be fully “processed” to be exempt.

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EPA Identifies a Few “Major Changes”

RESINATED WOOD RESIDUALS

- *Proposed:* Solid waste if transferred off-site to someone else.
- *Final:* Exempt no matter where burned (subject to legitimacy criteria).



EPA Identifies a Few “Major Changes”

COAL REFUSE

- *Proposed:* Coal refuse abandoned and processed, even if such processing was the same as the way coal is processed today, was considered a solid waste.
- *Final:* Abandoned coal refuse that is processed the same way as coal is today to lower contaminants and increase energy value is considered a non-waste fuel.



EPA Gives Examples of Non-Wastes and Wastes

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Non-Wastes

(NOTE: All subject to “legitimacy criteria”)

- Clean biofuels/biogas processed from solid waste;
- Scrap tires removed from vehicles and managed under established tire collection programs and tire-derived fuel from the processing of scrap tires removed from tire piles (shredded with the steel belts and wire removed);
- Materials, such as cement kiln dust, coal ash, and foundry sand that are used as ingredients in manufacturing processes (e.g., in cement kilns).

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EPA Gives Examples of Non-Wastes and Wastes

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Wastes

- Whole scrap tires from waste tire piles;
- Off-specification used oil;
- Sewage/wastewater treatment sludge;
- Contaminated construction and demolition material;
- Chromate copper arsenate treated wood.

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EPA Says RCRA Rule NOT Under “Reconsideration”

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- BUT, as discussed later, federal Administrative Procedure Act, RCRA, and EPA’s own RCRA regulations provide right for anyone to petition EPA to amend RCRA rules.



Commercial Industrial Solid Waste Incinerator (“CISWI”)

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CISWI Proposal

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Affected Sources:

- Any unit in following categories that combusts non-hazardous solid waste as defined in the accompanying RCRA rule:
 1. Incinerators
 2. Energy recovery units (boilers and process heaters, *including* utility boilers)
 3. Waste-burning kilns (cement, lime, aggregate)
 4. Burn-off ovens (rack, part, and drum reclamation units)
 5. “Small, remote” incinerators
 - (combust < 1 ton waste/day and located > 50 miles from landfill)

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CISWI Proposal

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Standards proposed

(based on average of best 12% existing and best of best for new):

- Cadmium
- CO
- Dioxins/furans
- Hydrogen chloride
- Lead
- Mercury
- NO_x
- PM
- SO₂
- Fugitive ash

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CISWI Proposal

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Primary industry concerns/reactions:

1. Proposed existing source standards for several parameters unattainable at many units
2. Proposed new source standards for several parameters impossible to meet in situations where existing source would “modify” and become new
3. Emission data basis incomplete, inadequate, unrepresentative
4. Flawed and indecipherable manipulation of data
5. Proposal failed to address key implementation issues (especially on MACT vs. CISWI relationship and how and when unit becomes subject to one or another)

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CISWI Proposal

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Primary industry request:

- Re-propose

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Final CISWI Rule

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- Dozens of changes in details too complex to absorb in few hours
 - Many emission standards adjusted upward/downward
 - Some emission standards change from 3-hour to 30-day
 - Numerous changes in monitoring/reporting requirements
- More general changes
 - Includes 112/129 “in and out” regime for sources ceasing solid waste combustion (“six-month rule”)
 - Certain types of units dropped from CISWI coverage (at least for now)
 - Burn-off ovens (including drum reclamation units)
 - Soil treatment units
 - Cyclonic burn barrels
 - Lab analysis units
 - Space heaters
 - Additional subcategories for boilers/process heaters

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Boiler MACT

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Boiler MACT – Major Sources

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Affected Sources:

1. All existing industrial, commercial, or institutional boilers or process heaters within a subcategory located at a major source that do not combust solid waste (as defined under RCRA)
 - includes QF small power producers and cogeneration units that combust solid waste in a homogenous waste stream
2. Also includes each such new or reconstructed source

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Boiler MACT – Major Sources

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Subcategories:

- Pulverized coal units
- Stokers designed to burn coal
- Fluidized bed units designed to burn coal
- Stokers designed to burn biomass
- Fluidized bed units designed to burn biomass
- Suspension burners/Dutch Ovens designed to burn biomass
- Fuel Cells designed to burn biomass
- Units designed to burn liquid fuel
- Units designed to burn natural gas/refinery gas
- Units designed to burn other gases
- Metal process furnaces
- Biomass suspension/grate units (Final Rule)
- Non-continental liquid units (Final Rule)
- Limited-use units (Final Rule)

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Boiler MACT – Major Sources

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Exceptions:

- Boilers and process heaters that are subject to another NESHAP or standard under CAA § 129 (i.e., CISWI)
- Does not regulate fossil fuel-fired steam generating units > 25 MW that produce electricity for sale (i.e., utility boilers)
- Does regulate fossil-fuel fired utility boilers < 25 MW and all utility boilers firing a non-fossil fuel that is not solid waste

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Boiler MACT – Major Sources (proposal)

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Standards Proposed:

(based on average of best 12% existing and best of best for new):

- PM (surrogate for non-mercury metallic HAP)
 - HCl (surrogate for non-metallic inorganic HAP)
 - Hg
 - CO (surrogate for non-dioxin organic HAP)
 - Dioxans/furans
-
- Emission limits for existing sources apply only to boilers and process heaters w/designed heat input capacity > 10 million BTU per hour
 - Apply at all times (no SSM exception)
 - Work practice standards for smaller existing boilers
 - All existing affected boilers and process heaters – one time energy assessment (beyond MACT floor)

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Boiler MACT – Major Sources

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Primary industry concerns/reactions to proposal:

- Existing source standards are too strict and do not accurately reflect the top 12% - data lacking and doesn't account for variability
- EPA should not have set standards based on a “cherry picking” pollutant-by-pollutant approach – should have used a source-wide approach
- Adjust the proposed subcategories to better accommodate combination boilers
- Fuel switching should not be considered a control option (it wasn't in the proposal)
- Beyond-the-floor MACT limits are not justified by data
- Should allow more flexibility in choosing compliance test methods
- Should have used more health-based limits under section 112(d)(4) in lieu of MACT (e.g., for HCl and manganese)

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Boiler MACT – Not So Final, Final Rules

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- U.S. EPA acknowledges that rules are “substantially different” from proposal
- Recognition of need for further comment
- Use of § 307(d)(7) reconsideration process for soliciting comments
- Soliciting requests for U.S. EPA delay under reconsideration process – §307(d)(7)(B)
- Of interest –
 - U.S. EPA determination that 2,200 jobs created NOT considering jobs associated with pollution controls
 - Half as costly as proposed rules

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U.S. EPA's View of Significant Changes

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- Removing distinction between biomass/coal boilers; now **one** subcategory for solid fuel boilers
- “Ensured” standards for all air toxics can be met by individual unit
 - Claims to have followed process of setting standards on pollutant-by-pollutant basis
 - Identifies this standard setting process as “historical” approach

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U.S. EPA's View of Significant Changes

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- Adjusting standards to deal with biomass boiler concerns
- CO limit adjusted
- Removed numeric limits for boilers/process heaters using natural gas or equivalent fuels

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New MACT Rules – General Approach

- Limited the universe of sources subject to numeric controls by only requiring maintenance every two years
 - Smaller boilers/process heaters 10 MMBtu
 - Emergency equipment
- Biomass
 - 10% or more biomass; in biomass category
 - Annual average heat input
 - Adjusted limits so filter (ESP or filter technology) as opposed to scrubber should work
- Note – biomass EGU **regulated under boiler MACT**, not EGU MACT



New MACT Rules – General Approach

- Adjustments in CO limits in many subcategories with O₂ monitoring; no CO CEMS
- Work practice standard for startup/shutdown
- Affirmative defense for malfunction
- “Beyond the floor” narrowed the scope of energy assessment



Basis for Rule

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- Relied on a pollutant-by-pollutant approach
 - Contentious point with industry
 - U.S. EPA states correct reading of statute
- Using pollutant-by-pollutant approach – 20% of existing units can comply “as is”

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Devil in the Detail – The Initial Look

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- Work practice standard for startup/shutdown
 - Manufacturer’s recommendations for minimizing periods of startup/shutdown
 - Practical issue – does manufacturer adequately describe procedures or are these procedures available?
 - Consider if changes to unit over time now require different startup/shutdown than manufacturer’s recommendations

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Devil in the Detail – The Initial Look

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- Affirmative defense
 - Burden on company to prove
 - Need documentation
 - Likely need a plan that is followed to be able to support claim
 - Part of permit based on WE Energies Oak Creek Title V objection?

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Devil in the Detail – The Initial Look

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- Tune-up
 - Reliance on manufacturer's procedures or "approved specialist"
 - Incorporating into permit – what needs to be done is important

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Devil in the Detail – The Initial Look

- Document fuel types and plan for possible category shifts
 - Title V alternate operating scenarios to accommodate different requirements
 - Managing process to avoid traps
- CO/NO_x relationship
 - U.S. EPA claimed no data to support NO_x compliance an issue
 - Acknowledge may need pollution controls to address NO_x



Devil in the Detail – The Initial Look

- Dioxin
 - Watch out for limit in permit versus measurement precision
 - How to address source specific MDLs and testing interferences
- Energy assessment – beyond the floor
 - More than just affected equipment; broader scope as was proposed rule
 - “Qualified” assessors
 - Limited scope based on energy output and time
 - What becomes of energy assessment? How enforced?



Boiler MACT – Area Sources

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Affected Sources:

- All existing and new boilers combusting coal, biomass or oil located at an area source
- An “area source” is a HAP emitting stationary source that is not a major source
- Includes industrial (manufacturing, mining, refining, etc.), institutional (hospitals, educational and religious facilities, municipal facilities, etc.) and commercial (hotels, malls, laundries, etc.) boilers – approx. 60,000 sources

Exceptions:

- Standards do not apply to boilers subject to another standard under 40 CFR part 63 or a standard under CAA § 129

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Boiler MACT – Area Sources

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Standards Proposed (coal, oil or biomass):

- PM
- Hg
- CO
- Based on either GACT/MACT

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Boiler MACT – Area Sources (Proposal)

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- Emission limits for existing sources apply only to boilers w/designed heat input capacity > 10 MMBtu per hour
- Limits apply at all times (no SSM exception)
- Work practice standards for smaller existing boilers
- Boilers > 10 MMBtu per hour – one time energy assessment (beyond MACT floor)
- Initial stack test or fuel analysis (for mercury) – for sources subject to emission limits

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Final Rule – Significant Changes

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- Redefined coal, biomass and oil subcategories to clarify fuel type inputs that would define each subcategory
- Eliminated limits for existing biomass/oil boilers
- Included limits for boilers >30 MMBtu heat input (raised limits for Hg and CO, PM the same)
- Raised limits for boilers >10 MMBtu but < 30 MMBtu
- Clarified energy assessment requirements

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Follow-up Processes

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Administrative

- U.S. EPA announces “reconsideration” on some issues
 - Separate Federal Register notice for this – lists several specific issues in CISWI and Boiler MACT (on EPA Web site link we sent you)
 - EPA says RCRA rule not part of the “reconsideration”
- Parties might petition U.S. EPA for reconsideration on other issues
 - Federal Register makes this notice clear
 - Gina McCarthy specifically invited this in “Stakeholder” call February 23
 - The Administrative Procedure Act (“APA”), RCRA, and EPA’s own RCRA regulations (40 C.F.R. 260.20) afford right to petition for amendment of RCRA rules, so EPA can’t prevent reconsideration petitions of RCRA rule anyway
- Parties might petition U.S. EPA to stay rules’ effectiveness/extend compliance dates
 - Lisa Jackson letter to Hill February 23 mentions this as possibility

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Follow-up Processes

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Judicial

- Three CAA rules: judicial petitions for review must be filed in the D.C. Circuit no later than 60 days after Federal Register publication
- RCRA rule: judicial petitions for review must be filed in the D.C. Circuit no later than 90 days after Federal Register publication
- Industry, environmental, state groups all expected to seek judicial review
- Parties might seek stay/compliance date extensions (if U.S. EPA does not grant)
- Judicial review certain to be complicated by ongoing administrative reconsideration
- Interesting judicial process issues (e.g., consolidate review of some or all four rules?)

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Questions & Answers



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