American Nuclear Energy Expansion: Powering a Clean and Secure Future

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Introduction

Thank you. Chairman Duncan, Ranking Member DeGette and members of the committee, good afternoon.

My name is Regis Repko, and I appreciate the opportunity to be with you today representing Duke Energy, where I serve as the senior vice president of generation and transmission strategy.

Duke Energy is one of the largest energy holding companies in the United States. Our electric utilities serve 8.2 million customers in North Carolina, South Carolina, Florida, Indiana, Ohio and Kentucky, and collectively own 50,000 megawatts of energy capacity. Our natural gas business serves 1.6 million customers in North Carolina, South Carolina, Tennessee, Ohio and Kentucky.

Duke Energy is overseeing the largest clean energy transition in the industry to achieve our goals of net-zero methane emissions from our natural gas business by 2030, and net-zero carbon emissions from electricity generation by 2050. I’m proud to represent the nearly 28,000 Duke Energy employees leading this effort.

As we continue working to lower carbon emissions from electric generation, affordability and reliability for customers and energy resilience for the communities we serve are critical. It’s the

unique value of carbon-free nuclear that brings us here today. Duke Energy operates the largest regulated nuclear fleet in the country. I have 38 years of energy industry experience, 31 years in nuclear generation in a variety of roles including holding a senior reactor operator license for our Oconee Nuclear Station.

As we plan to add unprecedented amounts of solar, battery storage and wind power to the grid and continue retiring our aging coal fleet, we must have firm, dispatchable resources such as nuclear and natural gas to support non-dispatchable renewable energy resources. Our customers depend on us for an essential service, and we must not jeopardize reliability or affordability as we transition.

Nuclear Fleet Overview

Nuclear generation is a vital part of Duke Energy's generation portfolio. Our nuclear fleet delivers more than 80% of the company's carbon-free generation today. While generation from renewables is increasing, the existing nuclear fleet continues providing the baseload, carbon-free capacity our customers need now and as new technologies, including nuclear, come to market.

We cannot achieve the nation's carbon reduction goals without nuclear power. The 11 nuclear units we operate at six sites in the Carolinas provide about 50% of our Carolinas electricity each year and remain economic drivers for their communities, providing thousands of well-paying jobs, significant tax revenues, partnership opportunities and other benefits.

Licensing Existing Fleet

The licenses of our current nuclear fleet will expire between 2030–2046. Renewing our nuclear plant licenses for an additional 20 years will help ensure a source of reliable, zero-carbon, cost-

competitive power for our customers for decades to come. All of our generation resource planning scenarios to achieve a net-zero carbon future rely on continued operation of our existing nuclear units.

In June 2021, we submitted a comprehensive subsequent license renewal application for Oconee Nuclear Station to the United States Nuclear Regulatory Commission (NRC) – more than 4,000 pages of documentation – addressing both the technical and environmental aspects of operating the three Oconee units for an additional 20 years to 2053-2054. The NRC is currently reviewing the Oconee application using its established, comprehensive renewal process. On March 24th, we notified the NRC of our "intent to file" for Robinson Nuclear Plant's subsequent license renewal. In the future, we plan to apply for renewal of the licenses of our four remaining nuclear sites.

Duke Energy is closely monitoring the NRC rulemaking on the Generic Environmental Impact Statement guidance and will rely on that guidance for Robinson's and the remaining fleet's subsequent renewal applications. NRC's adherence to its rulemaking schedule will be an important predictor of needed regulatory stability. Congressional oversight of these matters is appreciated. Duke Energy also thanks Congress for the Inflation Reduction Act regarding production tax credits for the operating fleet. This production tax credit will ensure the viability of the nuclear fleet for the future and benefit our customers.

Supporting New Nuclear

Looking to the future, our Duke Energy modeling makes clear the need for new generation technology during the transition to a net-zero carbon future. To support our carbon plan and future customer energy needs, we are exploring opportunities to use Duke Energy property for future energy generation. Existing infrastructure at current and retired generation sites can

potentially support new energy sources, like renewables, energy storage, new nuclear and natural gas facilities, with cost savings and less impact given their ready access to existing land, transmission, water, rail/road access.

Duke Energy needs to build approximately 8 gigawatts of new nuclear generation to meet its net-zero 2050 carbon goals. Our initial focus is on light-water reactors (LWRs). We have nearly 50 years of experience operating LWRs, and there are fewer technical uncertainties associated with them.

We have an engagement strategy for future deployment of new and advanced nuclear reactor technologies. We are actively involved with industry groups, reactor technology companies and leading research universities studying deployment of advanced nuclear technology.

Regulatory clarity is important in any utility's decision to move forward. Duke Energy looks forward to continuing to work with the nuclear generation industry and the NRC to develop the Part 53 licensing process so that it is effective and efficient, commensurate to the safety of the new reactor designs.

Fuel Certainty

The nuclear fuel supply chain must also be addressed to maintain fuel availability to existing nuclear units and enable future nuclear generation. Russia is the largest supplier of nuclear fuel worldwide. As the U.S. and its allies pivot from Russian nuclear fuel, there is not enough existing production capacity from other suppliers to satisfy long-term demand. It is important to have a diverse set of suppliers, both domestic and from ally nations, to sustain a healthy and robust nuclear fuel supply chain. Duke Energy has an extensive and diverse portfolio of

contracts to purchase nuclear fuel, including products from domestic suppliers. These contracts are designed to ensure reliable and cost-effective nuclear power for our customers.

However, the need for more domestic suppliers of nuclear fuel cannot be achieved without some federal direction. Our industry needs Congress's help to partner with the Department of Energy to develop a plan for investment of $3.5 billion for a public-private partnership to increase conversion and enrichment capacity in the United States starting in 2028. We believe the Department of Energy can administer such a program so as not to directly compete with U.S utilities for fuel supply.

The Department of Energy is slated to receive $700 million for investment in a domestic high assay low enriched uranium (HALEU) supply chain provided in the Inflation Reduction Act. Without a viable supply chain for HALEU, any investment in transitioning to advanced reactors will remain uncertain.

Financial Certainty

Duke Energy would like to thank Congress for:

- funding the advanced Reactor Demonstration Program (ARDP), supporting reactor vendors to accelerate development through deployment.
- the IRA, which includes a nuclear PTC (45U) that supports the existing nuclear fleet and our customers who will see the value of these credits flow right back to them. The IRA also provides a clean electricity PTC (45Y), a technology neutral credit, that will reduce the cost of the energy transformation for our customers and investment in areas like small modular reactors (SMRs) and renewable energy resources of tomorrow.

Duke Energy sees the potential for cost and schedule uncertainties with current estimates for reactor technologies. We anticipate cost reductions for successive projects/units as learnings are passed from the first unit to the next.

The federal government has an opportunity to accelerate deployments of new nuclear designs by reducing risk of first and early projects. This can be done through options such as federal insurance if projects were to exceed cost caps. We anticipate these types of programs would only be needed for the first several projects, but their availability would support decisions by utilities to commit to new nuclear projects.

Closing

I cannot overstate the importance of nuclear energy to maintaining clean, affordable, reliable and secure energy for American citizens. We're proud to operate the largest regulated nuclear fleet in the country.

We seek licensing stability and clarity to support extended operations of our existing units and to deploy advanced technologies; fuel certainty through domestic supplies; and financial certainty to help us achieve the nation's increasing clean energy demands.

I'm excited about the potential for adding advanced nuclear technologies to our fleet for more affordable and versatile ways to harness this important energy source. We appreciate the Chairman inviting us to testify today, and we hope we can discuss ways to help ensure our existing fleet continues to flourish while also identifying opportunities that could help us bring new nuclear designs online to serve our customers.

I welcome your questions.