



# Georgia Power CCR Compliance

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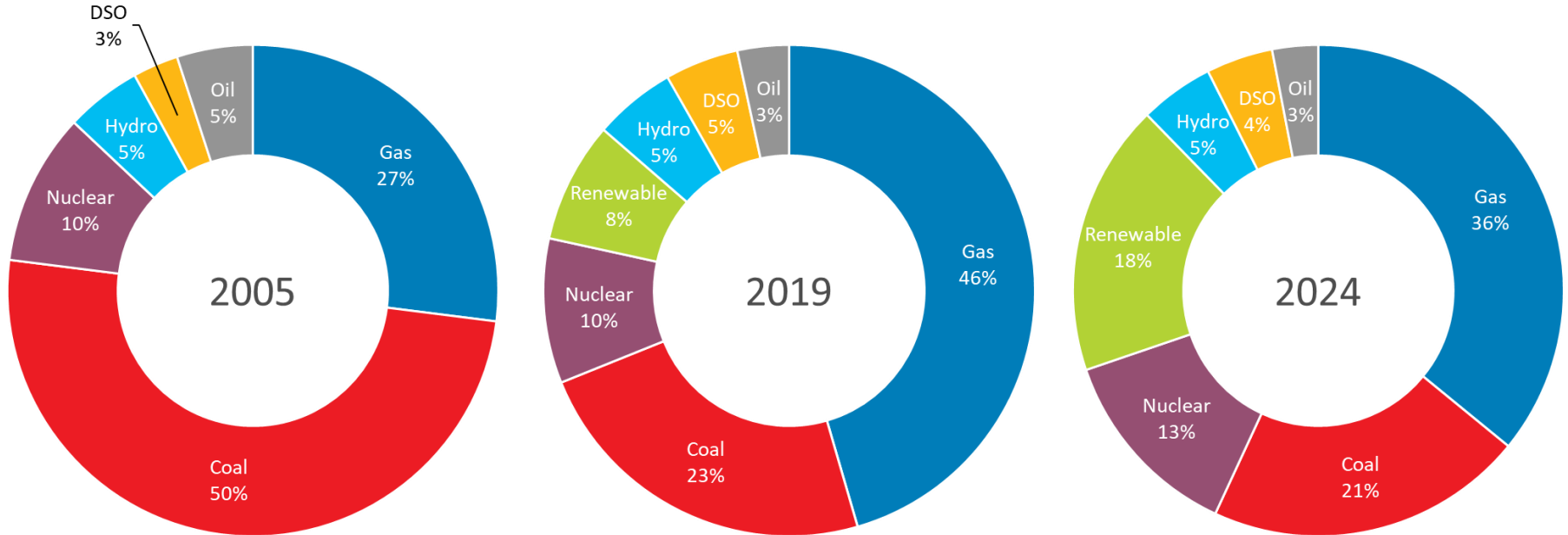


# Overview

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

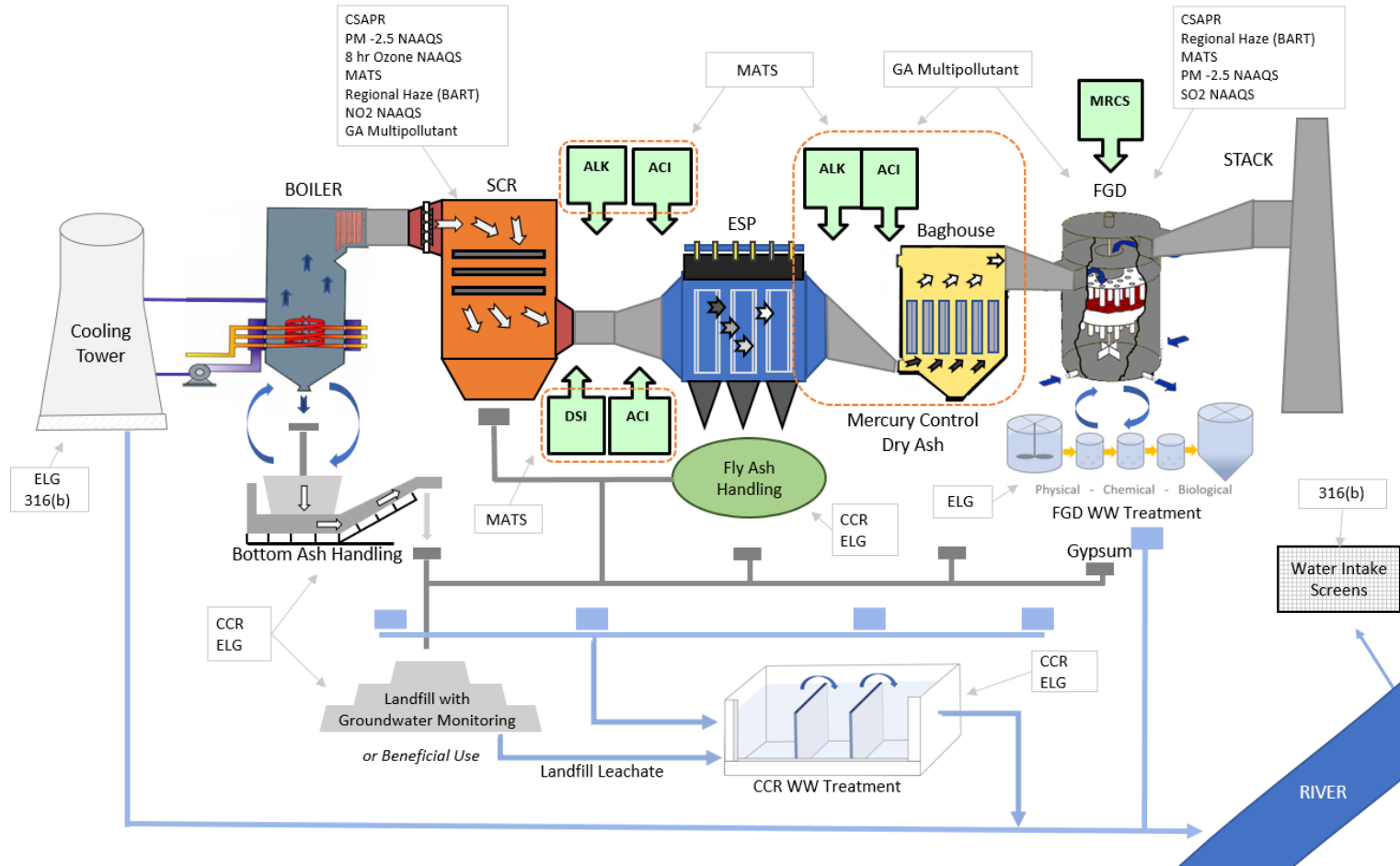


# Georgia Power Energy Mix



*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

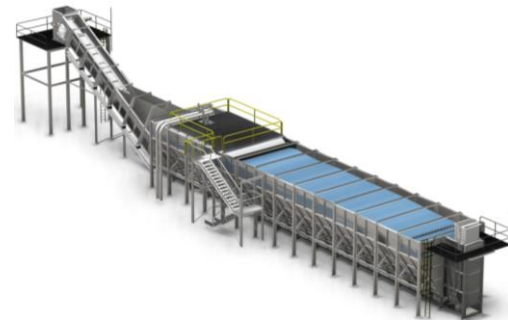
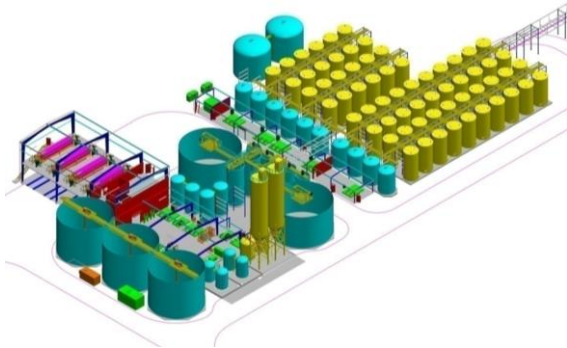
- Water Discharge Limits
  - Dry Fly Ash / Bottom Ash Conversions
  - Water Treatment Systems for Other Wastewater (i.e. CCR Wastewater)
  - Scrubber Wastewater Treatment

## 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



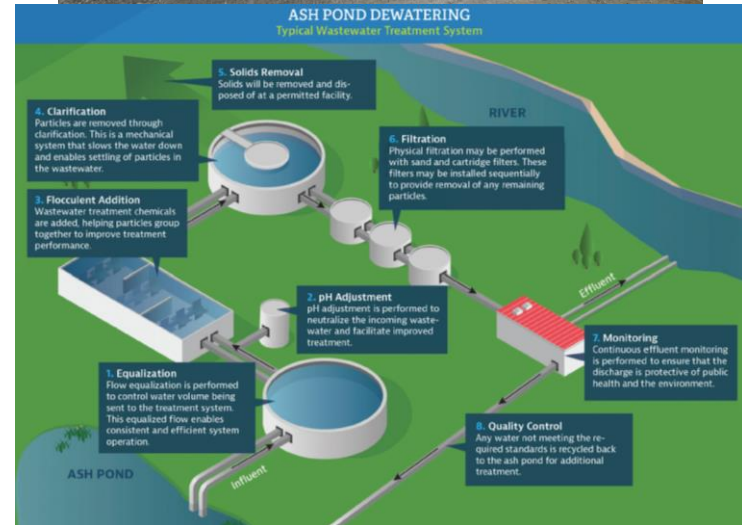
- Significant construction completed to install dry ash handling systems and additional wastewater treatment systems at active generating plants
- Permit applications submitted in November 2018 for all CCR landfills and ash ponds
  - Includes details on engineering design, closure construction, groundwater 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.



**Plant Bowen**

Plant Bowen, which began commercially operating in 1975, is located 9 miles southwest of Cartersville, Georgia.


[View](#)



**Plant Branch**

Located in Putnam County and retired from service in 2015.


[View](#)



**Plant Hammond**


Plant Hammond is a four-unit, coal-fired electric generating facility located on 1,100 acres in Floyd County.

[View](#)




**Plant Kraft**

Located in Port Wentworth, Plant Kraft was operational from 1965 until 2015.



**Plant McDonough**

Georgia Power retired its coal-fired units at Plant McDonough, Arkansas in 2015.



**Plant McIntosh**

Operating in Effingham County, Plant McIntosh includes two natural gas

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

