

The Affordable Clean Energy Rule Implementation Update

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ACE Background



- ▶ ACE is an emission guideline promulgated under Clean Air Act (CAA) section 111(d)
- ▶ EPA has not promulgated many emission guidelines
 - ▶ Rely on cooperative federalism to achieve emission reductions
- ▶ Roles can be summarized by a three-step process:
 1. EPA identifies best system of emission reductions (BSER) and the associated level of stringency for coal-fired electric utility steam generating units (EGUs)
 2. States establish standards of performance for designated facilities within jurisdiction
 - Standards must be consistent with the degree of emission limitation achievable by application of BSER and account for remaining useful life and other factors as appropriate
 - States submit plans to EPA for approval (upon approval, the standards of performance are codified into federally enforceable regulations)
 3. Affected sources comply with standards of performance (set by states) using most appropriate technologies or techniques, as permitted under the statute
 - Sources do *not* have to apply BSER technologies to comply with standards

ACE BSER



- ▶ In establishing the BSER, EPA may only consider systems of emission reduction that can be applied at and to a designated facility and that lead to continuous emission reductions
 - ▶ Consistent with legal rationale to repeal the Clean Power Plan (CPP)
- ▶ For ACE, EPA determined BSER for existing coal-fired EGUs to be specific heat rate improvements (HRI, also referred to as efficiency improvements), which the rule defines as candidate technologies
- ▶ EPA further defined the level of stringency for the BSER by providing a table of ranges of expected heat rate improvement for each candidate technology
- ▶ Even though a large number of potential HRI options may apply, EPA limited list of BSER technologies to ones that are broadly applicable with significant HRI at reasonable cost
- ▶ EPA evaluated other systems of emission reductions but did not include them as part of BSER:
 - ▶ Natural gas repowering
 - ▶ Natural gas co-firing and refueling
 - ▶ Biomass co-firing
 - ▶ Carbon capture and storage

EPA's Current Focus



- ▶ Working with states that are developing plans
 - ▶ Helping states develop plans rather than dictating what a federal approach might look like
 - ▶ Not currently focused on federal plan

- ▶ Addressing litigation

The Permitting Approach



- ▶ A number of states are pursuing a permit-based approach
- ▶ Generally States pursuing this approach are using three steps:
 - ▶ State promulgates rule requiring affected sources to submit permit application and accompanying documentation
 - ▶ State undertakes review process to take action on submitted permits to approve and/or assure revisions as necessary to be consistent with the level of stringency associated with the BSER
 - ▶ State develops CAA 111(d) plan submittal including:
 - Permits (note special considerations if using Title V permits)
 - Additional documentation (*e.g.*, documenting that permit limits are consistent with the level of stringency associated with the BSER)
 - Documentation that all required procedures have been followed, for example:
 - Authority to require and enforce GHG limits through permits
 - Limits are consistent with the level of stringency associated with the BSER
 - Public participation requirements have been met

Common Questions From States



- ▶ Does EPA intend to issue any additional guidance?
- ▶ Does EPA intend to finalize changes to new source review (NSR) and how would that affect my state plan?
- ▶ Is there any flexibility in the requirement to submit a range of data elements out through 2035 to support required limits?
- ▶ Do I need to include a source even if it will be retiring shortly after the required plan submission deadline?



Appendix

Additional ACE Background

ACE BSER



- ▶ In ACE, EPA also provided the degree of emission limitation achievable (*i.e.*, level of stringency) as ranges of expected improvement associated with each HRI candidate technology

HRI Measure	< 200 MW		200 - 500 MW		> 500 MW	
	Min	Max	Min	Max	Min	Max
Neural Network/Intelligent Sootblowers	0.5	1.4	0.3	1.0	0.3	0.9
Boiler Feed Pumps	0.2	0.5	0.2	0.5	0.2	0.5
Air Heater & Duct Leakage Control	0.1	0.4	0.1	0.4	0.1	0.4
Variable Frequency Drives	0.2	0.9	0.2	1.0	0.2	1.0
Blade Path Upgrade (Steam Turbine)	0.9	2.7	1.0	2.9	1.0	2.9
Redesign/Replace Economizer	0.5	0.9	0.5	1.0	0.5	1.0

Improved Operating and Maintenance (O&M) Practices

Can range from 0 to > 2.0 % depending on the unit's historical O&M practices.