EPA’s Proposed Existing Source Performance Standards

Presentation to the
Surface Transportation Board
Rail Energy Transportation Advisory Committee

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Background

• 2007 - Supreme Court decision in Massachusetts v. EPA: GHGs are “air pollutants” that EPA can regulate under the Clean Air Act if it makes an “endangerment finding.”

• 2009 - endangerment finding.

• 2010 - first motor vehicle GHG regulation (others have followed).

• 2011 – GHG permitting program for industrial/large manufacturing/electric generators becomes effective. Reversed in part by Supreme Court.


• 2014 – EPA proposes CO2 performance standards for existing coal and gas generators.
Other EPA Rules Affecting Power Sector


• Mercury and Air Toxics Standards (MATS) – compliance 2015/16.

• Cooling Water Intake Structures rule – compliance 2022.

• Coal ash rule – still proposed.

• Effluent Guidelines – still proposed.

• Ambient Air Quality Standards.
Major Elements of Rule

• Each state must meet an EPA-established power-sector CO2 emissions rate.

• Different rates for different states. Each state’s rate is determined by applying 4 “building blocks” to the state’s 2012 electric generation resource mix.

• State plans meeting EPA emission rates due in June 2016, with possibility of one or two year extension. EPA approval one year thereafter.

• Compliance beginning 2020.
Building Blocks

For each State, take 2012 resource mix and make the following changes:

• Block 1: Assume all coal units improve generation efficiency – and thus lower CO2 emissions per KWh – by 6%.

• Block 2: Increase natural gas generation (and reduce coal generation) by increasing capacity factors of existing combined cycle natural gas units to 70% and under-construction combined cycle units to 55% (unless coal zeroes out first).
Building Blocks

• Block 3:

A. Assume all under-construction nuclear comes on line + assume “at-risk” nuclear (assumed to be 6% of each state’s total current nuclear) is not retired.

B. Assume significant increases in use of renewable energy.

• Block 4: Assume significant increases in demand-side resources - electricity consumption in 2030 to be about 11% less than BAU (national average), little more than today.
Establish State Power-Sector CO2 Emission-Rate Goals

• “Interim” goals are set for 2020, based on blocks 1 and 2.

→ What would the state’s power sector CO2 emissions rate (lbs. CO2/MWh) have been in 2012 had blocks 1 and 2 been in place? That is the 2020 goal.

• “Final” requirements for 2030 based on all 4 blocks.

• Annual 2021-2029 goals are phased in from “interim” to “final.”

• States have “flexibility” to meet emissions rate anyway they want/can. Do not have to make the building block changes. But must meet the rate.
## Power Sector Coal Generation

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<th>2012</th>
<th>2016</th>
<th>2020</th>
<th>2025</th>
<th>2030</th>
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<tbody>
<tr>
<td>Coal GW</td>
<td>302</td>
<td>259/220</td>
<td>255/195</td>
<td>254/193</td>
<td>254/191</td>
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<tr>
<td>Coal GWh</td>
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<td>1,513/1,510</td>
<td>1,606/1,302</td>
<td>1,650/1,250</td>
<td>1,652/1,216</td>
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EIA projections without ESES but with MATS/EPA projections with ESES and MATS, compared with EIA report of 2012 actual. MATS compliance deadline is 2015-16; ESPS compliance deadline is 2020.

Source: 2012 figures from EIA AEO2014 Early Release Overview. Other figures from AEO2014 and EPA spreadsheet showing Integrated Planning Model run for state compliance scenario, option 1, ESPS.
### Power Sector Coal Use

**EPA Projections**

(1,000,000 tons)

<table>
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<tr>
<th></th>
<th>2009</th>
<th>2013</th>
<th>2016</th>
<th>2020</th>
<th>2025</th>
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<td>284</td>
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<td></td>
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</tbody>
</table>

2016, 2020, 2025, and 2030 figures reflect compliance with ESPS and MATS.

Source: 2009 figures from EPA’s Regulatory Impact Analysis for the Mercury and Air Toxics Standards rule (net of figures for waste coal and imports); 2013 figure from EIA; other figures from EPA spreadsheet of model runs for ESPS)
Litigation Expected

• Does EPA have authority at all to set performance standards for coal generators?

• Is EPA impermissibly intruding on state authority?

• Can EPA set performance standards based on “outside the fence” measures?

• Has EPA gone too far under recent Supreme Court case that partially overturned EPA’s greenhouse gas permitting regulations?
Timing

• Rule expected to be finalized June 2015.

• Proposed rule is already subject to three different legal challenges.

• Final rule will be appealed to D.C. Circuit. 1 1/2 -2 years to decide.

• 1-3 years for states to submit plans and 1 year for EPA to approve or adopt federal plan.