



EPA COAL ASH PROPOSAL

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What is Coal Ash?

- **About 50 - 60% of the electricity produced in America uses coal as fuel**
- **Coal ash is simply the ash left over from burning coal – coal combustion byproducts or CCBs**
- **Fly ash, bottom ash and gypsum**
- **The utility industry produces about 125 million tons of CCBs annually**
- **Utilities typically collect and store CCBs on site in landfills (30%) or ponds (20%)**
- **Over 500 ponds nationwide (16 designated by EPA as “potential high hazard”)**



EPA Past and Present Coal Ash Regulation

- **Four prior occasions, EPA concluded that CCBs do not warrant regulation as hazardous waste under the Resource Conservation and Recovery Act (RCRA) Subtitle C (1988, 1993, 1999 and 2000)**
- **Now EPA is reevaluating its prior decisions not to regulate CCBs as hazardous waste under Subtitle C (RCRA)**
- **WHY?**



The Catalyst For Change

- **TVA Kingston fossil plant's retention pond failed on Dec. 22, 2008**
 - **Several homes destroyed**
 - **3.1 million cubic feet of fly ash and water released**
 - **Approximately 300 acres affected**

TVA Plant - Kingston, TN Ash Release

Aerial Image of Kingston Ash Slide Pre-Event 2008



0 500 1,000 1,500 2,000
feet

Tennessee Valley Authority
CE&R - ER&S
Geographic Information & Engineering

Aerial Image of Kingston Ash Slide 12/30/2008



0 500 1,000 1,500 2,000
feet

Tennessee Valley Authority
CE&R - ER&S
Geographic Information & Engineering



The Issue

THE ENVIRONMENT

- **EPA is concerned**
 - **Improper management practices**
 - **Prior damages to ground and surface waters**
 - **Potential future damages**
 - **Adequacy of state regulatory programs**



EPA Proposal

EPA has proposed two primary options under RCRA *

- **Option 1-Subtitle C Hazardous Waste**
- **Option 2-Subtitle D Non-Hazardous Waste**
- **Major common features of both options**
 - **Closure of existing ponds with a 30-year/post-closure monitoring**
 - **Strict dam safety requirements**
 - **Strict siting requirements for**
 - **Liners and leachate collection systems**
 - **Groundwater monitoring of new and existing ponds**
- **“D - Prime”**
 - **A third option which would allow continued use of existing ponds is discussed on one half page of 563 page rule**



Subtitle C Option

- **CCBs would be designated as a hazardous waste**
- **Regulated directly by EPA (and State agencies with delegated EPA authority)**
- **Require ultimate closure of ALL surface impoundments (1-7 years)**
- **Water, or anything mixed with CCBs, would also be considered a hazardous waste**
- **Although certain beneficial reuse would be specifically allowed, the “stigma” of a hazardous waste designation could effectively end recycling of CCBs**
- **NOTE: cost estimates – from \$30 Billion to \$200 Billion ***

• Calculated from EPA Federal Register June 21, 2010 pg. 35213 and EOP Group, Inc. report “Cost Estimate for Closure of Ash Ponds at Fossil Fuel Power Generation Facilities 2009”



Subtitle D Option

- **Current non-hazardous designation continues**
- **Regulated by state agencies**
- **Pond closures required unless retrofitted with synthetic liners**
- **New landfills and ponds must have liners, leachate collection and meet new siting standards**
- **Beneficial reuse of CCBs is largely unaffected**
(42% of CCBs are currently used as components in concrete, road construction and wall board... and as filler in Mississippi River levees by the Army Corps of Engineers)
- **Onsite landfills are a realistic expectation**
- **NOTE: Cost estimates: \$10 * to \$40 ** billion**

* EPA Federal Register June 21, 2010 pg. 35214

** EOP Group, Inc. report "Cost Estimate for Closure of Ash Ponds at Fossil Fuel Power Generation Facilities 2009"



Support For Hazardous Option

- **Enhanced EPA authority through state oversight and direct enforcement**
- **Closer Federal oversight of waste management practices**
- **Mandatory financial assurance
(bonds posted prior to permitting)**
- **More stringent closure and post-closure authority**
- **Potential health and environmental benefits**

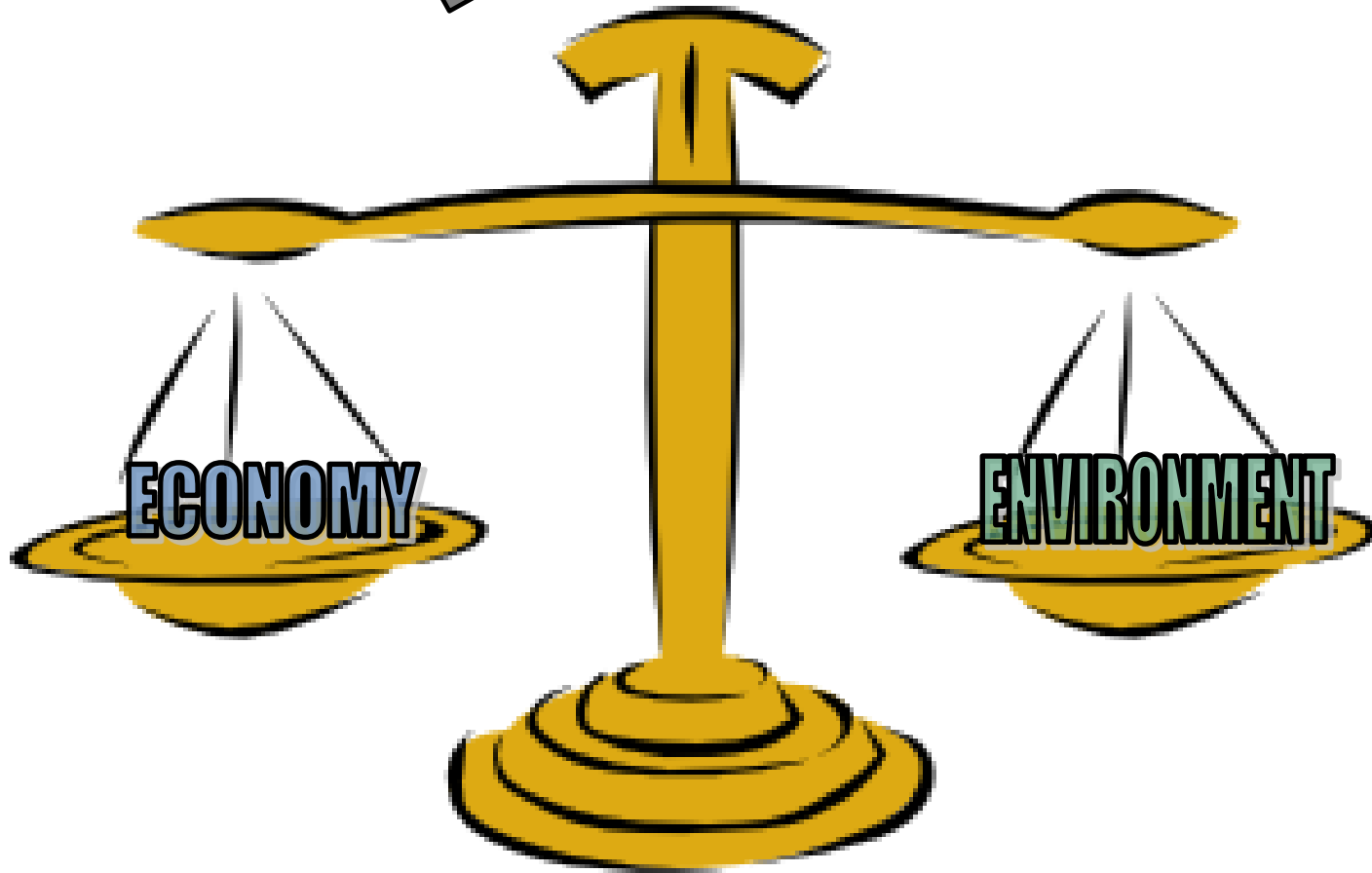


Support For Non-Hazardous Option

- **On four separate occasions, EPA has determined that CCBs do not warrant regulation as a hazardous waste**
- **EPA ordered that the Kingston (TVA) CCB and other cleanup material should be sent to a non-hazardous Subtitle D landfill in AL**
- **2009 Tennessee Department of Health report found no significant human health impacts from the TVA CCB release ***
- **Numerous State environmental agencies oppose regulation of CCBs as hazardous waste**
- **Large disposal capacity (landfills) for non-hazardous wastes and limited capacity (30 million tons), for hazardous waste**
- **EPRI report states that CCBs contain certain heavy metals classified as hazardous but in trace concentrations not normally viewed as toxic ***
- **Beneficial reuse of CCBs yields economic savings and conserves natural resources**



BALANCE





Implications for State Regulators

- **Rates-** EPA's proposal states that electricity demand is inelastic and that utilities will pass on regulatory costs to their customers
 - Subtitle D \$10 B to \$40 B
 - Subtitle C \$30 B to \$200 B
- **Reliability -** EPRI estimates under Subtitle C:
 - 200-400 coal-fired units retired
 - loss of up to 19% of total generating capacity in some regions * *
 - PJM, ERCOT, MISO, SERC
- Ancillary-** CCB reuse is important for everyone:
 - yields energy and water savings
 - reduces CO₂ emissions,
 - reduces land space required for disposal
 - conserves natural resources

* EPA Federal Register, June 21, 2010, pg. 35225

* * EPRI Testimony to U.S. House of Representatives, Dec. 10, 2009



Possible Timeline for Environmental Regulatory Requirements for the Utility Industry

