



**Implementing the Clean Air
Mercury Rule:
Options for Georgia**

Kickoff Meeting

Susan Jenkins

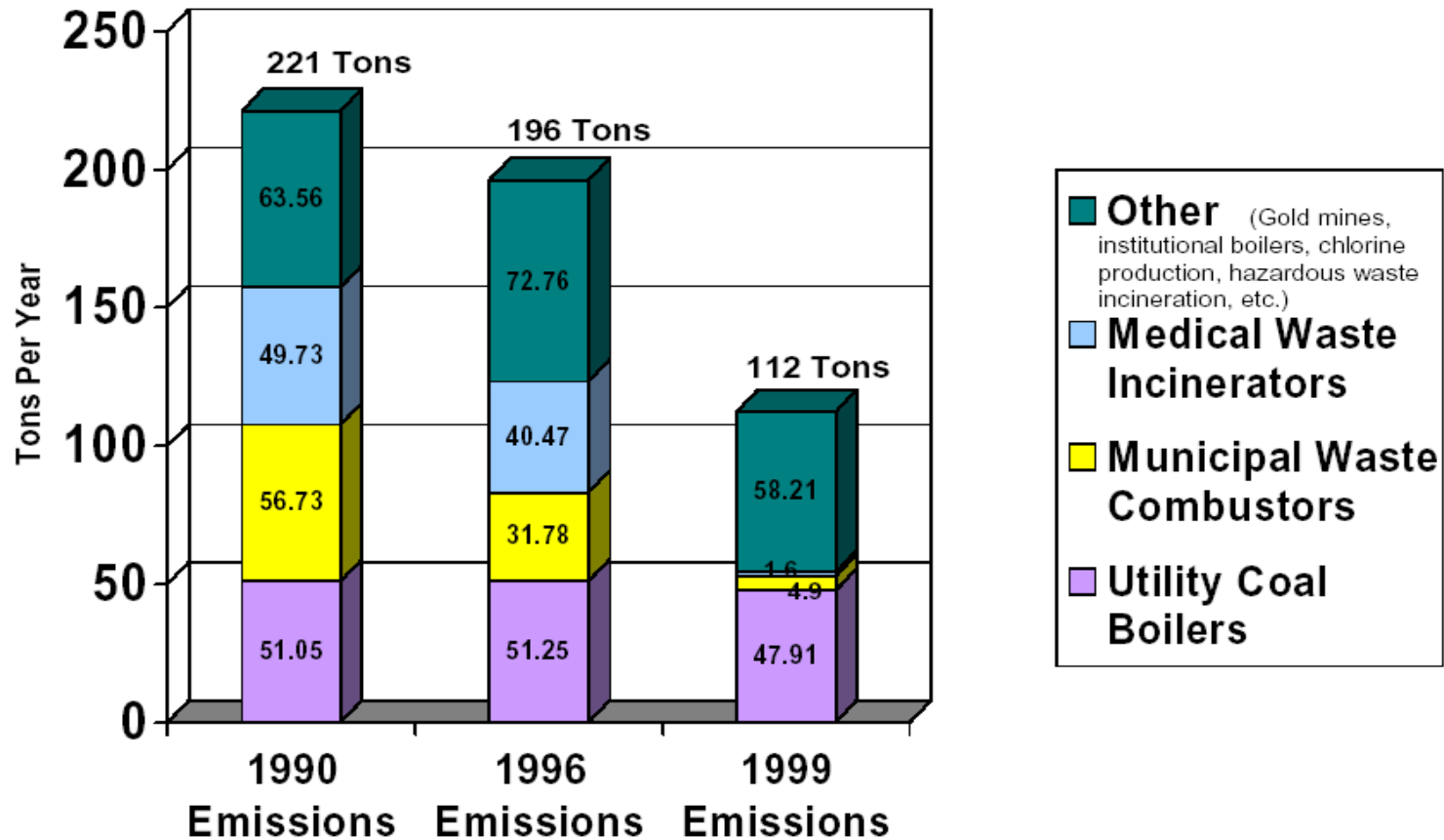
October 20, 2005



Background on CAMR



Clean Air Mercury Rule Motivation



Source: EPA

Note: 1999 emission estimate for utility coal boilers is based on 1999 Information Collection Request (ICR); 1990 and 1996 are based on different methodology.



Background of CAMR (1)

- **January 1990:** Congress, with its passage of the 1990 CAAA, directed the U.S. EPA to
 - study HAP emissions (under Section 112), including mercury, from electric power plants and to regulate such emissions if the agency deemed it “appropriate and necessary” to protect public health.
 - study hazards to public health (under Section 112(n)(1)(A)) reasonably anticipated to occur as a result of HAP emissions from EGUs, after considering the impact of additional CAA requirements on these sources.



Background of CAMR (2)

- **March 1998:** EPA released its final Section 112(n)(1)(A) report to Congress. EPA was sued in order for the agency to make a final determination on whether and when the agency would regulate utility mercury emissions.
- Under the terms of the settlement agreement, EPA's deadline for issuing such a determination was December 15, 2000.



Background of CAMR (3)

- **December 2000:** EPA issued a finding that it was appropriate and necessary to regulate coal- and oil-fired Utility Units as a Hazardous Air Pollutant Category.
- **January 2004:** EPA proposed the “Clean Air Mercury Rule” which included several options for minimizing mercury emissions:
 - Retain the December 2000 finding and issue a MACT standard for mercury from Utility Units.
 - Retain the December 2000 finding and regulate under section 112(n)(1)(A).
 - Revise the December 2000 finding removing the Utility Units from the list of section 112 categories and minimizing mercury emissions using the NSPS concept for only coal-fired EGUs.



Background of CAMR (4)

- **March 2005:** EPA promulgates findings to
 - Delist Utility Units as a category under section 112(n)(1)(A) of the CAA.
 - Revise the December 2000 finding and removed coal- and oil-fired Utility Units under section 112.
 - State that it was appropriate to establish national, uniform mercury emission standards for new and modified coal-fired utilities.



Background of CAMR (5)

- **May 18, 2005:** EPA promulgates Clean Air Mercury Rule
 - Establishment of statewide mercury allowances from new plus existing coal-fired utility units under the NSPS General Provisions.
 - Establishment of New Part 60 Subpart HHHH-Emission Guidelines and Compliance Times for Coal-Fired Electric Steam Generating Units.
 - Amendment to NSPS Da for New coal-fired electric steam generating units by including a new short-term mercury emission limit in lb/MW-hr along with associated mercury testing, monitoring and reporting requirements.



CAMR

Implementation Timeline



CAMR Overview

Implementation Timeline

- October 20, 2005 – Kickoff Meeting and request for comments on ideas, positions, and/or proposals.
- November 22, 2005 – Stakeholders present (either written and/or verbal) ideas, positions, and proposals.



CAMR Overview

Implementation Timeline

TENTATIVE Timeline:

- EPD's Draft Proposal – December 2005
- Stakeholder Comments on Proposal – January 2006
- First formal comment period – Spring 2006
- Second formal comment period – Summer 2006



CAMR SIP Deadline

- **November 17, 2006** per 40 CFR Part 60.24(h).



Electronic Docket

- <http://www.air.dnr.state.ga.us/airpermit/cair/>
 - Contact information
 - Schedules & Meetings
 - Background Information
 - Affected Sources
 - Proposals & Comments



CAMR Overview for Georgia



CAMR Cap and Trade for Hg

- **CAMR for Coal-Fired EGU Mercury**
 - Each State receives a budget of Hg allowances based on historical heat input data and coal type
 - States choose whether to join EPA's cap-and-trade program and how to allocate or auction the allowances among EGUs
 - Only an annual market
- **Georgia Mercury emissions and budgets:**
 - EGU emissions were 1.396 tons in 2003
 - 1.227 tons/year for Phase I (2010-2017)
 - 0.484 tons/year for Phase II (2018 and beyond)
- **Banking and Trading of allowances is allowed.**

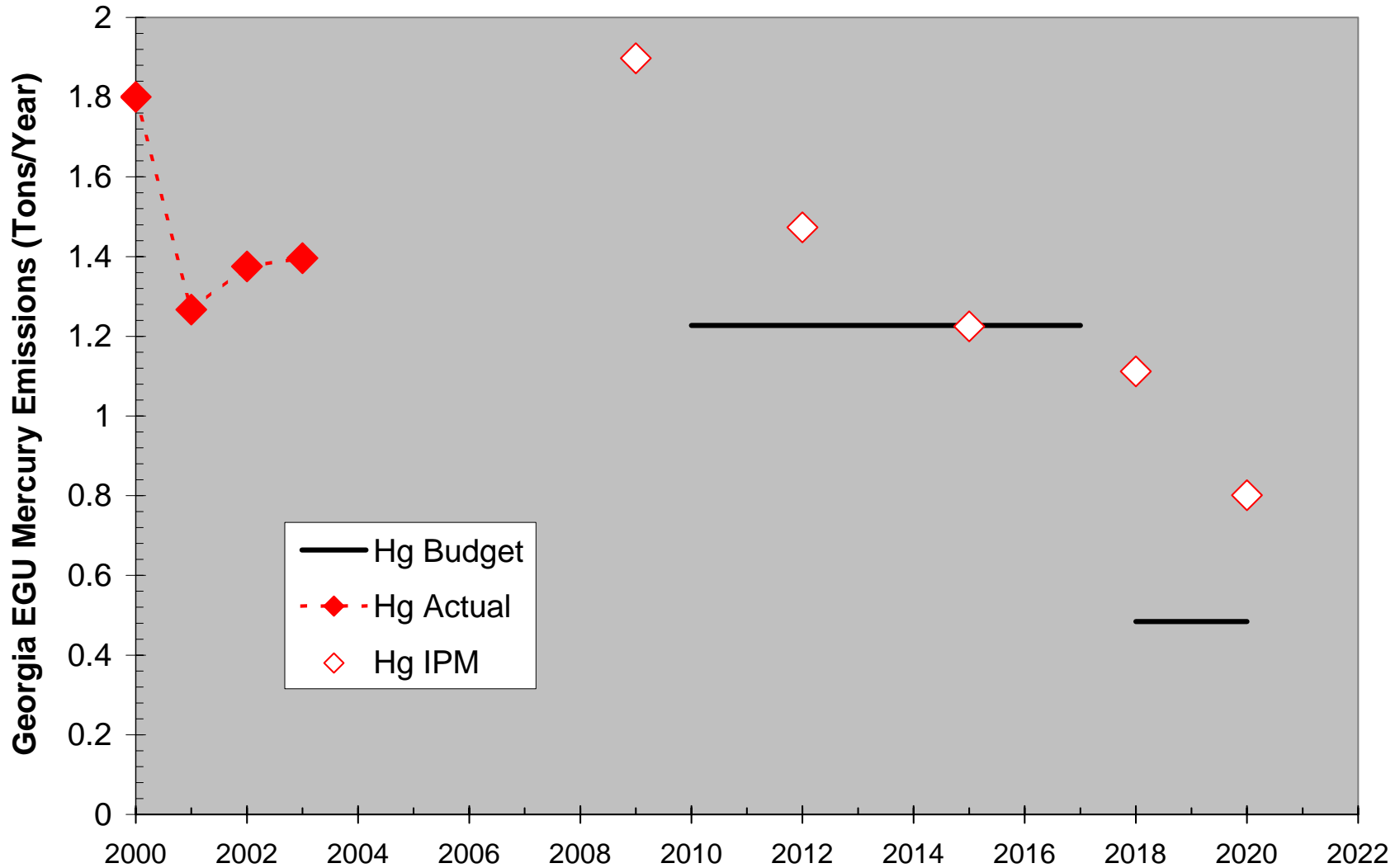


Hg Control Technology

- EPA expects co-benefits of controlling SO₂ and NO_x under CAIR will be sufficient to meet CAMR's 2010 budget.
- EPA considered the use of Activated Carbon Injection as an additional control mechanism for use in meeting CAMR's 2018 budget.
 - Still a developing technology, not yet in widespread, long-term usage



VISTAS Projections: Georgia EGU Hg



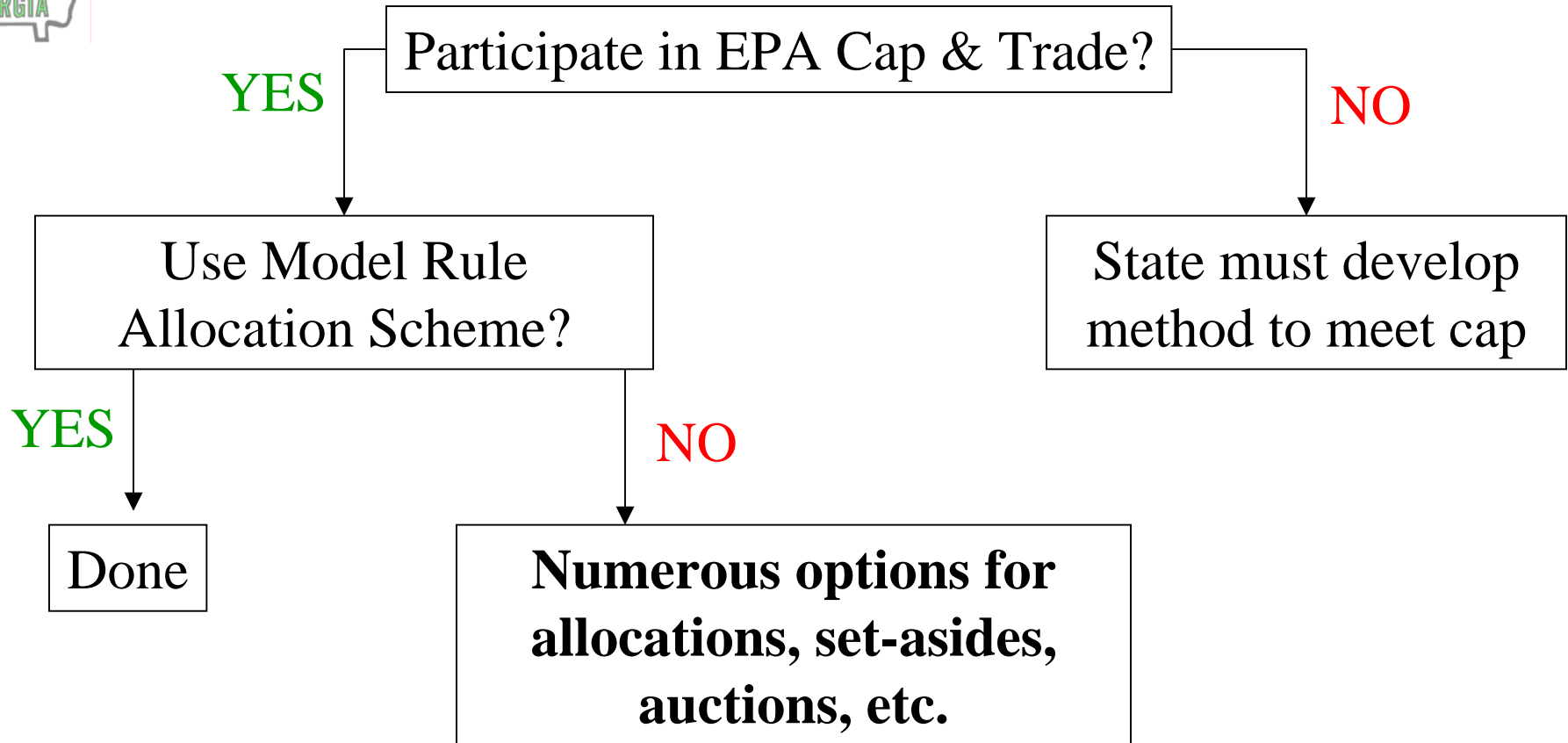


CAMR Model Rule: Impending Deadlines

- Facilities must submit a CAMR Title V permit application at least by June 30, 2008 or at least 18 months prior to the commencement of operation.
- Monitoring installation and certification:
 - Commenced operation prior to 7/1/08: by 1/1/09
 - Commenced operation on or after 7/1/08: by 1/1/09 or 90 unit operating days or 180 calendar days, whichever occurs first, after the date on which the unit commences commercial operation.



CAMR Hg Decision Tree





CAMR SIP Approval Options

- EPA has developed an “automatic” and “non-automatic” approval process for Mercury CAMR SIPs.
- Automatic approval if State adopts Mercury Model Trading Rule as is or with certain modifications:
 - May adjust formula for Hg allocations and set-asides.
 - May reduce lead time for Hg allocations from 6 years to 4.



Hg Issue 1: Join cap-and-trade?

Should Georgia meet its mercury budget requirements by participating in a “cap-and-trade program” or by an intrastate approach?

If intrastate approach, meet cap by:

- Cap-and-trade within Georgia?
- Fixed limits on each facility?
- Other approach?



Hg Issue 2: Adopt or Modify Model Rule?

If Georgia participates in EPA's "cap and trade" program, should Georgia:

- **Adopt the "Mercury Model Trading Rule" as is?**
 - **Adopt rule by reference, or rewrite into Georgia Rules (Chapter 391-3-1)?**
- **Modify the Model Rule?**
 - **Allocation formulas (new & existing units)**
 - **Distribution method**
 - **Set-asides**
 - **Allocation timing**

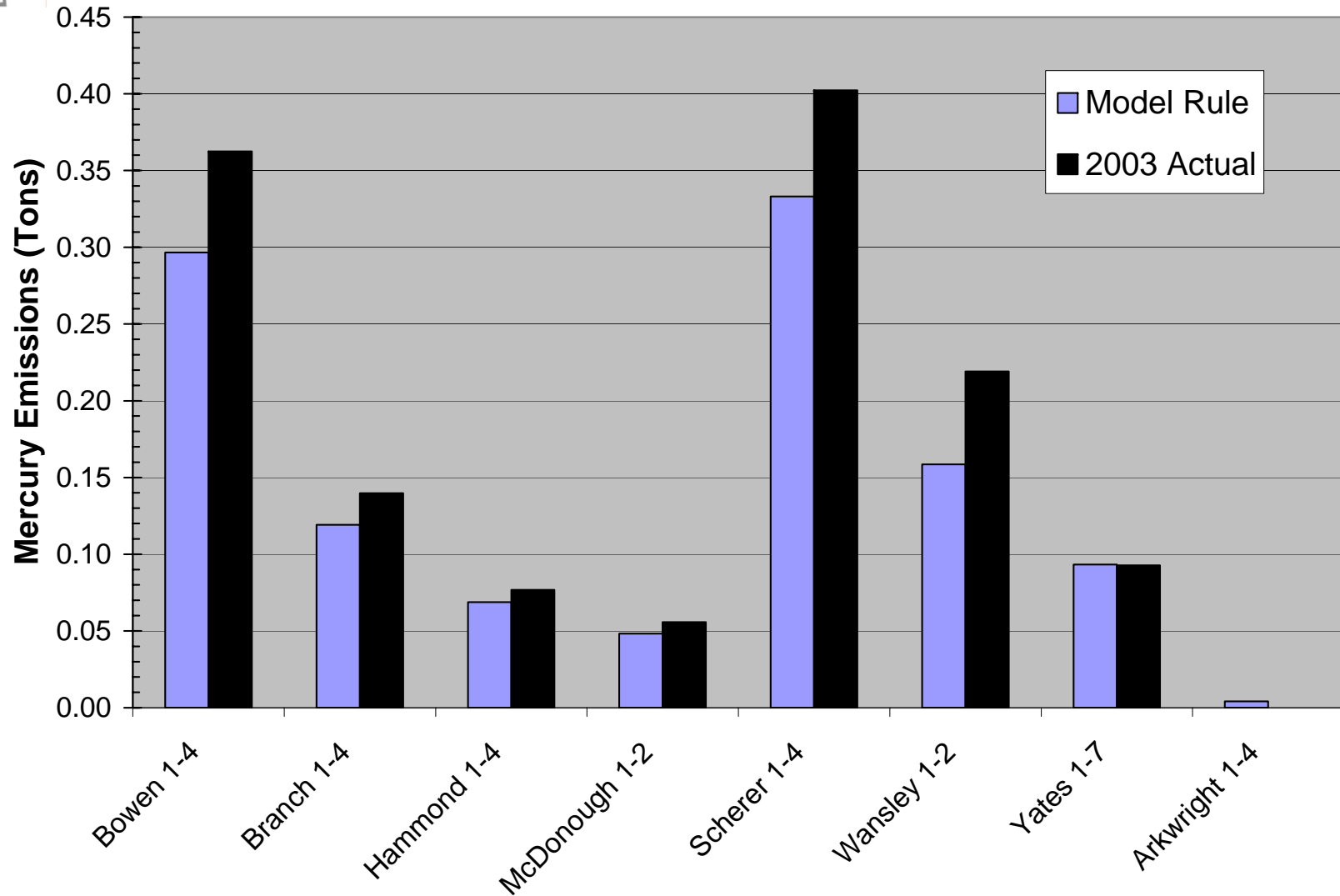


Hg Allocation: CAMR Model Rule

- **Existing sources:** (operational by Jan. 1, 2001)
 - CAMR applies to coal-fired EGUs (capacity ≥ 25 MWe)
 - Based on fuel-adjusted heat **input** (MMBtu)
 - Multiply by 1.0 (bituminous coal), 1.25 (sub-bituminous), and 3.0 (lignite)
 - Avg. of 3-highest years 2000-2004 (no updating)
- **New sources:**
 - First year: Must buy allowances
 - Years 2-5: Allowances equal to previous year mercury tons.
 - Added to existing source pool based on first 5 years of electricity **output** (MWh), scaled by a fuel-specific factor
 - 5% set-aside 2010-2014; 3% set-aside afterwards
 - Pro-rata basis if set-aside is exceeded
- **Timing:** State initially allocates allowances for 2010-2014; subsequently, reports allocations to EPA 6 years in advance.



Actual Hg Emissions vs. CAMR Phase I Model Rule Allowances





Alternatives to Hg Model Rule: Distribution Method

- Should Georgia auction part or all of the available NO_x allowances?
- Should Georgia charge fees to recoup costs for administering the program?



Alternatives to Hg Model Rule: Set-Asides

- The Model Rule sets aside 5% of mercury budget (3% starting in 2015) for new sources, but creates no other set-asides. Should Georgia:
 - Modify the new source set-aside?
 - Create a renewable energy/energy efficiency set-aside?
 - Create a “public health” set-aside (i.e., retire allowances?)



Alternatives to Hg Model Rule: Allocation to Existing Units

- Should the fuel factors be modified?
- Should electricity output (MWh) or heat input (MMBtu) be the basis for allocations?
- Should the baseline period (top 3 years, 2000-2004) be modified?
- Should the baseline be updated on a periodic basis?
 - If so, how frequently?
- Should retired units continue receiving allowances?



Alternatives to Hg Model Rule: Allocation to New Units

- How large should the new unit set-aside be?
- Should the conversion factor be modified?
 - Model Rule conversion factor: 7,900 Btu/kWh
- Should renewable energy or energy efficiency projects be eligible for new unit allowances?
- What schedule is appropriate for establishing a new unit's baseline and incorporating it into the main pool?



Alternatives to Hg Model Rule: Timing

- The Model Rule allocates allowances 6 years in advance. Should this lead time be modified?



Conclusion



Next Steps

- Prepare written and/or verbal ideas, proposals, or positions on the issues presented today and any other CAMR issue.
- Submit on or before November 22, 2005 to address on next slide.
- The November 22, 2005 meeting is for the stakeholders to present their proposals if they so choose. EPD will not be making a presentation but will be a member of the audience.



EPD Contacts

- Susan Jenkins: 404-362-4598
- Dan Cohan, Ph.D: 404 - 362-4569
- Written comments can be mailed to either individual above at

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