

Coal Ash Beneficiation Projects



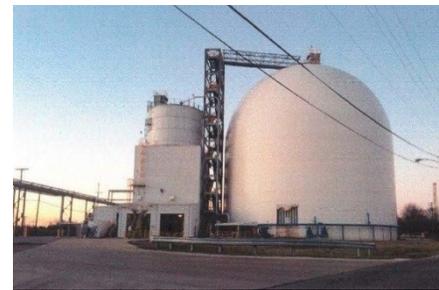
Proposed Sites for Beneficiation Projects

- Buck Combined Cycle Facility in Rowan County
- H.F. Lee Steam Electric Plant in Wayne County
- Former Cape Fear Facility in Chatham County

What is Coal Ash Beneficiation?

Coal ash beneficiation reuses coal ash from surface impoundments to produce cementitious products, like concrete. The Coal Ash Management Act (CAMA), as amended, required Duke Energy to identify three impoundment sites suitable for beneficiation projects. The law required each of the three projects to be capable of annually processing 300,000 tons of ash from the impoundment on site.

Duke Energy plans to operate Staged Turbulent Air Reactor (STAR®) systems at these sites. In this system, the fly ash is introduced into the reactor, which uses natural gas or propane during startup. Then, residual carbon in the fly ash ignites and becomes the heat source. Once the fly ash leaves the reactor, it's collected in the product recovery baghouse and transferred to either a storage dome or loadout silo, each equipped with a bin vent. The truck loadout station uses telescoping chutes and a negative pressure ventilation system as well as enclosed trucks to reduce fugitive emissions.



Pictures of proposed trucks/facility (Provided by Duke Energy)

Air Permits for Coal Ash Beneficiation

Air quality permitting is required for the installation and operation of the coal ash beneficiation facilities. The facility is subject to all North Carolina air quality requirements including particulate, sulfur dioxide, visible and fugitive emission limits and a toxics demonstration to show that the ambient concentrations beyond the property boundary do not adversely affect human health. The permit will include requirements for monitoring, testing and reporting. Permit conditions are enforceable to ensure compliance with all applicable air quality rules.

The Division of Air Quality (DAQ) issued a permit for the STAR® system at the Buck Combined Cycle Facility in May 2018. Duke Energy has submitted an application for the installation of a STAR® system at the H.F. Lee Steam Electric Plant. DAQ accepted public comments from June 6, 2018, to July 13, 2018, on the draft permit and held a public hearing on July 10th. Duke Energy has also submitted an application for the installation of a STAR® system at the former Cape Fear Facility. A public comment period and public hearing will be announced when the draft permit review is complete later this year.

In accordance with CAMA, the Department of Environmental Quality (DEQ) is required to hold a public hearing and accept written comment on the draft permit review for a period of not less than 30 or more than 60 days after DEQ issues the draft permit. Operation of each coal ash beneficiation project is to commence no later than 24 months after issuance of all necessary permits. Information on the permits and applications is available on the DEQ Coal Ash webpage deq.nc.gov/news/hot-topics/coal-ash-nc.