

Managing Nuclear Waste

Nuclear energy is one of the cleanest ways we know to produce large quantities of electricity. Like all industrial processes, however, it produces some waste. FirstEnergy is committed to minimizing the amount of waste created and safely managing the waste that is produced.

Nuclear plants produce low-level and high-level radioactive waste. Combined, they amount to only a fraction of the waste produced by coal-burning power plants and many other industrial processes. But because the nuclear plant waste is radioactive, special precautions are made to prevent it from reaching the environment.

The plants' low-level waste is made up of a variety of materials that have collected small amounts of radioactive particles. These items include protective clothing worn by employees working in certain areas of the plant, testing equipment, tools, resins and filters. They are carefully packaged and safely stored at each site until they can be shipped to a federally licensed low-level waste disposal facility.

The used nuclear fuel in a power plant is classified as high-level radioactive waste. It is composed of the same fuel pellets and assemblies that formed the core of the reactor, but after fissioning, the uranium has transformed into highly radioactive fission products. The used fuel is currently stored safely at each nuclear power plant, largely in deep pools of water that are highly protected. Some nuclear power plants, which have run out of space in their fuel pools, are now storing used fuel safely in above-ground containers. Under the Nuclear Federal Waste Policy Act of 1982, the U.S. Department of Energy is responsible for developing a permanent repository for used nuclear fuel.

