



## **About Westinghouse in South Carolina**

### **1. Who is Westinghouse Electric Company?**

Westinghouse Electric Company provides safe, innovative nuclear and other clean power technologies and services globally. Westinghouse supplied the world's first commercial pressurized water reactor in 1957, and the company's technology is the basis for nearly one-half of the world's operating nuclear power plants. Over 135 years of innovation makes Westinghouse the preferred partner for advanced technologies covering the complete nuclear energy life cycle.

### **2. What does Westinghouse do in Hopkins (Richland County), South Carolina?**

The Westinghouse facility in Hopkins, S.C., manufactures fuel rods used in commercial reactors to generate electricity. Ten percent of the nation's electricity comes from the nuclear fuel manufactured by more than 1,000 employees at the site. The site is a flagship facility in Westinghouse's global portfolio.

### **3. In what year did Westinghouse's history with South Carolina start?**

1969

### **4. What types of work is based out of the Columbia Fuel Fabrication Facility (CFFF) in Hopkins?**

Fuel manufacturing facilities, engineering and testing laboratories – all supporting the creation of innovative products to help satisfy the country's growing demand for clean, reliable electricity.

### **5. How large is the site, and how much existing manufacturing and office space does the CFFF currently include?**

The site has a footprint of 1,151-acres. This includes 550,000 square feet of existing manufacturing and office space.

## **CFFF Expanding Capabilities, Facilities & Benefits**

### **6. Westinghouse recently announced a proposed project on its existing site. What is this project?**

Westinghouse recently announced an expansion of our operations in Hopkins, South Carolina. The project within our existing 1,151-acre site will include construction of a state-of-the-art manufacturing facility, incorporating the latest technologies emphasizing safety and sustainability to protect our people, our neighbors, and our beautiful environment. This will create jobs, training and advancement opportunities for our current and future workforce and will provide safe, reliable fuel that the nation's nuclear power plants need to continue to deliver around-the-clock clean energy.



- 7. What is the size of the new state-of-the-art manufacturing facility?**  
275,000 square feet
- 8. What product will the new building manufacture?**  
Advanced fuel assemblies for an innovative product called Low Enriched Uranium Plus fuel – more commonly known as LEU+.
- 9. What is LEU+ fuel, and why is it needed?**  
Electric utility companies around the U.S. are facing growing electricity demands from households and businesses. Currently, nuclear power plants utilize our existing fuel assemblies to generate reliable electricity for the public and must replace a portion of these fuel assemblies every 18 months. This occurs in a process called a refueling outage, during which a nuclear power plant temporarily shuts down for a short period of time to replace a portion of its fuel assemblies. With Westinghouse’s new and innovative LEU+ fuel, nuclear power plants can produce more carbon-free energy longer and more reliably by extending their refueling outages to 24 month-cycles. Additionally, LEU+ fuel can increase a nuclear power plant’s safety performance while operating at increased power levels.
- 10. How does the new facility align with South Carolina, and the nation’s, net zero goals?**  
The facility will enable Westinghouse to deliver even more safe and reliable fuel to the nation’s nuclear power plants to electrify a clean-energy future for South Carolina and the nation.
- 11. When are the construction activities anticipated to begin, and when is startup of the facility estimated?**  
Construction is anticipated to begin in late 2025, with startup estimated in 2028.
- 12. What are the construction impacts of building the new LEU+ facility?**  
This new facility will be built within the existing site footprint of the Columbia Fuel Fabrication Facility in Hopkins, SC. The portion of the property where the new facility will be built requires a portion of the plot to be re-zoned from agricultural to heavy industry.
- 13. What benefits will this project bring to Richland County?**  
It will create jobs, training and advancement opportunities for our current and future workforce and will provide safe, reliable fuel that the nation’s nuclear power plants need to continue to deliver around-the-clock clean energy.

## **Westinghouse and the Environment**

### **14. Is the CFFF site part of the Congaree Biosphere Region (CBR)?**

The Congaree Biosphere Region (CBR) is a voluntary, collaborative partnership framework in Lower Richland County, South Carolina. The United Nations Educational, Scientific, and Cultural Organization (UNESCO) designated the CBR because of the area's unique combination of natural resources and cultural heritage. Westinghouse supports the mission of the CBR to foster a future that celebrates, values and sustains the rich natural and cultural legacies of the Lower Richland area in concert with opportunities to promote healthy, vibrant and prosperous communities.

The internationally recognized CBR encompasses 466,062 acres, stretching West from downtown Columbia to Sumter County in the East, and North from Ft. Jackson to St. Matthews in the South. The CBR comprises three main areas: 1) Core Protected Area (15,269 acres); 2) Managed Use Area (11,270 acres); and 3) Area of Partnership and Cooperation (439,523 acres).

The first 2 areas comprise the Congaree National Park. Areas outside of the Congaree National Park, like the Westinghouse 1,151 acre-site, are located in the "area of partnership and cooperation." Most of Richland County as well as parts of Kershaw, Calhoun and Sumter counties fall within the CBR Area of Partnership and Cooperation. This area includes many industrial sites, chemical facilities and military institutions. Both the existing Westinghouse facility and the proposed new facility on the site are located in this "area of partnership and cooperation."

### **15. In what ways will this project support a cleaner and more sustainable environment?**

Operations in the new modern manufacturing facility will result in the following benefits:

- Less liquid and air emissions will be produced by the new facility and discharged into the environment compared to our current operations;
- Energy efficient facility upgrades will be utilized, along with energy efficient equipment and automation;
- Conservation landscaping will be included; and
- Conservation of the 600+ acres on the southern property boundary

### **16. What is the ecological benefit of conservation landscaping?**

Native plant gardens provide habitats for wildlife, promote healthy air quality, conserve and clean water, and promote healthy soils.

## **Westinghouse and the Community**

### **17. How is Westinghouse a good neighbor to the Lower Richland community?**

Westinghouse supports efforts that increase opportunities for residents and improve the quality of life in neighboring communities.

- CFFF facilitates a variety of [programs](#), including: STEM outreach with local schools and educational activities; sponsorship of student activities from sports teams to STEM programs; fire safety training for students by its fire brigade, and site emergency response support; scholarship opportunities; annual giving to the United Way; and, engagement with community associations, including the NAACP, Hopkins Community Crime Watch, the Gadsden Neighborhood Association, the South East Rural Community Outreach (SERCO), veteran's associations, senior citizens and more.
- Additionally, CFFF leads a [Community Engagement Board \(CEB\)](#) that is a forum with community leaders to communicate site information in a fully transparent manner and listen to ideas for improving our operations and community involvement.

### **18. How will the expansion build on Westinghouse's partnership with the workforce and community in Hopkins, Richland County, and South Carolina?**

The expansion will provide high-tech job opportunities and increase collaboration with our local technical colleges and universities in South Carolina.

## **Nuclear Fuel 101**

### **19. What is Uranium?**

Uranium (U) is a naturally occurring element that is used as fuel in nuclear power plants. On Earth, uranium is primarily found as U-238, meaning that it has 92 protons and 146 neutrons in its nucleus. But the atomic mass of uranium can change by adding or subtracting neutrons. Variations of elements based on atomic mass are called isotopes. The main type of uranium isotope used as nuclear fuel is U-235, which has 92 protons and 143 neutrons. Want more information? Check out the International Atomic Energy Agency's description on "[uranium](#)".

### **20. What does "enrichment of uranium" mean, and how is it related to Columbia?**

Enrichment refers to the process of increasing the concentration of a specific isotope. Natural uranium is composed of mostly U-238 (about 99.3%) and a small amount of U-235 (about 0.7%). However, nuclear power plants require a higher concentration of U-235 for their nuclear fuel. The enrichment process involves increasing the percentage of U-235. This is typically done through a process that separates the U-235 from the U-238 based on their slightly different masses. The resulting enriched uranium has a higher concentration of U-235, typically around 3-5%. This enriched uranium is then used to fuel nuclear power plants, including Westinghouse's Pressurized Water Reactors (PWRs). Columbia does not enrich uranium. The facility is involved in the

fabrication of fuel assemblies. The enrichment process is done at a different facility, and the enriched uranium is then sent to the Columbia Fuel Fabrication Facility. There are several enrichment facilities in the US, either in operation or under development. Need more information? Check out the U.S. Nuclear Regulatory Commission's backgrounder on "[uranium enrichment](#)".

#### **21. What is nuclear fuel?**

Nuclear fuel is a material that is used to sustain a nuclear chain reaction in a nuclear reactor. The most common type of nuclear fuel is uranium, which is used in the form of uranium dioxide (UO<sub>2</sub>) pellets. Want to know more? Check out the Nuclear Energy Institute's webpage on "[nuclear fuel](#)".

#### **22. How does Columbia manufacture nuclear fuel?**

The facility receives enriched uranium and converts it into small, cylindrical pellets. This process involves pressing the uranium into a pellet shape and sintering it to create a hard, dense pellet. The pellets are then loaded into long, hollow tubes called fuel rods. The fuel rods are assembled into a lattice structure, called a fuel assembly. The fuel assemblies are inspected for quality and accuracy. The fuel assemblies are then packaged and shipped to nuclear power plants, where they will be used to generate electricity. Want more information? Check out the U.S. Nuclear Regulatory Commission's definition of "[uranium fuel fabrication facility](#)".

#### **23. Who uses Columbia's nuclear fuel?**

Commercial nuclear power plants in the United States and around the world. About 10% of all the electricity produced in the United States and 50% of electricity produced in South Carolina comes from nuclear fuel made at Columbia! Need more information? Check out the U.S. Nuclear Regulatory Commission's diagram of a "[typical commercial nuclear power plant](#)".

#### **24. How is nuclear fuel transported from Columbia?**

The transportation of nuclear fuel is highly regulated and closely monitored by government agencies such as the Nuclear Regulatory Commission (NRC) and the Department of Transportation (DOT). Columbia must comply with strict safety and security regulations to ensure the safe and secure movement of the fuel. The fuel is packaged in specialized containers that are designed to prevent any leakage or exposure to the environment. The containers are made of thick steel or lead and are designed to withstand extreme temperatures and conditions. Want to know more? Check out the U.S. Environmental Protection Agency's webpage on "[transportation](#)".

#### **25. How do nuclear power plants use the nuclear fuel?**

A nuclear power plant uses nuclear fuel to generate electricity through a process called nuclear fission. Fission occurs when an atomic nucleus splits into two or more smaller nuclei, releasing a large amount of energy in the process. This energy is harnessed to generate electricity. Curious? Check out the U.S. Department of Energy's webpage on "[nuclear energy](#)".