

Fact Sheet: Coal Ash

What is Coal Ash?

Coal ash, also referred to as coal combustion residuals or CCR, is produced primarily from the burning of coal in coal-fired power plants. Coal ash includes a number of by-products produced from burning coal, including:

- Fly ash, a very fine, powdery material composed mostly of silica made from the burning of finely ground coal in a boiler.
- Bottom ash, a coarse angular ash particle that is too large to be carried up into the smokestacks, so it forms in the bottom of the coal furnace.
- Boiler slag, molten bottom ash from slag tap and cyclone type furnaces that turns into pellets with a smooth glassy appearance after it is cooled with water.
- Flue gas desulfurization material, a material left over from the process of reducing sulfur dioxide emissions from a coal-fired boiler that can be a wet sludge consisting of calcium sulfite or calcium sulfate or a dry powdered material that is a mixture of sulfites and sulfates.

Other types of by-products are:

- fluidized bed combustion ash,
- cenospheres, and
- scrubber residues.

What do Power Plants do with Coal Ash?

Coal ash is disposed of or used in different ways depending on:

- The type of by-product.
- The processes at the plant.
- The regulations the power plant must follow.

Some power plants may dispose of coal ash in surface impoundments or in landfills. Others may discharge it into a nearby waterway under the plant's water discharge permit. Coal ash may also be recycled into products like concrete or wallboard.



Surface impoundment at a coal-fired power plant.

Why does EPA Regulate Coal Ash?

Coal ash contains contaminants like mercury, cadmium, and arsenic. Without proper management, these contaminants can pollute waterways, ground water, drinking water, and the air.

The need for federal action was highlighted by large coal ash spills near Kingston, Tennessee and Eden, North Carolina, which caused

widespread environmental and economic damage to nearby waterways and properties.

To address the risks from improper disposal and discharge of coal ash, EPA established national rules for coal ash disposal and strengthened existing controls on water discharges.

EPA Coal Ash Regulations

EPA published a final rule on April 17, 2015. This rule finalized national regulations to provide a comprehensive set of requirements for the safe disposal of coal ash from coal-fired power plants.

The final rule is the culmination of extensive study of the effects of coal ash on the environment and public health. The rule establishes technical requirements for coal ash landfills and surface impoundments under subtitle D of the Resource Conservation and Recovery Act, the nation's primary law for regulating solid waste.

These regulations address the risks from coal ash disposal -- leaking of contaminants into ground water, blowing of contaminants into the air as dust, and the failure of coal ash surface impoundments. Additionally, the rule sets out recordkeeping and reporting requirements as well as the requirement for each facility to establish and post specific information to a publicly accessible website. This final rule also supports the responsible recycling of coal ash by distinguishing safe, beneficial use from disposal.

Since 2015, EPA proposed and finalized changes to the federal coal ash regulations to address matters raised in litigation, legislation, petitions for reconsideration, and implementation.



Landfill at a coal-fired power plant.

Where Can I Find More Information?

1. Learn about coal ash:
www.epa.gov/coalash.
2. Read about our rulemakings:
<https://www.epa.gov/coalash/coal-ash-rule>.
3. For press inquiries, contact:
press@epa.gov.