Clean Power Plan - What Next?

Environmental Permitting
Summer School

Al Linero, P.E.
Principal Engineer
Koogler & Associates
Really Now – What Next?

• EPA Administrator Gina McCarthy was Keynote Speaker at June 2015 AWMA Conference in Raleigh, NC
• Answered Questions from Audience through AWMA President in an Interview Format.
• Said they read many Thousands from the Millions of Comments Submitted and Took them into Consideration.
• No Hedging - EPA Really will Finalize a Section 111(d) Clean Power Plan Rule circa August with Aggressive State Implementation Plan (SIP) Guidelines.
• There will be a Federal Implementation Plan (FIP).
We'll Have to Read it First!

• Did they Address Concerns of FDEP and FPSC?
  Numerous Technical Misunderstandings or Errors.

• Did they Consider the Pleas of Munis/COOPs?
  E.G., Stranded Costs from Early Retirement of Coal Plants and their Recent Expensive Air Pollution Control Equipment.
Path to 2012 Baseline

- In 1998, CO2 Emissions from Florida’s Fossil Fleet were Roughly 1,800 pounds of CO2/Megawatt-Hour (lb/MWH).
- About like a New Modern Supercritical Coal Unit.
- About What is Expected of Kentucky in 2030.
- By 2005 Emission Rate was ~1,500+ lb/MWH.
- By 2012 it was 1,200 lb/MWH. About a 33% Improvement.
- Per Draft EPA Wants Florida to Achieve 794 lb/MWH for period 2020-2029. Would Need to Achieve ~ 850 lb/MWH by 2020 (~30% Reduction), 740 lb/MWH by 2030 (~ 38%).
- 740 lb/MWH Represents Most Efficient H-Class NGCC Unit Maintained in New, Clean Shape, Fully Dispatched.
Can it Possibly be Done?

- Not by Fossil Fuel Alone. But Fossil Fuel will Still be by Far the Main Method of Power Generation.
- Dispatch to Existing NGCC Units and Build New Ones.
- FPL NGCC Capacity increased went from ~2,000 MW of NGCC in 1998 to ~16,000 MW in 2016 when Port Everglades Starts ups. (I did Every Permit)
- ~80% of their Florida Fossil Fleet Capacity (ex. JEA piece).
- About Where State Needs to be by 2020 per Draft CPP.
- By New NGCCs, Improvements on earlier NGCCs, and solar/wind/biomass FPL will achieve 740 lb/MWH by 2030.
Let's Look at Basic Process

• It took 17 years of Planning, Securing Capital, Public Service Commission Dockets, Environmental Permits, etc. To Transform FPL Fleet without Price Shocks.

• Could take that long to do the Same for Rest of Companies. Some Longer than Others.

• Each New NGCC, non-Fossil Project, PPA will Require PSC Finding that it is Prudent. They will be Subject to Competing Bids. IOUs will want to try Environmental Cost Recovery Clause.

• PSC, FRCC, Legislature, DEP, Energy Office, Customers, Markets will Maintain their Traditional Roles.

• I Don't Predict a SIP with 850 lb/MWH Target for 2020 or 794 lb/MWH Average for 2020-2029.

• Achievement of 740 lb/MWH by 2030+ is Plausible.
Pyramids Built Using Ramps!

• Smooth Transition to Progressively more NGCCs.
• No Wholesale Coal Unit Shutdown in 2020.
• Single File Phase out of Coal. Oldest, Least Controlled Shut Down First (Crystal River 1, 2, Lansing Smith 1, 2 and so forth, Culminating in Crystal River 4, 5 in 2030+).
• Companies with Larger Customer Base Can Finance the Solar, Biomass, Nuclear. Maybe Others can Buy Piece of the Action.
• I think Coal-Heavy Munis/Coop will Prefer Mass Limits.
Questions ?– Ask the Sphinx