Critical Information in Making Ash Management Decisions

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Presentation Outline

- Discussion of drivers and timelines
- Considerations in siting disposal facility
- Characterize process streams
- Permitting
- Design considerations
- Water management
- Putting it all together
- Questions
Drivers Triggering Plant Upgrades Impacting Ash Management

- Rules: CCR, ELG, Utility MACT, Transport Rule, 316b
- Business: capacity constraints, decision to commit additional investments to obtain ROI, other

**Project Lifecycle**

- Scoping
- Engineering
- Procurement
- Commissioning

  - Feasibility
  - Permitting
  - Construction
Expected Rule Compliance Timeline

- 2010: CCR Rule Proposed
- 2011: 2012
- 2012: Final CCR Rule Issued
- 2012: Effluent Guideline Proposed Rule Expected
- 2013: 2014
- 2014: Final Effluent Guideline Rule Issued
- 2015: MATS Compliance
- 2013 - 2018: CCR Compliance Requirements Begin (ground water monitoring, composite liner, closure, dry ash conversion)
- 2016 - 2019: Effluent Guideline Compliance
- 2018 - 2020: Closure of Impoundment May Receive 2 Year Extension
CCR Disposal Siting

Site Restrictions
(wetlands, water table, flood plains, and seismic zones)

Subtitle C or D for CCR, 316b, ELG, MACT, Transport Rule

Other Factors
(Costs, technology available, regulatory environment, state etc)
Characterization of Process Streams

- Ash generation rates (pre versus post upgrade – consider actual survey data)
- Process water flow rates and required settling volumes
- Dry ash v. wet ash deposition adjustment
- Water quality characterization
Water and waste permitting

• Solids waste permitting
• NPDES permitting
  – Permit modifications
  – Other water discharge considerations
    • Non-impaired waters – Antidegradation
    • Impaired waters – Discharge restrictions
    • Impaired waters – Discharge prohibitions
• Transition to solid waste permit through NPDES modification
Other Permitting/Siting Restrictions

• Solid waste siting restrictions:
  – state and local
  – federal CCR proposal
• Environmental review
• Wetland permitting
  – lengthy process
  – wetland delineations

Consider impact of triggering these programs on project timeline!
Landfill or Geo-lined Impoundment Design Considerations

• Greenfield sites:
  – More likely to trigger other approvals
  – Acquisition adds complexity and time

• Brownfield sites:
  – May require additional testing for design
  – Can result in complicated sequencing
  – Efficient closure of existing facilities

• Consider geotechnical evaluations
  – Narrow potential site selection
Water Treatment Endpoint Evaluations

• Identify potential surface discharge constraints
• Identify potential reuse targets (may require more detailed water balance and water quality sampling)
• Conduct bench studies (and possibly pilot studies) early to identify fatal flaws or potential operational challenges
Putting it All Together…

- Evaluate **facility drivers** to determine likely projects and **timelines**
- Consider conducting some **pre-project studies** to capture needed information
- Begin scoping and **alternatives analysis** as soon as possible – *more information is better*
- Document evaluations as dead ends appear – the number of **alternatives can multiply quickly**
Questions?

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