



Georgia Power CCR Compliance

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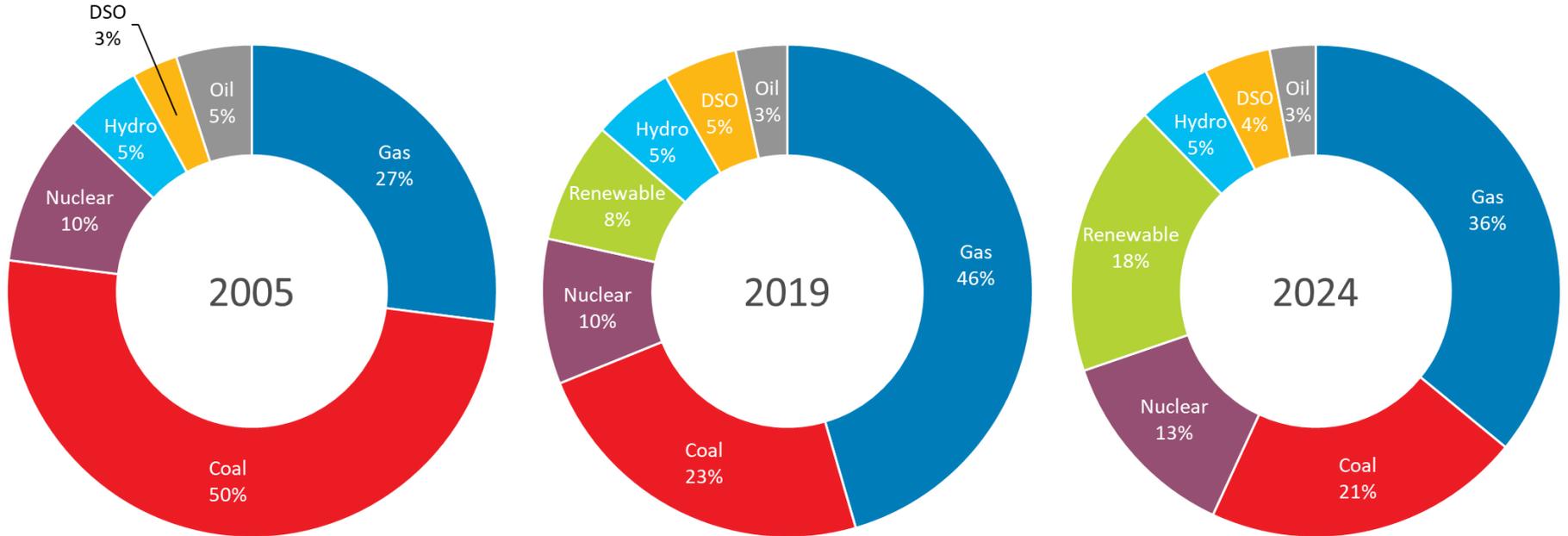


Overview

- Georgia Power Generation
- Coal Combustion Residuals
- CCR and ELG Integrated Strategy
- CCR Rule Overview
- Georgia Power Ash Pond Closures

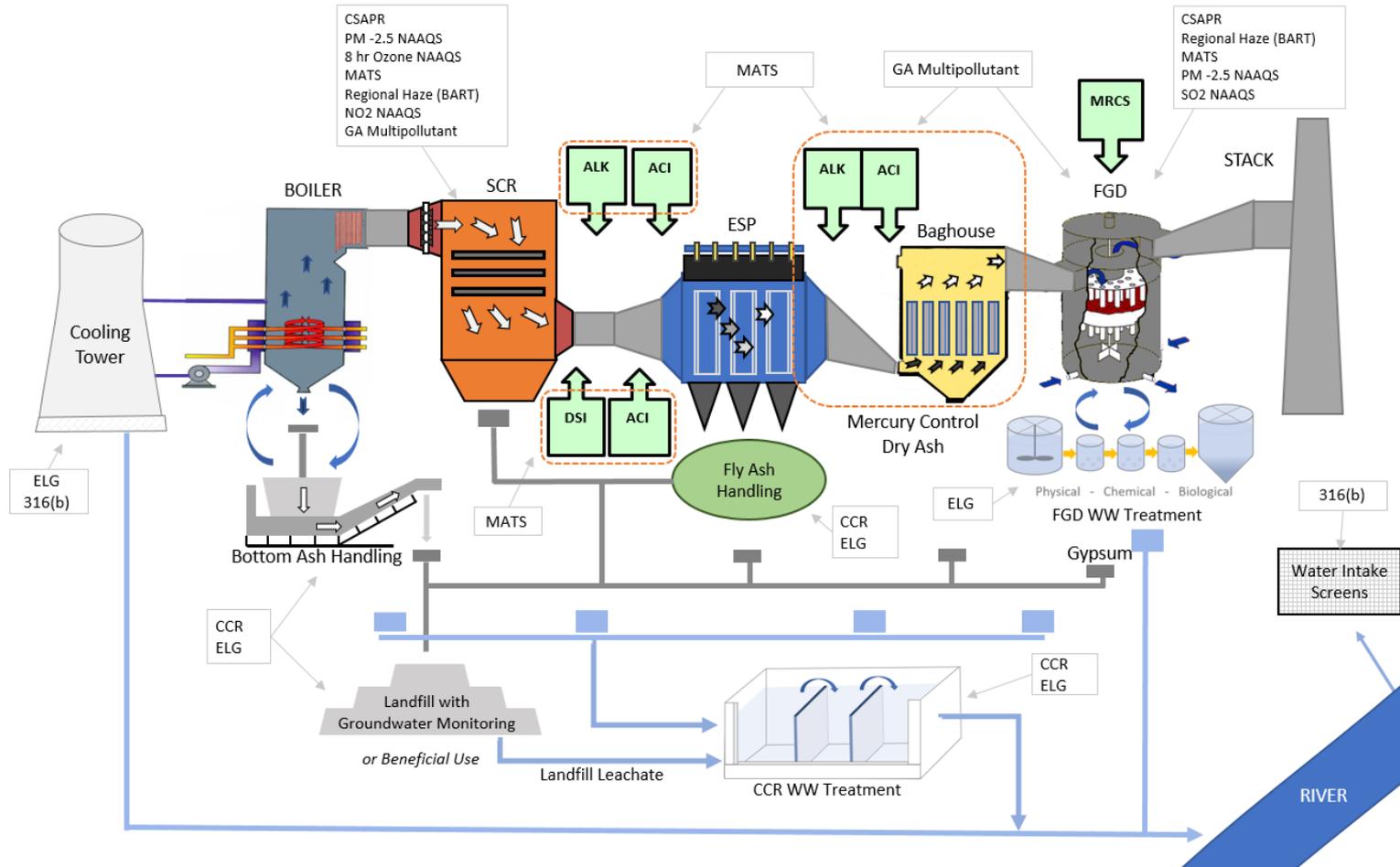


Georgia Power Energy Mix



Note: These capacity mixes reflect demonstrated retail capacity for traditional resources, nameplate capacity for retail-serving renewable resources, and program capacity for dispatchable DSOs. A portion of the projected renewable generation capacity includes capacity where the renewable generator retains the related RECs.

Environmental Control Technologies



What are Coal Combustion Residuals?



CCRs are by-products produced by burning coal and operating pollution control systems at power plants:

- Fly ash
- Bottom ash
- Gypsum (flue gas desulfurization solids from scrubber)

Georgia Power currently markets greater than 70% of CCR generated

Fly ash



Scrubber gypsum



Bottom ash



ELG and CCR Integrated Strategy



Significant construction within each coal-fired generating plant to accommodate both ELG and CCR requirements

Effluent Limitation Guidelines (ELG) Strategy

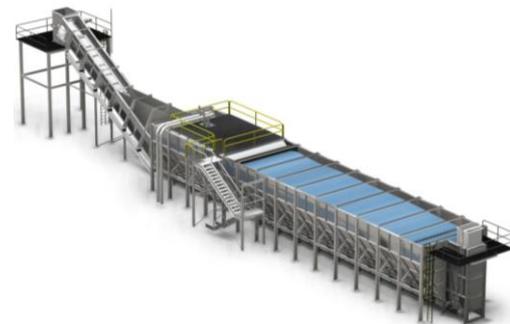
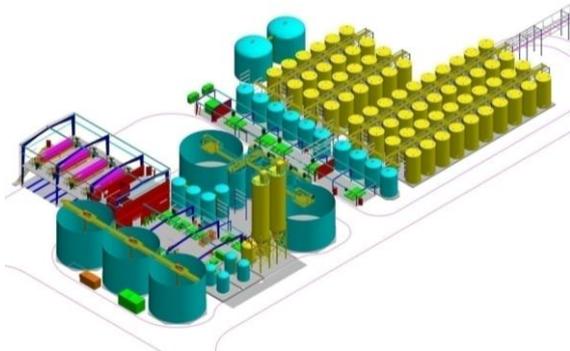
- Water Discharge Limits
 - Dry Fly Ash / Bottom Ash Conversions
 - Water Treatment Systems for Other Wastewater (i.e. CCR Wastewater)
 - Scrubber Wastewater Treatment

Coal Combustion Residuals (CCR) Strategy

- Ash Pond Closures
 - Dry Fly Ash / Bottom Ash Conversions
 - Water Treatment Systems for Other Wastewater (i.e. CCR Wastewater)



Dry Ash Handling,
Water Treatment,
and Pond Closure



Coal Combustion Residuals (CCR) Rule Overview



- Federal (EPA) Coal Combustion Residual (CCR) Rule
 - Regulates **certain** ash ponds and landfills at generating facilities
 - Compliance requirements include conducting annual inspections, design criteria, operating criteria, groundwater monitoring, pond and landfill closure plans, post closure requirements, etc.
 - Two methods for closure: closure in place and closure by removal
 - Additional amendments in 2019 - 2020
- Georgia CCR Rule
 - More stringent than Federal CCR Rule with compliance requirements for **all** ash ponds and landfills
 - Ash ponds and landfills are regulated under a **comprehensive permitting program** by Georgia EPD
 - Permit applications were submitted to EPD in November 2018
 - Adds financial assurance requirements for all CCR units (ponds & landfills)
 - Permit review required every 5 years following permit approval
 - June 28, 2019 EPA proposed approval State of Georgia CCR Permit Program
- Strategy Compliance Requirements
 - Meet Federal and State CCR rule compliance requirements
 - Close all ash ponds in compliance with Federal and Georgia CCR Rule
 - Accommodate future storage and disposal of CCR through landfill operation

Georgia Power Ash Pond Closure Overview



- Close all 29 ash ponds at 11 active and retired coal fired plants across the state
- Ash pond closures are site-specific and balance multiple factors
- Ash pond closure methods:
 - Completely remove ash from 19 ponds adjacent to lakes or rivers
 - 10 remaining ash ponds will be closed in place using advanced engineering methods (AEM) to enhance protection of groundwater
- Include Advance Engineering Methods (AEMs) for closures in place - may include consolidation of ash footprint, cover system enhancements, slurry walls, etc.
- Additional wastewater treatment systems will be employed during the closure process
- Groundwater monitoring began before regulatory requirements and continues today with data submitted to EPD
- Since 2016, installed approximately 500 groundwater monitoring wells around ash ponds and on-site landfills to actively monitor groundwater quality

Georgia Power Ash Pond Closure Progress



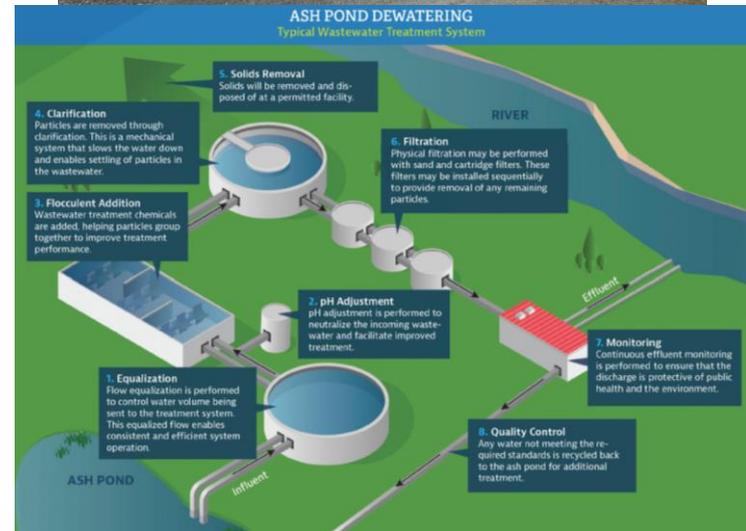
- Significant construction completed to install dry ash handling systems and additional wastewater treatment systems at active generating plants
- Permit applications submitted in November 2018 for all CCR landfills and ash ponds
 - Includes details on engineering design, closure construction, groundwater monitoring, quality control, and post closure care
- Significant ash pond closure progress for 14 ash ponds at 6 facilities:
 - Ash from 5 ponds has been removed
 - 9 additional ponds are in progress
 - Closure design and planning ongoing for the remaining ponds
- Beneficial reuse opportunities and technologies are being evaluated and will be deployed as market conditions allow
 - Partnership with EPRI and other utilities to build Ash Beneficial Reuse Center at Plant Bowen



Georgia Power's Ash Pond Dewatering Program



- Georgia EPD approves each dewatering plan
 - Treatment system design descriptions
 - Real-time monitoring and reliability control
 - Discharge monitoring requirements
 - Receiving water body monitoring requirements
 - Reporting requirements for submission of data to EPD
- Dewatering plans and results posted to Georgia Power website
- All treatment, sampling, analysis, and data review is conducted by qualified independent 3rd party contractors, engineers and accredited laboratories



Georgia Power Ash Pond Communications



- Initial announcements of plans in 2015 with continuous updates
- We have held site visits, tours, and presentations to General Assembly members, local community leadership, and media
- Website includes detailed information on our plans and monitoring data, more than required by regulations:
 - Site specific dewatering plans and processes
 - Reports and data on dewatering monitoring
 - Ash pond closure plans
 - Ash pond groundwater monitoring data
 - Ash pond inspection reports
 - Regulatory agency submittals, permits and reports
- The first round of testing was completed with results published on Georgia Power website in August 2016
 - More than 18 months ahead of federal requirements
- Updates will continue to be provided throughout the ash pond closure process

Georgia Power Residential Business Community Company Shop

Groundwater Monitoring, Dewatering and Ash Pond Closure Plant Specific Data

Each of our Georgia Powers plants represents a major commitment to ensure an adequate supply of electricity is available to the southeast for now and years to come.

 <p>Plant Bowen Plant Bowen, which began commercially operating in 1975, is located 9 miles southwest of Cartersville, Georgia.</p> <p>View</p>	 <p>Plant Branch Located in Putnam County and retired from service in 2015.</p> <p>View</p>	 <p>Plant Hammond Plant Hammond is a four-unit, coal-fired electric generating facility located on 1,100 acres in Floyd County.</p> <p>View</p>
 <p>Plant Kraft Located in Port Wentworth, Plant Kraft was operational from 1965 until 2015.</p>	 <p>Plant McDonough Georgia Power retired its coal-fired units at Plant McDonough, Arkansas in 2015.</p>	 <p>Plant McIntosh Operating in Effingham County, Plant McIntosh includes two natural gas</p>

<https://www.georgiapower.com/company/environmental-compliance>

