

**Committee on Energy and Commerce**  
**U.S. House of Representatives**  
Witness Disclosure Requirement - "Truth in Testimony"  
Required by House Rule XI, Clause 2(g)(5)

<b>1. Your Name:</b> Steven P. Nesbit		
<b>2. Your Title:</b> Director, Nuclear Policy and Support		
<b>3. The Entity(ies) You are Representing:</b> U. S. Nuclear Infrastructure Council; Duke Energy Corporation		
<b>4. Are you testifying on behalf of the Federal, or a State or local government entity?</b>	Yes	No X
<b>5. Please list any Federal grants or contracts, or contracts or payments originating with a foreign government, that you or the entity(ies) you represent have received on or after January 1, 2015. Only grants, contracts, or payments related to the subject matter of the hearing must be listed.</b>  Payments from the federal government to Duke Energy arising from a settlement agreement for damages related to contracts for the disposal of used fuel totaled \$42,987,519 since January 1, 2015.  These payments related to the following nuclear power plants: Catawba Nuclear Station, McGuire Nuclear Station and Oconee Nuclear Station.		
<b>6. Please attach your curriculum vitae to your completed disclosure form.</b>  File attached.		

Signature: \_\_\_\_\_



Date: \_\_\_\_\_

April 24, 2017

## CURRICULUM VITAE

**Name:** STEVEN P. NESBIT

**Company:** Duke Energy Corporation (Duke Energy)

**Title/Position:** Director, Nuclear Policy and Support

**Years with Firm:** 35

**Years Experience:** 37

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*Mr. Nesbit has extensive nuclear engineering and management experience in the commercial sector and on Department of Energy (DOE) projects. He currently reports to the Duke Energy Chief Nuclear Officer (CNO) as the Director of Nuclear Policy and Support. In addition to supporting the CNO, he is responsible for addressing nuclear policy issues and representing Duke Energy with industry groups including the Nuclear Energy Institute (NEI), the Nuclear Infrastructure Council (NIC), the Nuclear Waste Strategy Coalition, and the American Nuclear Society (ANS). Previous experience includes (1) managing Duke Energy activities related to spent fuel, including fuel pool criticality analyses, special nuclear material accountability, and dry fuel storage; (2) managing Duke Energy work in DOE's program to dispose of surplus weapons plutonium, and leading the successful licensing, receipt, and use of four mixed oxide (MOX) fuel assemblies at the Catawba Nuclear Station; (3) managing engineering and licensing activities for the Management and Operating Contractor to the Department of Energy's Office of Civilian Radioactive Waste Management (OCRWM); and (4) performing nuclear fuel and safety analyses in support of the Duke Energy nuclear power plants. Mr. Nesbit has extensive experience interacting with the Nuclear Regulatory Commission (NRC) and he has authored numerous topical reports and technical papers. As a lecturer at the University of North Carolina Charlotte, he developed and taught a nuclear engineering course to fourth year engineering students. He currently serves as chairman of the ANS Public Policy Committee and is a member of the NIC Executive Committee. He also serves on the Nuclear Threat Initiative's International Panel of Experts for its Nuclear Materials Security Index.*

### **Education/Training:**

ME, Nuclear Engineering, University of Virginia, 1982  
BS, Nuclear Engineering, University of Virginia, 1980  
Graduate course work, Environmental Science

**Professional Affiliations/Certifications:**

Registered Professional Engineer, North Carolina  
American Nuclear Society  
    Chairman of the Public Policy Committee  
    Chairman of the Piedmont Carolinas Local Section  
Nuclear Infrastructure Council – Co-Chairman of the Back-end Working Group

**Experience:**

2/09-present   **Director, Nuclear Policy and Support – Duke Energy**

Addresses nuclear policy issues related to the operation of Duke nuclear generating stations. Supports the Duke Energy CNO and the Nuclear Generation leadership team.

10/06-1/09    **Principal Engineer – Duke Energy**

Lead engineer for the FALCON code, a state of the art computer program for steady-state and transient analysis of the mechanical performance of nuclear fuel rods. Used the SIMULATE-3 nuclear analysis code to generate core power boundary conditions for FALCON analyses. Participated in the development of the EPRI guideline for preventing pellet-cladding interaction fuel failures.

8/05-10/06   **Engineering Supervisor II – Duke Energy**

Managed Duke Energy criticality analysis, special nuclear material accounting, and dry fuel storage work. Was responsible for preparing and supporting license amendments related to fuel pool criticality limits. Oversaw periodic Material Balance Report submittals under 10 CFR Part 74. Procured dry storage systems for Independent Spent Fuel Storage Installations (ISFSIs) at the Oconee and McGuire Nuclear Stations, and supported operation and licensing of those facilities. Supported the development of an ISFSI at the Catawba Nuclear Station. Served on the Nuclear Energy Institute's (NEI's) Dry Storage Task Force and as vice chairman of the Electric Power Research Institute's (EPRI's) Technical Advisory Committee for High-Level Waste and Spent Nuclear Fuel. Participated in dry storage vendor user groups.

3/99-7/05     **Engineering Supervisor II – Duke Energy**

Managed Duke Energy's work as part of the DOE project to dispose of surplus United States weapons plutonium using MOX fuel. Directed technical, licensing, and business activities. Served as a public spokesperson on the MOX fuel project. Served as Expert Witness in July 2004 and January 2005 Atomic Safety and Licensing Board hearings.

09/96-3/99 **Consulting Engineer - Duke Energy**

Led Duke Energy's feasibility investigations of using MOX fuel at the company's three nuclear plants to support DOE's surplus weapons plutonium disposition program. Served as a representative on the NEI's Working Group on Surplus Weapons Plutonium Disposition. Interacted with external groups (Congress, DOE, and the public) in support of the MOX fuel project.

11/95-09/96 **Engineering Supervisor II - Duke Engineering & Services (DE&S)**

Supervised the Design Basis and Project Integration Section of the DOE Office of Civilian Radioactive Waste Management (OCRWM) Management and Operating Contractor. Developed environmental design criteria and performed design basis accident evaluations for an interim storage facility for spent nuclear fuel.

05/94-11/95 **Manager, Regulatory Interactions Section - DE&S**

Manager of the Las Vegas Regulatory Interactions Section of the Regulatory and Licensing Department of the Management and Operating contractor for the DOE OCRWM. Responsibilities of the seven-person section include interactions with NRC staff and on-site representatives, the Advisory Committee on Nuclear Waste, and the Nuclear Waste Technical Review Board; development of regulatory positions; regulatory reviews; Site Characterization Analysis comment responses; regulatory commitments; and NRC issue resolution activities.

12/92-04/94 **Engineering Consultant - DE&S**

Licensing Engineer in the Las Vegas Regulatory and Licensing Department of the Management and Operating contractor for the DOE OCRWM. Provided nuclear power plant licensing experience and general support to the DOE Yucca Mountain Site Characterization Office. Assisted with interactions between the DOE, the National Academy of Sciences, the Environmental Protection Agency, and the NRC, related to the development of an environmental standard for the potential repository at Yucca Mountain.

1991-1992 **Utility Engineering Group (UEG) Site Engineer - DE&S**

Site Engineer in Washington, D.C., for the DE&S Utility Engineering Group. Provided utility perspective and experience to the DOE for the New Production Reactor Project. Served on the staff of the Chief Engineer of the project. Provided day-to-day liaison with the various project areas. Served as Project Engineer for the UEG. Managed the DE&S Washington, D.C., office.

1990-1991 **Senior Engineer - DE&S**

Worked in the safety review area of the UEG. Provided utility perspective and experience to the New Product Reactor Project in the area of nuclear reactor safety.

1988-1990     **Design Engineer - Duke Power (predecessor of Duke Energy)**

Lead engineer in the area of nuclear safety analysis technology, a work group comprised of five engineers. Oversaw development of mass and energy release analysis capability for high energy line breaks at Oconee, McGuire, and Catawba Nuclear Stations. Used the RELAP5/MOD002 transient analysis computer code and wrote in-house analytical codes. Oversaw development of reactor building analysis capability for large dry and ice condenser containments, including applications of the FATHOMS (COBRA-NC) and CONTEMPT computer codes. Tested the upgraded Oconee training simulator and evaluated vendor performance. Represented the Babcock and Wilcox Owners Group (B&WOG) on the Project Management Group of the Multi-Loop Integral System Test Facility, a thermal-hydraulic research project sponsored by the B&WOG, EPRI, and the NRC. Served on the Duke Power Crisis Management Team.

1982-1988     **Design Engineer/Assistant Engineer/Junior Engineer - Duke Power**

Lead safety analysis engineer for the Oconee Nuclear Station, a work group of up to five engineers. Served as Duke Power representative on the B&WOG Analysis Committee. Participated in the Technical Advisory Group, a committee comprised of B&WOG, EPRI and NRC representatives, which evaluated the need for thermal hydraulic testing related to once-through steam generators. Helped develop symptom-oriented emergency procedures for Oconee. Performed extensive RETRAN benchmarks of plant transients and helped prepare a safety analysis methods topical report for submission to the NRC. Participated in fuel loading and start-up physics testing at McGuire Nuclear Station. Participated in zero power physics testing at Oconee. Performed system and containment analyses of the Oconee plant. Prepared technical justifications for emergency Technical Specification changes which prevented unnecessary unit shutdowns.

1979-1982     **Reactor Operator/Reactor Operator Trainee - University of Virginia Reactor Facility**

Reactor Operator Trainee and licensed Reactor Operator for the 2-MW research reactor in Charlottesville, Va. Duties included shift operation work, training and fuel handling.

**Awards/Honors:**

Assistant General Chair, 2013 American Nuclear Society Winter Meeting.  
Special Performance Award for the MOX fuel lead assembly program, 2005.  
“Doer of Deeds,” Yucca Mountain Site Characterization Office, February 2, 1994.  
Newcomb/Thornton Fellowship, University of Virginia, 1980-1981.  
Bachelor of Science with Highest Distinction, University of Virginia, 1980.

## **Publications:**

Steven Nesbit, David Blee, Edward Davis and Alexander Hoppes, “Nuclear Infrastructure Council Recommendations for Nuclear Waste Management Reform,” International High-Level Radioactive Waste Management Conference, Charlotte, NC, April 2017.

Steven P. Nesbit and Paul T. Dickman, “The NRC: Observations on commissioner appointments,” Nuclear News, July 2015.

Steven P. Nesbit and Lara Nichols, “A Proposed Waste Acceptance Queue for Shutdown Nuclear Power Reactors,” International High-Level Radioactive Waste Management Conference, Charleston, SC, April 2015.

Rose Montgomery, Erik Mader, Nick Domenico, Russ Fawcett, John Guerci, Ed Lahoda, Mitch Minnick, Paul Murray, Steve Nesbit, Mitch Meyer and Shannon Bragg-Sitton, “Industry-valued Design Objectives for Advanced LWR Fuels and Concept Screening Results,” 2013 Light Water Reactor Fuel Performance Meeting / TopFuel, Charlotte, NC, September 2013.

Rod McCullum, Tom Brookmire, John Kessler, Suzanne Leblang, Adam Levin, Zita Martin, Steve Nesbit, Marc Nichol and Terry Pickens, “Demonstrating the Safety of Long-Term Dry Storage,” Waste Management 2013, Phoenix, AZ, February 2013.

Steve Nesbit, Lake Barrett, Rod McCullum and Dan Stout, “A Blueprint for the New Used Fuel Management Organization,” International High-Level Radioactive Waste Management Conference, Albuquerque, NM, April 2013.

Marc Nichol, Rodney McCullum, John Kessler, Keith Waldrop, Tom Brookmire, Paul Murray and Steve Nesbit, “Concept Plan for a High Burn-up Fuel Storage and Transportation Confirmatory Data Project,” International High-Level Radioactive Waste Management Conference, Albuquerque, NM, April 2013.

Nesbit, S. P., “Centralized Interim Storage – Past, Present, and Future,” Radwaste Solutions, November 2012.

Paul Murray, Rod McCullum, Steve Nesbit, Andrew Sowder and Dan Stout, “Path to a Commercial Fast Reactor Option in the United States,” International Congress on Advances in Nuclear Power Plants, Chicago, IL, June 2012.

Nesbit, S. P., “Centralized Interim Storage – Does It Make Sense Today?” International High-Level Radioactive Waste Management Conference, Albuquerque, NM, April 2011.

Nesbit, S. P. “Nonproliferation Initiatives and Plutonium Disposition in Russia and the United States,” Nuclear News, November 2010.

Buckner, M. R., Burchill, W. E., Cross, B., and Nesbit, S. P., “Nuclear Nonproliferation Policy in a Sustainable Energy Future,” Nuclear News, June 2010.

Nesbit, S. P., Kennard, M., and Yagnik, S., “Use of Core Analyses in Assessments of Fuel Failure

Risk Due to Pellet-Cladding Interaction,” Advances in Nuclear Fuel Management IV, Hilton Head, SC, April 2009.

Nesbit, S. P., Scott, M. W., Eller, J. L., Verbos, F. J., and Costello, M. V., "Non-LOCA Safety Analysis for Operation with Weapons Grade MOX Fuel Lead Assemblies," American Nuclear Society Winter Meeting 2003, New Orleans, LA, November 2003.

Nesbit, S. P. and Eller, J. L., "Basis for the Design of Reactor Cores Containing Weapons Grade MOX Fuel," Advances in Nuclear Fuel Management III, Hilton Head, SC, October 2003.

Anderson, S. L., Gilreath, J. D., Nesbit, S. P., and Laubam, T. J., “Mixed Oxide Fuel Effects on the Integrity of the McGuire and Catawba Reactor Vessels,” Fifth Topical Meeting on Spent Nuclear Fuel and Fissile Materials Management, Charleston, SC, September 18, 2002.

Buckner, M. R., Bengelsdorf, H. D., and Nesbit, S. P., “American Nuclear Society Nonproliferation Position Statement,” Fifth Topical Meeting on Spent Nuclear Fuel and Fissile Materials Management, Charleston, SC, September 18, 2002.

Clark, R. H., Dziadosz, D., and Nesbit, S. P., “MOX Fuel Irradiation Program for Disposition of Surplus United States Plutonium,” Fourth Topical Meeting on Department of Energy Spent Nuclear Fuel and Fissile Materials Management, San Diego, CA, June 7, 2000.

Nesbit, S. P. and Bengelsdorf, H. D., “A Comparison of Surplus Weapons Plutonium Disposition Technologies,” Third Topical Meeting on Department of Energy Spent Nuclear Fuel and Fissile Materials Management, Charleston, SC, September 1998.

S. P. Nesbit, “A Utility Perspective on Surplus Weapons Plutonium Disposition in Existing United States Light Water Reactors,” Advances in Nuclear Fuel Management II, Myrtle Beach, S.C., March 1997.

S. P. Nesbit, S. J. Brocoum, M. A. Lugo, J. A. Duguid, P. M. Krishna, “Regulatory Perspective on NAS Recommendations for Yucca Mountain Standards,” 7th Annual International High-Level Radioactive Waste Management Conference, Las Vegas, NV, May 1996.

J. Carl Stepp, Silvio Pezzopane, Quazi Hossain, Michael Hardy, Steven P. Nesbit, “Criteria for Design of the Yucca Mountain Structures, Systems, and Components for Fault Displacement,” FOCUS '95 - Methods of Seismic Hazards Evaluation, Las Vegas, NV, September 1995.

J. Carl Stepp, Michael P. Hardy, Quazi A. Hossain, Steven P. Nesbit, J. Timothy Sullivan, “Seismic Design Methodology for a Geologic Repository at Yucca Mountain,” 6th Annual International High-Level Radioactive Waste Management Conference, Las Vegas, NV, May 1995.

D. Stahl, S. P. Nesbit, L. Berkowitz, “Approach to Compliance with the NRC Substantially Complete Containment Requirement at the Potential Repository at Yucca Mountain,” 6th Annual International High-Level Radioactive Waste Management Conference, Las Vegas, NV, May 1995.

S. P. Nesbit, S. J. Brocoum, “New Public Health and Safety Standards for Yucca Mountain and Their Impact on the Carbon-14 Issue,” Waste Management 1995, Tucson, AZ, February 1995.

S. P. Nesbit, R. J. Gerling, and G. B. Swindlehurst, "Qualification of the Oconee RETRAN Model by Comparison with Plant Transient Data," Nuclear Technology, Volume 83, December 1988.

**Topical Reports:**

DPC-NE-1005P, "Duke Power Nuclear Design Methodology Using CASMO-4/SIMULATE-3 MOX," Duke Energy, August 2004.

YMP/TR-003-NP, "Seismic Design Methodology for a Geologic Repository at Yucca Mountain," U. S. Department of Energy, October 1995.

DPC-NE-3003-P, "Mass and Energy Release and Containment Response Methodology," Duke Power Company, August 1993.

BAW-2079, "Technical Advisory Group Investigation of Once-Through Steam Generator Thermal-Hydraulic Data Requirements," Babcock and Wilcox, March 1989.

DPC-NE-3000, "Thermal-Hydraulic Transient Analysis Methodology," Duke Power Company, July 1987.

**Security Clearances:**

DOE "L" and "Q" Clearances (none currently active)

**References:**

References available upon request