



American Nuclear Society

Standards Committee

555 North Kensington Avenue
La Grange Park, Illinois
60526 USA

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Fax: +1 708 579 8248
Email: standards@ans.org
www.ans.org

STANDARDS COMMITTEE VOLUNTEER FORM

☒ Male ☐ Female Name:

Company / Institutional Affiliation:

Title or Position:

Please provide preferred contact information and indicate whether ☐ business **or** ☒ home.

Address:

Phone: Fax: Email:

Are you currently involved in any ANS standards groups or committees? Yes ☐ No ☒

If so, which one(s)?

Please select whether you would like to be considered as a "full member" or "associate member" below:

- ☒ I am interested in participation as a full member. (This may require travel to meetings at participant's expense.)
- ☐ I am interested in participation as an associate member (nonvoting) as I am new to the industry and looking to learn about the standards development process. (Travel not required.)

There are many reasons why a committee/group may not be accepting new members (i.e., committee has reached maximum capacity, balance of interest, group not currently active, standard not in need of revision, etc.). To increase the likelihood of quick placement, please list several projects of interest to you by alpha/numeric designation and make sure your resume provides relevant experience.

(Please note alpha/numeric designations of standards of interest. List of standards by consensus committee available at <http://www.new.ans.org/standards/involved/voloppor/>):

We often are in need of individuals to chair a working group to initiate a new standards project or revise a current standard. Would you consider accepting a chair position?

☒

Yes, I would consider a chair position.

☐

No, I am not able to accept a chair position at this time.

How did you hear about the American Nuclear Society Standards Committee:

I joined to gain access to information resources for my job

Education:

B.A., University of Alaska Fairbanks in Economics, minor in Mathematics
M.S. University of Alaska Fairbanks in Natural Resource and Environmental Economics
M.A. University of Maryland College Park in Environmental Economics
A.B.D. The American University, Washington D.C. in Environmental and Industrial Economics

What experience qualifies you for your desired ANS standards assignment (Please note that you are also required to provide a brief resume.):

28 years assessing environmental economic impacts, encompassing:
-- 15 years with EPA's Office of Air and Radiation as an environmental economist (12 years as a cost engineer specializing in power plant economic issues)
-- 9 years with NRC's Office for New Reactors as an environmental economist

List any states in which you are licensed to practice as a Professional Engineer:

Professional Affiliations:

National Association of Environmental Professionals
Pennsylvania Association of Environmental Professionals
American Association of Cost Engineers International

Previous or current non-ANS standards involvement:

Co-author of numerous guidance documents at EPA and currently at NRC dealing with environmental analysis methodology

Please confirm your agreement to the following statements:

- ☐ I agree to uphold the ANS Code of Ethics of professional conduct in participation on the ANS Standards Committee. The ANS Code of Ethics is available at <http://www.new.ans.org/about/coe/>.
- ☐ Further, I acknowledge that copyright and all rights in all materials produced by the ANS Standards Committee are owned by ANS, that ANS will register copyright in its own name, and that the only permitted reproduction of ANS copyrighted material is for committee business.
- ☐ In submitting this request, it is with the understanding that the ANS does not provide support for travel expenses of Standards Committee chairs and members. There are rare exceptions when a grant has been issued for the development of a specific standard and reimbursement for related travel may be available.

Daniel Mussatti

Digitally signed by Daniel Mussatti
DN: c=US, o=U.S. Government, ou=U.S. Nuclear
Regulatory Commission, ou=NRC-PIV, cn=Daniel
Mussatti, 0.9.2342.19200300.100.1.1=200008068
Date: 2015.04.14 09:14:55 -04'00'

4/14/2015

Signature

Date

Print/Type Name: Daniel Mussatti

Do you have approval from your management to volunteer for this assignment?

Yes

☐

No

☐

If no, please indicate how you intend to effectively participate:

List the person within your management, including their contact information, to be contacted concerning your participation in the ANS Standards Committee:

Ryan Whited (Branch Chief), 301-415-1154 (same mailing address and mail drop as me)




Please attach a copy of your resume* & return to:

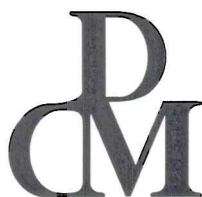
American Nuclear Society
Attn: Standards Department
555 N. Kensington Avenue
LaGrange Park, IL 60526
E: standards@ans.org
F: 708-579-8248

Questions about participation and placement may also be sent to standards@ans.org.

(*Resume should be representative of your expertise in the area you noted of interest.)

RECORD OF STANDARDS COMMITTEE ASSIGNMENT

1. PURPOSE (Check one) <input checked="" type="checkbox"/> NEW MEMBERSHIP <input type="checkbox"/> TERMINATION OF MEMBERSHIP (Complete Blocks 1-9 Only)				<input type="checkbox"/> ANNUAL REAFFIRMATION <input type="checkbox"/> NO CHANGE <input type="checkbox"/> CHANGE NOTED		2. DATE 4/14/15																								
3. NAME (Last, First, Middle Initial) Mussatti, Daniel C.		4. OFFICE/DIVISION/BRANCH NRO/DSEA/RENV	5. MAIL STOP T-7F27	6. E-MAIL ID dcm2	7. TELEPHONE (301) 415-2394																									
NAME OF STANDARDS DEVELOPING ORGANIZATION American Nuclear Society																														
9. COMMITTEE ASSIGNMENT (Identify assigned committee and committee hierarchy)																														
<table border="1"><thead><tr><th>LEVEL (Check assigned committee)</th><th>NAME OF COMMITTEE</th><th>NUMBER (If Applicable)</th></tr></thead><tbody><tr><td><input type="checkbox"/> BOARD</td><td></td><td></td></tr><tr><td><input type="checkbox"/> MAIN COMMITTEE</td><td>Environmental Siting Consensus Committee</td><td></td></tr><tr><td><input type="checkbox"/> SUBCOMMITTEE</td><td>Environmental Siting: General and Monitoring Sub-committee</td><td></td></tr><tr><td><input type="checkbox"/> SUBGROUP</td><td></td><td></td></tr><tr><td><input checked="" type="checkbox"/> WORK GROUP</td><td>Population Distributions for Reactor Siting working group</td><td>ANS-2.6</td></tr><tr><td><input type="checkbox"/> TASK GROUP</td><td></td><td></td></tr><tr><td><input type="checkbox"/> OTHER (Specify)</td><td></td><td></td></tr></tbody></table>							LEVEL (Check assigned committee)	NAME OF COMMITTEE	NUMBER (If Applicable)	<input type="checkbox"/> BOARD			<input type="checkbox"/> MAIN COMMITTEE	Environmental Siting Consensus Committee		<input type="checkbox"/> SUBCOMMITTEE	Environmental Siting: General and Monitoring Sub-committee		<input type="checkbox"/> SUBGROUP			<input checked="" type="checkbox"/> WORK GROUP	Population Distributions for Reactor Siting working group	ANS-2.6	<input type="checkbox"/> TASK GROUP			<input type="checkbox"/> OTHER (Specify)		
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10. TITLE OF STANDARD TO BE DEVELOPED Guidelines for Estimating Present & Forecasting Future Population Distributions Surrounding Power Reactor Sites																														
11. REASON FOR COMMITTEE PARTICIPATION																														
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FOR OFFICE OF RESEARCH USE ONLY																														
DATE ENTERED INTO DATABASE:																														



DANIEL CHARLES MUSSATTI
 80 Fleshman Mill Road • New Oxford, PA 17350
 717-624-2284 • 919-949-8996
daniel.mussatti@nrc.gov

EXECUTIVE SUMMARY

- 1988 to present: economic valuation of natural resource economics and environmental economics
- 1988 to present: NEPA experience in socioeconomic costs and benefits for programs affecting the environment
- 1988 to present: NEPA experience in the economic analysis of Federal Acts, regulations and standards
- 1992 to present: coastal, watershed, wetland, riparian, and agricultural water management
- 1994 to present: socioeconomic assessment of environmental justice impacts on minorities and low-income families
- 1994 to 2006: air pollution control design and costing
- 1995 to 2006: design, operation, and costs of combustion controls
- 1995 to present: economic assessment of US electric power generation, its markets, and its transmission
- 1996 to present: expert witness for environmental issues
- 1998 to 2006: EPA's senior cost engineer for air pollution controls
- 1998 to 2006: co-author and editor of the EPA Air Pollution Control Cost Manual
- 2000 to present: NEPA socioeconomic and engineering cost expert witness
- 2006 to present: NEPA analyses for the Nuclear Regulatory Commission's Office for New Reactors
- Highly skilled technical writer, able to communicate complex ideas clearly to a wide variety of audiences
- Proficient public speaker, able to speak clearly and receptively to a wide variety of audiences
- Extremely competent analyst, able to assess problems and evaluate alternative solutions rapidly and accurately
- Skilled facilitator: able to objectively balance the needs of numerous stakeholders
- Motivated self-starter, able to work independently and deliver high quality technical products in a timely manner
- Strong sense of responsibility when working as a supervisor, an independent worker, and as a team member
- Extremely organized, with a highly demonstrated ability to multitask and pay close attention to details
- Proven ability to work effectively in time critical and high stress situations

PROFESSIONAL EXPERIENCE AND ACHIEVEMENTS

TECHNICAL EXPERTISE

- Environmental Cost Expert
 - Editor and co-author for the *OAQPS Air Pollution Control Cost Manual* (the Manual), industry's seminal guidance document for sizing, design, and costing of air pollution controls for planning and permitting purposes
 - Authored and co-authored the Manual's chapters on the EPA's costing principles and methodology, monitors, Selective Catalytic- and Non-catalytic Reduction (SCR and SNCR) controls for Oxides of Nitrogen (NOx) control, Flue Gas Desulfurization (FGD) and other acid gas scrubbing, fabric filters for Particulate Matter (PM) control, controls for a proposed new mercury standard; and the economic costs and benefits of the Agency's global climate change efforts
 - Evaluated the technical submissions of new chapters on key air pollution control devices
 - Edited and co-authored *Manual de Costos de Control de Contaminacion del Aire de la EPA Sexta Edicion*, a Spanish translation of the entire Manual
 - Led the development and management of the Air Compliance Advisor, a \$2.5 million computer-based program for the estimation of pre- and post-control emission rates and control device costs for planning and permitting purposes
 - Provided EPA expert witness services to the US DOJ Environmental Enforcement Division for coal-fired utility litigation, including:
 - the development of expert reports, evaluation of plaintiff reports and rebuttals, the development of US DOJ rebuttals, participation in pre- and post-deposition planning and evaluation sessions, and providing depositions and testimony

- the design and costing of SO₂ air pollution control devices,
- the design and costing of NO_x, and PM air pollution controls devices
- the assessment of the costs (social) and benefits (corporate) of noncompliance for the establishment of penalties
- NEPA Leadership
 - Nuclear Regulatory Commission (NRC) Office for New Reactors (NRO) senior environmental economist
 - responsible for the assessment of socioeconomic and environmental justice impacts, cultural and historic impacts, need for power impacts, and benefit-cost analyses related to the construction and operation of proposed new nuclear generating facilities in accordance with National Environmental Policy Act, Executive Order 12898 Environmental Justice, and Executive Order 13175 Tribal Consultation requirements
 - Research, review, and interpret decisions and guidance from the NRC Commission, Atomic Safety Licensing Board, Federal Court, and treaties with Native American tribes and peoples analyses related to Environmental Impact Statement processes and procedures
 - provide training, oversight, and guidance to teams of Subject Matter Expert contracting staff from five National laboratories and up to a dozen private consulting firms for the development of Environmental Impact Statement (EIS) analyses
 - provide expert testimony regarding NRC EIS economic content to the agency's Atomic Safety Licensing Board and the NRC's five Commissioners
 - NRC / NRO environmental cost engineering expert for the determination of the need for power for planned new nuclear generating capacity, including the following tasks:
 - responsible for the assessment of the future demand and supply of electricity as a component of a Need For Power determination for consideration under a Combined Operating License (COL) application for the construction and operation of proposed new nuclear generating facilities in accordance with Atomic Energy Act requirements and NRC guidance
 - provide oversight and guidance to teams of Subject Matter Expert contracting staff from five National laboratories and up to a dozen private consulting firms for the development of Environmental Impact Statement (EIS) analyses
 - provide expert testimony regarding NRC EIS Need For Power determinations to the agency's Atomic Safety Licensing Board and the Commission
 - Lead economist for the development of new procedures and guidance for the development of Environmental Impact Statements for Large Light Water Reactors (LLWRs) and Small Modular Reactors (SMRs).
 - Lead economist for EPA OAQPS for interpreting, complying with, and training group members about the Regulatory Flexibility Act (RFA) and its modifications under the Small Business Regulatory Enforcement Fairness Act (SBREFA) and the Congressional Review Act (CRA), the Unfunded Mandates Reform Act (UMRA), the Paperwork Reduction Act (PRA), and Executive Orders 12174, 12291, 12498, 12612, 12866, 12875, 12898, 13045, 13084, and 13083
 - EPA's economic/cost advisor and expert to five Administrators, six Assistant Administrators, and four Office Directors for: 40 CFR parts 70 and 71 (Operating Permits), parts 51 and 52 (NSR and PSD), part 64 (monitoring)
 - Managed, coordinated, and led (for sixteen months) the efforts of a team of from four to twelve economists and engineers from, eight different EPA branches, four divisions, and three offices in the Office of Air Quality Planning and Standards (OAQPS), EPA Headquarters staff, OMB and the White House for the assessment of a new eight-hour ozone standard
 - EPA founding member, representative, and liaison on the Interagency Task Force (later to become the Environmental Justice Interagency Advisory Committee (EJAC)) along with other agencies and the Council for Environmental Quality (CEQ) for establishing analytical guidance for Executive Order 12898 (Environmental Justice)
 - EPA Air Office liaison to the Interagency Working Group for the development of policies and procedures for addressing environmental issues on Indian Lands and for Native American people
 - EPA economic advisor on Agency and interagency committees, panels, and task forces dealing with children's health and Native American issues
 - Served as the OAQPS representative to the EPA's Small Business Regulatory Enforcement Fairness Act (SBREFA) Guidance Committee
 - Member of the EPA Office of Air and Radiation Office of Air Quality Planning and Standards' Tribal Committee, one year as the committee lead
 - Coordinated a Bilateral Agreement Conference in Washington D.C. between the George H. W. Bush administration and the Canadian Department of Environment, including transportation, lodging, meeting room needs, and the publication and distribution of meeting handouts and minutes. Acted as liaison between the White House and the Canadian government and representatives from both embassies
 - Co-authored the EPA's Fundamentals of Environmental Economics for Policy Makers in Foreign Countries, with an emphasis on developing countries and nations among the Former Soviet States; taught the course to EPA facilitators; served as environmental economic liaison for Mexico, Russia, Canada, and OECD affairs; coordinated the translation of the OAQPS Air Pollution Control Cost Manual into Spanish for Mexico and other Latin American nations
 - EPA Office of Policy Planning and Evaluation economic lead for developing curriculums and teaching, courses

applying economic incentives and innovative strategies for pollution control to academic institutions and State, Regional, and international environmental control officials

Technical

- Government contract management, grant management, and cooperative agreement management; wrote statements of work for and directed, managed, and evaluated the efforts and work products of up to \$250,000 in contractor support on highly technical and politically sensitive projects, often involving confidential business information
- EPA's senior economist for Regulatory Impact Analyses, Information Collection Requests, technical support documents, guidance documents, and white papers for OAQPS regulations and guidance documents
- EPA economist for assessing the efficiency and cost of Reasonably Available Control Technologies (RACT), Best Available Control Technologies (BACT), and Lowest Achievable Emission Level (LAER) controls for New Source Review (NSR) and Prevention of Significant Deterioration (PSD) applications
- Economic evaluation of Maximum Achievable Control Technology (MACT) standards for National Emission Standards for Hazardous Air Pollutants (NESHAPs) for refractories, coke manufacturers, foundries, integrated iron and steel facilities, taconite refiners, sewerage sludge incinerators, and medical waste incinerators
- Lead economist for EPA's air pollution control costing function
- EPA and USDA/NRCS economist for the assessment of the Clean Water Act and the Safe Drinking Water Act *vis a vis* the application of economic incentives, alternative management strategies, and incentives for technological innovation, including assessments of the interrelationships of the Clean Water Act, Safe Drinking Water Act, Clean Air Act, and the National Environmental Protection Act and the 2002 Farm Bill
- EPA and USDA/NRCS economist for analysis of Best Conventional Treatment (BCT) and Best Available Treatment (BAT) limits for conventional and toxic point source water pollutants; and the management of combined sewer overflows, storm water runoffs, and other nonpoint sources of water pollution
- EPA and USDA/NRCS economist for the assessment of riparian protection and cost effective agricultural practices for groundwater pollution control, including the assessment of economic damages and the economic valuation of potentially affected areas due to flooding under the US Department of Agriculture's Emergency Water Protection (EWP) Program
- USDA/NRCS economist for the mitigation of flood damages and the assessment of the economic costs and benefits of flood control activities for the Natural Resources Conservation Service's Emergency Water Protection program.
- EPA OAQPS economist applying air quality models, including the Regional Oxidant Model (ROM), the Urban Airshed Model, (UAM-V), the Regulatory Modeling System for Aerosols and Deposition (REMSAD), and MARKAL; and pollution control device inventories, including the Emissions Reduction and Cost Analysis Model (ERCAM), Integrated Planning Models (IPMs) for electrical generating units, and ControlNet
- EPA / DOJ senior economic expert witness for the assessment of fines and penalties for coal-fired electrical generating units not in compliance with air pollution control requirements
- NRC senior economic expert witness for Environmental Impact Statements for Combined Operating License (COL) and Early Site Permit (ESP) applications for new nuclear reactors before the Commission and the Atomic Safety Licensing Board
- Designed and distributed economic surveys; designed databases to collect returned survey information, evaluated survey data, and reported survey results to the Hon. Steve Cowper, Governor of the State of Alaska
- Nuclear Regulatory Commission's senior economist for the management and application of Agency guidance documents for the development of Environmental Reports (ERs) and Environmental Impact Statements (EISs), including NUREG-1555, NUREG-1437, LIC-203 revision 1, and Reg Guide 4.2 revision 2
- NRC/NRO liaison and outreach officer to State, county, and local leaders for the assessment of socioeconomic impacts of potential new reactor siting

PROJECT MANAGEMENT

- 1994-1997 Project Manager for the environmental assessment of proposed new National Ambient Air Quality Standards (NAAQS) for ozone and fine particulate matter. Led a team of six to twenty economists, meteorologists, engineers, and air scientists, coordinated with branches, divisions, offices at the EPA and with the Executive Branch's Office of Management and Budget
- 1997-1999 Project Manager for the economic assessment of the impacts of various MACT rules, including refractories, coke manufacturers, foundries, integrated iron and steel facilities, taconite refiners, sewerage sludge incinerators, and medical waste incinerators.
- 1994-2005 Project Manager for the economic assessment of the impacts of new air permitting rules, including New Source Review (NSR) and Prevention of Significant Deterioration (PSD) air permits, and operating permits. Led a team of four to six economist and air quality modelers across three branches, two divisions, within the Office for Air Quality Planning and Standards.
- 1978-1983 foreman, general foreman, and welding foreman for crews of welders, pipefitters, plumbers, and boilermakers of from ten (foreman) to 50 (general foreman) and 400 (welding foreman) in Trans-Alaska Pipeline construction projects and Alaskan bush community school construction projects.

WORK HISTORY

2006 - Present	Senior Environmental Economist	US NRC / NRO / Environmental Technical Support Branch Rockville, MD
2006 - Present	NRC Expert Witness	US NRC / NRO / Environmental Technical Support Branch Rockville, MD
2000 - 2006	EPA Industry Expert / Expert Witness	US EPA / US DOJ Environmental Enforcement Office RTP, NC
2001 - 2006	State Economist	US EPA / USDA Natural Resources Conservation Service, Vermont RTP, NC / Colchester, VT
2000 - 2001	Senior Economist and Liaison Officer	US EPA / ORD / APPCD / Technical Support Branch RTP, NC
1997 - 2006	Senior Cost Engineer and Editor	US EPA / OAQPS / AQSSD / Innovative Strategies and Economics Group RTP, NC
1997 - 2006	EPA Interagency Liaison for Tribal Issues, Children's Issues, and Environmental Justice (EO 12898)	US EPA / OAQPS / AQSSD / Innovative Strategies and Economics Group, RTP, NC
1994 - 1997	Project Manager, Ozone Standard	US EPA / OAQPS / AQSSD / Innovative Strategies and Economics Group RTP, NC
1993 - 1997	Senior Economist and Cost Engineer	US EPA / OAQPS / AQSSD / Innovative Strategies and Economics Group RTP, NC
1991 - 1993	Regulatory Analyst	US EPA / OPPE / OPA / Regulatory Innovations Branch Washington D.C.
1987 - 1991	Research Assistant	University of Maryland, College Park University of Alaska Fairbanks
1983 - 1990	Economic Analyst	Daniel Charles Mussatti and Associates, Fairbanks, AK
1978 - 1983	Project Manager, Construction	Local Union 375 Plumbers and Pipefitters, Foreman, Welding Foreman, General Foreman

EDUCATION

Ph.D Candidate:	The American University, 4400 Massachusetts Ave. NW, Washington D.C. Ph.D. Graduate Student, 1992 - 93 nineteen credits at the Master's level toward a doctorate in Environmental Policy Economics. Fields of specialization include Environmental Economics, Industrial Organization, Microeconomic Theory, and Econometrics.
M.A.	University of Maryland, 3105 Tidings Hall, College Park, Maryland Masters of Arts in Environmental Economics, completed 1993. Fields of specialization include Environmental Economics, Natural Resource Economics, and Industrial Economics. Thesis: Springing the Social Trap: Bonding Schemes as a Regulatory Tool.
M.S.	University of Alaska Fairbanks, Signers' Hall, Fairbanks, Alaska Masters of Science in Natural Resource and Environmental Economics, completed 1990. Emphasis in Mathematical Modeling, Renewable Natural Resource Economics, Fisheries Economics, Environmental Economics, and Mathematics. Thesis: <u>The Behavior of the Firm in the Presence of Catastrophic</u>

Environmental Damage and Mandatory Abatement.

B.B.A. University of Alaska Fairbanks, Signers' Hall, Fairbanks, Alaska.
Bachelor of Business Arts in Economics, completed 1987. Emphasis in Regional Economics and Public Finance, Minor emphasis in Mathematics

PUBLICATIONS**BOOKS AND MANUALS****Editor / co-editor**

U.S. EPA, 2002, Manual de Costos de Control de Contaminacion del Aire de la EPA Sexto Edicion, (formerly the OAQPS Air Pollution Control Cost Manual), available on the CATC website: <http://www.epa.gov/ttn/catc/products.html#cccinfo>, Office of Air Quality Planning and Standards, Air Quality Strategies and Standards Division, Innovative Strategies and Economics Group. Research Triangle Park, NC.

U.S. EPA, 2001, The EPA Air Pollution Control Cost Manual Sixth Edition, (formerly the OAQPS Air Pollution Control Cost Manual), available on the CATC website: <http://www.epa.gov/ttn/catc/products.html#cccinfo>, Office of Air Quality Planning and Standards, Air Quality Strategies and Standards Division, Innovative Strategies and Economics Group. Research Triangle Park, NC.

U.S. EPA, 1999, The OAQPS Air Pollution Control Cost Manual Fifth Edition, formerly available on the CATC website: <http://www.epa.gov/ttn/catc/products.html#cccinfo>, Office of Air Quality Planning and Standards, Air Quality Strategies and Standards Division, Innovative Strategies and Economics Group. Research Triangle Park, NC.

U.S. EPA, 1994, Principles of Environmental Economics: A Training Manual for Environmental Management in Former Soviet States and Other Developing Nations, for the Office of Policy Planning and Evaluation, Office of Policy Analysis, Economic Analysis Division, Regulatory Innovations Branch. Washington D.C.

U.S. EPA, 1992, The United States Environmental Protection Agency Guide to Environmental Economics as a Regulatory Tool, for the Office of Policy Planning and Evaluation, Office of Policy Analysis, Economic Analysis Division, Regulatory Innovations Branch. Washington D.C.

Author / co-author

U.S. EPA, 2002, "Mercury Controls" Chapter 7.1 in The EPA Air Pollution Control Cost Manual Seventh Edition, available on the CATC website: <http://www.epa.gov/ttn/catc/products.html#cccinfo>, Office of Air Quality Planning and Standards, Air Quality Strategies and Standards Division, Innovative Strategies and Economics Group. Research Triangle Park, NC.

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FORTHCOMING COL DEIS *

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Victoria County Station Units 1 and 2
Turkey Point Nuclear Power Plant Units 6 & 7
Supplemental Environmental Impact Statement for the Combined License (COL) for North Anna Power Station Unit 3

FORTHCOMING COL FEIS *

Levy Nuclear Power Station Units 1 & 2
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