

## Risk Assessment Background and Status

- During 1998-99, risk analysis was conducted to support the 2000 Regulatory Determination
- Because of limited site based data and modeling uncertainties associated with those results, the 2000 Regulatory Determination was based on damage cases (see later discussion).
- Since then, to support Subtitle D rulemaking efforts, we greatly expanded our site based database and minimized our modeling uncertainty with improved modeling tools
- [REDACTED]
- Mercury risk results are highly tentative due to data limitations and are the subject of current ORD research activities.
- Draft risk assessment document to be completed by the end of August and made available to the public in the NODA.

# Conditions Now

**Damage Cases** – From a total of 450 coal burning utilities (300 landfills and 300 surface impoundments), there are seventeen proven cases of groundwater damage: 6 associated with placement as fill in unlined sand and gravel pits, 4 in landfills, and 7 in surface impoundments, none at coal mines. One unit involved a liner failure, the rest of the units were unlined.

**Risk Modeling** – Issues with the risk model have been addressed and results are similar to the analyses conducted for the Regulatory Determination. *High end, 90%*

[REDACTED]

- We also performed new analyses for Mercury in the groundwater to surface water pathway, but results were inconclusive due to nondetects.
- We are continuing to work with OAR and ORD regarding possible changes in Mercury concentrations due to recent regulations limiting Mercury emissions – that situation is uncertain depending greatly on which technology options facilities ultimately select.
- [REDACTED]
- Draft risk assessment document to be completed by the end of August.

# Appendix 1

## Coal Combustion Waste (CCW) Risk Assessment

**Goal:** identify CCW constituents, waste types, receptors, and exposure pathways with human health and ecological risks of concern<sup>2</sup>

**Scope:** utility CCW currently managed in onsite landfills and surface impoundments at utility power plants

**Approach: Full-scale analysis:** Site-based Monte Carlo analysis based on CCW constituent database collected from 140 facility sites and a site specific database which characterizes CCW landfills and surface impoundments collected from 181 EPRI/EPA facility sites. This site-based Monte Carlo risk analysis was designed to assess the human health and ecological risks of current CCW management practices. Pathways of concern include groundwater-to-drinking water (for residents) and groundwater-to-surface water (for recreational fishers and ecological risks).

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<sup>2</sup> 1 to 100,000 (10<sup>-5</sup>) excess cancer risk; predicted intake levels at or above safe levels for noncarcinogens (i.e., hazard quotient [HQ] of 1 or more); HQ of 10 or more for ecological receptors