



Reproposal of the Regional Haze Rule and BART Guidelines



Regional Haze Timeline

- July 1999 - Regional haze rule finalized
- May 2002 - Rule vacated in part, sustained in part
- April 2004 - Consent decree deadline for reproposal:
- July 6, 2004 - Comments due on reproposal
- April 2005 - Deadline for final action
- SIPs due 3 years after designation of PM_{2.5} attainment and nonattainment areas and in no event later than January 31, 2008



American Corn Growers vs EPA

- Vacated RH BART provisions because:
 - “the rule isolates 169A(g)(2)’s benefit calculation” and
 - “forces [states] to require BART controls at sources without any empirical evidence of the particular source’s contribution.”
 - “If the Haze Rule contained some kind of a mechanism by which a state could exempt a BART-eligible source on the basis of an individualized contribution determination, then perhaps the plain meaning of the Act would not be violated.”



1999 Regional Haze Rule – Best Available Retrofit Technology (BART) Provisions

- Requires States to implement BART for all BART-eligible sources.
- Includes CAA factors underlying BART
- Includes option for States to implement “better than BART” trading program in lieu of individual source BART determinations.



Reproposed BART Guidelines

- Guidelines must be followed, but flexibility provided within them to preserve state authority over BART
- Guidelines provide States with the following:
 - 1 An approach to identify BART-eligible sources
 - Only power plants, industrial boilers, and 24 other types of facilities could be considered BART-eligible
 - The eligible “source” would be defined as all units at a facility “constructed” or reconstructed between 1962 and 1977
 - The source must have a PTE > 250 tpy (summed across all eligible units) for any visibility impairing pollutant (SO₂, NO_x, PM, VOC)
 - EPA proposing not to include NH₃ and to allow less control on rural VOC sources



Reproposed BART Guidelines

- 2 An approach for determining which BART-eligible sources should be subject to a BART determination
 - Only those BART-eligible sources “reasonably anticipated to cause or contribute to regional haze in any Class I area”
 - Exemption process proposed to identify sources which may not be reasonably anticipated to cause or contribute .

- 3 An approach for making BART determinations
 - Requiring individual source air quality modeling to evaluate visibility impacts when determining BART control requirements
 - Establishing control levels for SO₂ and NO_x from EGUs



Sources subject to BART

- State may choose to subject all BART-eligible sources to BART determinations, or
- State may choose to exempt all BART-eligible sources, upon demonstration that the sum of their emissions may not be “reasonably anticipated to cause or contribute to regional haze in any Class I area”, ***or***



Sources subject to BART

- State may choose to exempt sources on an individualized basis
 - CALPUFF model must show negligible visibility impacts at Class I areas -- i.e., 0.5 dv or less for all 24-hour periods in the absence of other anthropogenic sources
 - EPA taking comment on using one of four less-burdensome alternatives in lieu of a CALPUFF analysis.



BART Determination

- **Similar to top-down BACT approach**
 - **Identify and rank “feasible” control technologies in descending order of percent control effectiveness**
 - **Start with most stringent (or “best”) alternative**
 - EPA taking comment on starting at middle or bottom
 - **Consider the other 4 statutory factors**
 - Costs, remaining useful life, energy and non-air quality impacts, and visibility improvement
 - Determination of visibility improvement includes CALPUFF modeling
 - **If most stringent alternative can not be justified, consider next most stringent alternative & repeat**
- **Emission limits must be in place within 5 years**



BART for Power Plants

- As required by the CAA, we are establishing, in the guidelines, control levels for power plants >750 MW
- We also include presumptive control levels for units >250 MW at *all* power plants
- SO₂
 - Propose choice of 95% control **or** 0.1 to 0.15 lbs/MMBtu
 - Facilities using Eastern coal can meet 95% control
 - Facilities using Western coal can meet 0.1 to 0.15 lbs/MMBtu
- NO_x
 - All sources currently using selective catalytic reduction (SCR) for the ozone season (those subject to the NO_x SIP call), keep and extend controls to year-round
 - All sources currently without SCR, propose control to 0.2 lbs/MMBtu, and request comment on range higher or lower



BART for Power Plants

- States must require these control levels at plants >750 MW, unless careful analysis of other BART factors clearly dictates otherwise
- We *presume* that States should require these control levels at *all* units >250 MW, unless careful analysis of other BART factors clearly dictates otherwise



Alternatives to BART

- Proposal also provides guidelines for States that want to establish an emissions trading program, an alternative to BART allowed under the Regional Haze Rule.
 - Trading Program could apply to many sources but must produce greater emission reductions or visibility improvement than would be expected through application of BART to affected facilities.

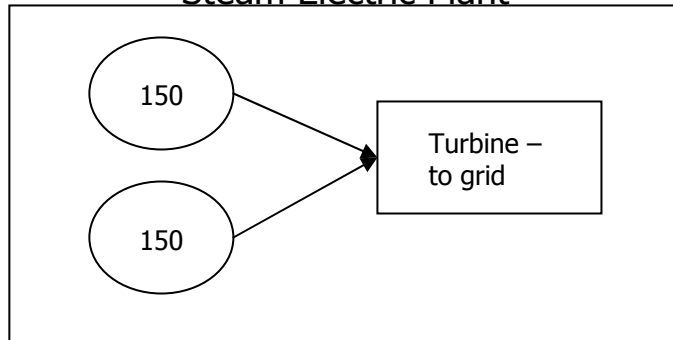


Alternatives to BART

- Alternative trading program must show either:
 - Greater overall emissions reductions
 - Provided that emissions reductions are geographically distributed similarly to BART
 - or**
 - Greater overall visibility improvement
 - Modeled visibility will not decline at any affected Class I area under the trading program, and
 - Average visibility over all affected Class I areas must be better under the alternative.
- Must be implemented during the planning period (i.e., by 2018)

Example – BART-Eligibility for Boiler Source Categories

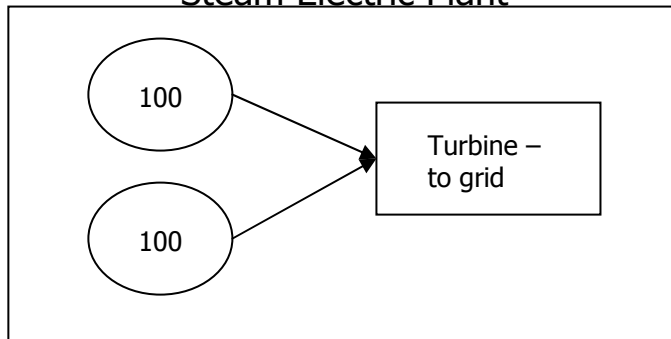
Steam Electric Plant



BART-Eligible?

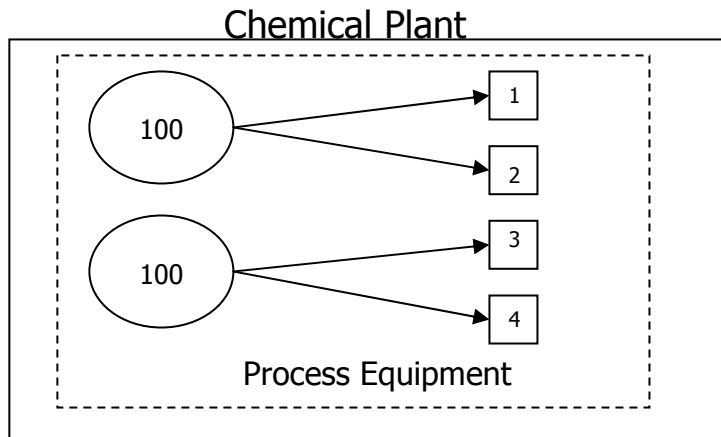
Yes, Aggregate boilers, > 250 mmBtu/hr heat input

Steam Electric Plant



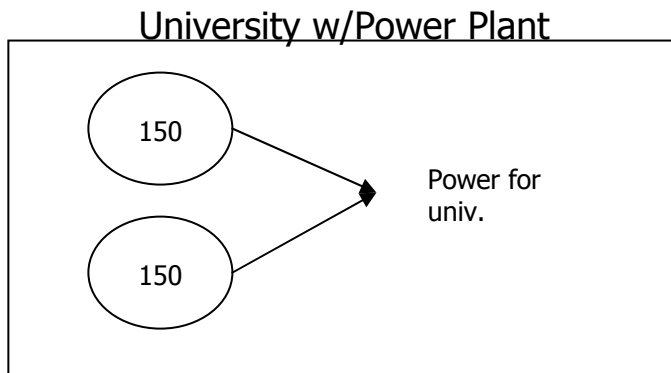
No, Aggregate boilers, < 250 mmBtu/hr heat input

Example – BART-Eligibility for Boiler Source Categories



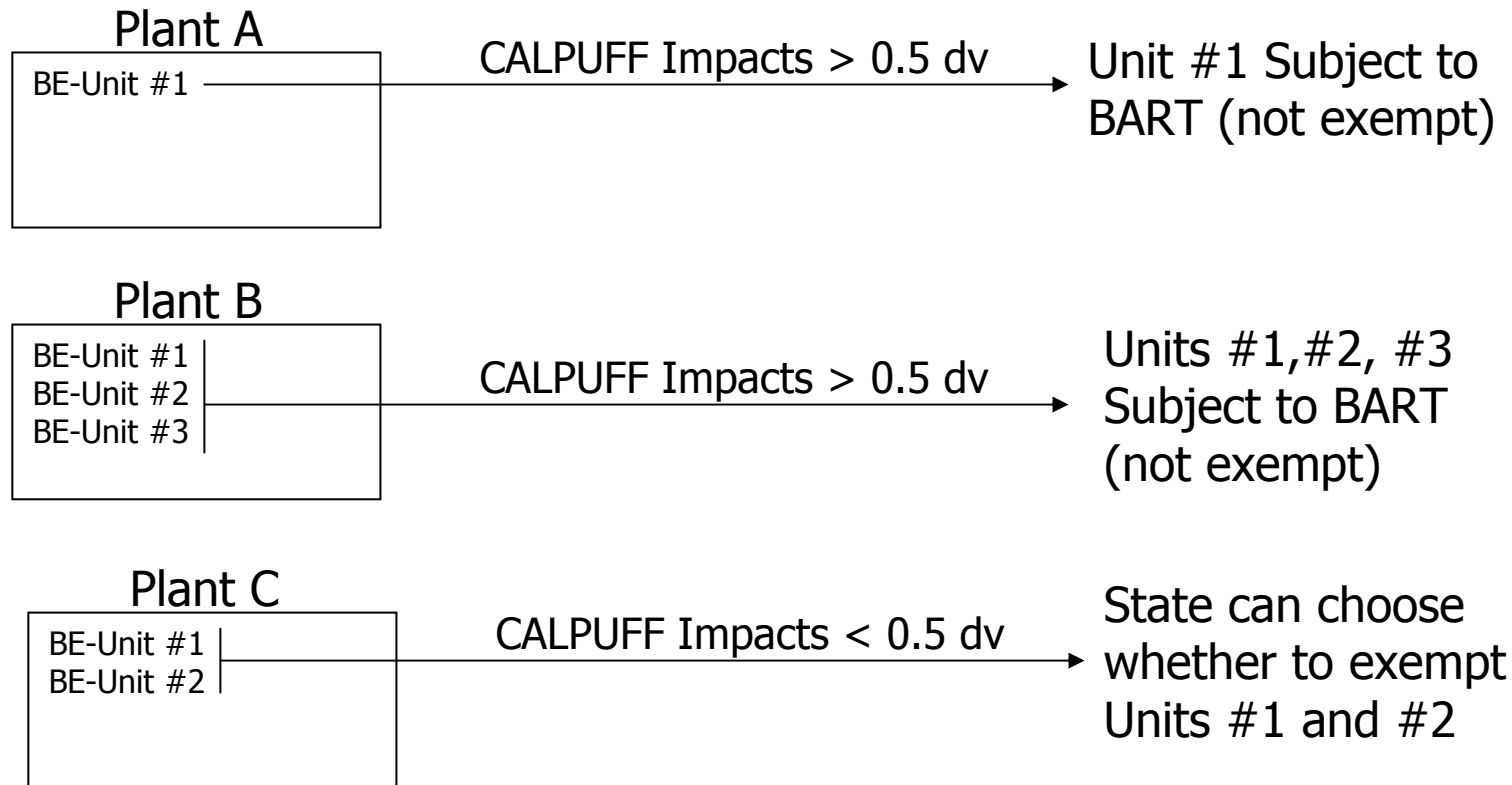
BART-Eligible?

Yes, if process > 250 TPY,
then all units, including boilers
are BART-Eligible



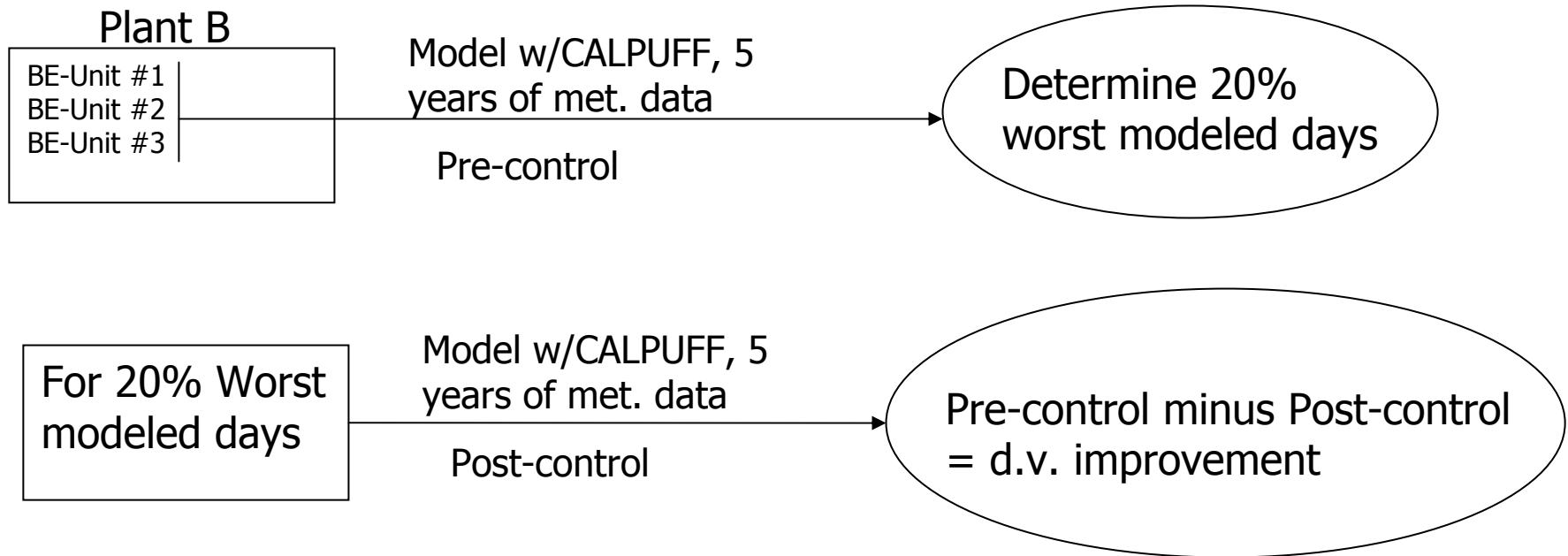
No, not part of industrial
process and not selling
electricity

Example - Individual Source Exemption



Once Subject to BART....

Determine visibility impact with and without controls





Alternatives to CALPUFF

- We are taking comment on 4 alternatives:
 - CALPUFF Screening assessment
 - simplified meteorological and input file preparation
 - Results comparable to CALPUFF
 - Look-up Tables
 - Use of CALPUFF (in Screening Mode) to develop an emissions vs distance relationship that would yield a change of 0.5 deciviews



Alternatives to CALPUFF

- Example of a Look-Up Table

- | <u>Distance</u> | <u>East</u> | <u>West</u> |
|-----------------|-------------|-------------|
| 50 | 2606 | 3330 |
| 60 | 2631 | 3497 |

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Alternatives to CALPUFF

- Source Ranking
 - Cumulative Frequency of Ranked metric
 - in our example, we rank emissions (SO₂, NO_x, PM) divided by distance and sort in descending order
 - State can Exempt if > 98th percentile
 - Emissions divided by distance (Q/D)
 - Based on 20-D methodology from North Carolina for PSD modeling
 - Example – if $Q/20xD < 1$, state can exempt source