Petition of Entergy Nuclear Vermont Yankee, LLC, and Entergy Nuclear Operations, Inc., For a Certificate of Public Good Pursuant to 30 V.S.A. § 248 and 10 V.S.A. § 6522 to Construct a Second Independent Spent Fuel Storage Installation (“ISFSI”) at the Vermont Yankee Nuclear Power Station)

Docket No. 8300

PREFILED TESTIMONY OF RICHARD SPIESE

On Behalf of the Vermont Agency of Natural Resources, Department of Environmental Conservation, Waste Management and Prevention Division

Summary of Testimony
Mr. Spiese is an Environmental Analyst in the SITES Management Section of the Waste Management and Prevention Division and provides an overview of the applicable Vermont Hazardous Management Regulations and procedures and outlines the steps required to comply with these regulations and procedures and Criterion 1B – Waste Disposal. The recommendations in this testimony are not intended to and should not affect the timeline for any work on this project if the Board issues the Certificate of Public Good.
Q1. Please state your name, place of employment, and position.

A1. My name is Richard Spiese. I am employed by the Vermont Agency of Natural Resources, Department of Environmental Conservation, Waste Management & Prevention Division, Sites Management Section, 1 National Life Drive-Davis 1, Montpelier, Vermont 05620. My title is Environmental Analyst VI.

Q2. Please describe your education, professional background, and tenure at the Agency of Natural Resources.

A2. I have a degree from The Pennsylvania State University in Geological Sciences, and continued my education at The University of Vermont in Natural Resources (ANR), with an emphasis in Environmental Engineering. I have worked in Waste Management for the State of Vermont for almost 28 years. I have numerous public affiliations and have written many articles pertaining to my work. In my work related to Vermont Yankee, I have worked on the Agency of Natural Resources Vermont Hazardous Materials Response Team as a plume tracker for over 10 years. I provided hydrogeologic support to the Vermont Department of Health when the tritium release was discovered at Vermont Yankee, and have been supporting the ANR on non-radiological hazardous waste matters pertaining to the decommissioning of Vermont Yankee.

My resume is attached as Exhibit ANR-RS-1.
Q3. Have you previously provided testimony to the Public Service Board, the Environmental Court, or the District Commissions?

A3. I testified at the Public Service Board in response to the tritium release at Vermont Yankee.

Q4. What is the purpose of your testimony?

A4. The purpose of my testimony is to give the Agency’s perspective on non-radiological hazardous waste issues related to the Project and Criterion 1(B) – Waste Disposal, raise any concerns the Agency has in regards to the Project meeting the Agency’s non-radiological Hazardous Waste Management Regulations and procedures and Criterion 1(B), and provide recommendations the Agency has for addressing those concerns. The recommendations in this testimony are not intended to and should not affect the timeline for any work on this project if the Board issues the Certificate of Public Good.

Q5. Please describe the scope of your review of the proposed Project?

A5. My direct review of the proposed Project is limited. I have reviewed the 2014 Non-Radiological Historical Site Assessment prepared by Radiation Safety & Control Services and other environmental reports, and performed site inspections of the North Warehouse, which is the area where the proposed Project is planned on being performed.
Q6. Please describe the Agency regulations regarding non-radiological hazardous waste disposal and management that are applicable to the Project.

A6. Entergy Nuclear Vermont Yankee is a generator of non-radiological hazardous waste subject to state regulation under the Vermont Hazardous Waste Management Regulations (VHWMR). The Agency is authorized by federal law to administer the VHWMR in lieu of a federal hazardous waste program under the federal Resource Conservation and Recovery ActSubtitle C hazardous waste regulations. The VHWMR govern the management of non-radiological hazardous wastes generated, transported, treated, stored, or disposed of in the State. In addition to the VHWMR, the Hazardous Waste Program maintains a variety of procedures and guidance documents to assist with implementation of the VHWMR. Under the VHWMR, generators of non-radiological hazardous waste are subject to the general management standards set forth in subchapter 3, including the generator closure requirements of VHWMR § 7-309(c). For example, Entergy must provide notification of intent to commence non-radiological aspects of closure or partial closure activities by submitting a Pre-Closure Notification Form to the Agency at least 90 days before beginning closure activities. The Agency may also require that Entergy submit a non-radiological closure or partial closure plan for investigating releases of non-radiological hazardous materials that were released or may have been released at the portion of the site being closed. My understanding of the proposed Project is that the North Warehouse will be torn down, and soils will be removed to prepare the subgrade for a concrete slab. These materials and disturbed soils will need to be investigated for possible non-radiological hazardous compounds of concern based on the past and current
use of the area. If non-radiological hazardous constituents are identified above Agency
Soil Screening Values, Entergy must prepare a plan and receive approval on how these
soils will be managed.

Q7. Does the Agency follow specific procedures for non-radiological hazardous material
investigation and remediation activities where a proposed Section 248 project will
involve disturbance of any areas where non-radiological hazardous material may be
located now or in the past, or where non-radiological hazardous material may have
been released into the environment?

A7. Yes, the Waste Management and Prevention Division’s “Procedure for Conducting
Hazardous Material Investigations and Remediation Activities Under 30 V.S.A. Section
248” sets forth a procedure for projects that will involve disturbance of any areas where
non-radiological hazardous material may be located now or in the past, or where non-
radiological hazardous material may have been released into the environment. The
guidance is attached as Exhibit ANR-RS-2.

Q8. What procedure must Petitioners follow if the project falls within the scope of the
“Procedure for Conducting Hazardous Material Investigation and Remediation
Activities Under 30 V.S.A. Section 248”?

A8. The Petitioner should review records to determine what non-radiological hazardous
materials may be or may have been located or potentially released; conduct a visual
inspection of all areas where non-radiological hazardous materials may be or may have
been located or potentially released; and develop a site-specific investigation work plan
in accordance with the Agency’s “Investigation and Remediation of Contaminated
Properties Procedure” that must be approved by the Agency.

Q9. **Does the Project involve disturbance of any areas where non-radiological hazardous
material may be located now or in the past, or where non-radiological hazardous
material may have been released into the environment?**

A9. Yes, the Project involves the removal of the North Warehouse and disturbance of the
soils beneath and around the North Warehouse, which has been the primary short-term
non-radiological hazardous waste storage area for the Entergy Vermont Yankee Nuclear
Power Station for decades. In addition, waste oil has been burned in the North
Warehouse and non-radiological hazardous materials in the emissions from the boiler
may have settled in the soils around the building.

Q10. **Please describe what non-radiological hazardous materials may be located now or in
the past, or where non-radiological hazardous material may have been released into
the environment in the area that will be disturbed by the Project.**

A10. Based on the reports I have reviewed and the site inspection I performed on the North
Warehouse area, non-radiological hazardous materials located at this site now and in the
past may include waste oil, volatile organic compounds, and polychlorinated biphenyls.
Given the long history of non-radiological hazardous waste activities at the North
Warehouse and the Entergy Vermont Yankee Nuclear Power Station, this area should
also be investigated for possible release of the RCRA Priority Metals, semi-volatile
organic compounds, and dioxin.

Q11. **Has the Petitioner complied with the Agency’s procedures for conducting non-
radiological hazardous material investigation and remediation activities?**

A11. As part of the 2014 Non-Radiological Historical Site Assessment, the Petitioner
conducted a review of historical documents and a visual inspection of the North
Warehouse. However, Entergy has not developed a site investigation work plan for the
North Warehouse area in accordance with the Agency’s Section 248 guidance. Due to
the nature of the non-radiological hazardous waste activities that took place for decades
at the North Warehouse, this work plan should include a sampling plan for non-
radiological hazardous waste in the North Warehouse building materials and soils
beneath and around the North Warehouse before the North Warehouse is torn down. The
Agency must review and approve the work plan. In addition, Entergy must provide
appropriate notice at least 90 days prior to commencement of the non-radiological aspects
of the closure activities related to the North Warehouse and submit a non-radiological
hazardous waste closure plan for the North Warehouse if requested by the Agency.
Q12. Why isn’t the 2014 Non-Radiological Historical Site Assessment sufficient to demonstrate compliance with the Agency’s Section 248 Guidance and the VHWMR?

A12. Entergy did not conduct any soil or other sampling for non-radiological hazardous waste as part of the 2014 Non-Radiological Historical Site Assessment. Rather, Entergy reviewed available records and conducted a visual inspection of the North Warehouse and concluded that there are no “known” non-radiological hazardous waste releases in the North Warehouse area. Given that this warehouse served as the primary short-term non-radiological hazardous waste storage area for the Entergy Nuclear Vermont Yankee Power Station for decades and was the location where waste oil was burned, it is possible that non-radiological hazardous waste materials may have been released into the environment. In this case, there may not be records of releases that happened 20-30 years ago and older non-radiological hazardous waste spills would not be apparent from a visual inspection of the building and surface soils.

Q13. Is it sufficient for Entergy to only conduct soil sampling for non-radiological hazardous wastes if they detect an odor or visual staining during the construction process?

A13. No. It is entirely possible that older spills of non-radiological hazardous waste would not give off an odor or show visible signs of contamination. The low human health soil standards for PCBs and dioxin could prohibit the detection of these contaminants in soils
by visual or olfactory observation and still exceed these soil standards that could only be
detected by laboratory analysis.

Q14. Do you have any recommendations to the Board for conditions to be included in any
CPG issued for this Project?
A14. Yes. The Board should include a condition that Entergy submit a non-radiological
hazardous waste site investigation work plan for the North Warehouse area in accordance
with the Agency’s “Investigation and Remediation of Contaminated Properties
Procedure”; comply with the “Procedure for Conducting Hazardous Material
Investigation and Remediation Activities Under 30 V.S.A. Section 248”; and comply
with the closure requirements in Subchapter 3 of the VHWMR for the non-radiological
hazardous waste aspects of the closure of the North Warehouse area.

Q15. Does this conclude your testimony?
A15. Yes.
WORK EXPERIENCE

May 2004 - Present  
Project Manager/Environmental Analyst V - State of Vermont, Department of Environmental Conservation, Waste Management Division, Waterbury, Vermont 05671-0404  
Oversee remediations, assist in enforcement actions, form work plans, draft contracts, review reports, maintain data files and emergency spill call. Waste Management Division Spill Team member since 1989. Managed Waste Management Division’s Spill Team from November 2008 – May 2012.

Supervisor - State of Vermont, Department of Environmental Conservation, Hazardous Materials Management Division, Waterbury, Vermont 05671-0404  
Supervise six employees in the Sites Management Section, draft and review Section procedures, manage Vermont Petroleum Cleanup Fund expenditures, coordinate contacts with Environmental Protection Agency Office of Underground Storage Tanks, became a member of the Association of State and Territorial Solid Waste Management Officials Leaking Underground Storage Tanks Task Force, LUST Task Force Chair 1996 - 2008, became the Vermont assistant designee to the EPA Region I Regional Response Team, continue with Hazardous Materials Specialist's responsibilities.

July 1996 – May 2004  
Hazardous Materials Specialist - - State of Vermont, Department of Environmental Conservation, Waste Management Division, Waterbury, Vermont 05671-0404  
Oversee remediations, assist in enforcement actions, form work plans, draft contracts, review reports, maintain data files and emergency spill call.

Hazardous Materials Specialist - State of Vermont, Department of Environmental Conservation, Hazardous Materials Management Division, Waterbury, Vermont 05676  
Oversee remediations, assist in enforcement actions, form work plans, draft contracts, review reports, maintain data files and emergency spill call.

May 1989 - June 1991  
Assistant Hazardous Materials Specialist - State of Vermont, Department of Environmental Conservation, Hazardous Materials Management Division, Waterbury, Vermont 05676  
Oversee remediations, assist in enforcement actions, form work plans, draft contracts, review reports, maintain data files and emergency spill call.

Nov. 1987 - May 1989  
Environmental Technician - State of Vermont, Department of Environmental Conservation, Hazardous Waste Division, Waterbury, Vermont 05676  
Perform compliance inspections, recommend enforcement actions, oversee remediation, and maintain data files.

1982 - 1986  
English Instructor - IES Mentor, 97 Romanstrasse, 8000 Muenchen 19, BRD  
Taught English as a second language to German nationals.

EDUCATION

1990 - 1995  
Advanced Graduate Course Work in Water Resources, University of Vermont, Burlington, Vermont 05405

May 1982  
Graduated from the Pennsylvania State University, State College, PA 16802

1980 - 1982  
Worked towards my Bachelor of Science degree in Geological Sciences from the Pennsylvania State University, State College, PA 16802

May 1980  
Graduated from the University of Maryland, Munich Campus, Munich, West Germany, APO 09407

1978 - 1980  
Worked towards my Associate of Arts Degree from the University of Maryland, Munich Campus, Munich, West Germany, APO 09407

PROFESSIONAL DEVELOPMENT

See attached list (current as of Oct. 2014).
Professional Development


Fracture Trace Analysis, Richard Parizek, University of Vermont, Burlington, VT, March 24-25, 1988

Vermont Groundwater Quality Seminar, Vermont Department of Environmental Conservation, Burlington, VT, March 13, 1989

Sampling For Hazardous Materials, USEPA, New Haven, CT, June 20-22, 1989

Introduction to Ground Water Investigations, USEPA, Montpelier, VT, September 11-13, 1989

Site Characterization of Subsurface Remediations, USEPA, Lowell, MA, November 27-28, 1989


Personal Protection and Safety Refresher, Vermont Department of Environmental Conservation, Waterbury, VT, August, 1991

Preliminary Assessment/Site Inspection Training, USEPA, Boston, MA, January 28-30, 1992

Bioremediation Seminar, Association of State and Territorial Solid Waste Management Officials, Minneapolis, MN, April 28-29, 1992

Personal Protection and Safety Refresher, Vermont Department of Environmental Conservation, Waterbury, VT, December, 1992

Risk and Decision Making, A Workshop in Risk Assessment, Risk Management & Risk Communication, USEPA, Waterbury, VT, February 3-4, 1993

Facilitated Session, "Streamlining Claims Administration", 2nd Annual State Funds Administrators Conference, VTDEC & USEPA, Burlington, VT, June 16-18, 1993

Negotiate to Win, The Cooper Management Institute, Inc., Waterbury, VT, November 30 - December 1, 1993

Personal Protection and Safety Refresher, Vermont Department of Environmental Conservation, Waterbury, VT, December, 1993


Vermont Certified Public Manager Program, Vermont Learning Center, Montpelier, Vermont, August, 1992 - June, 1994

Facilitator and Recorder Workshop, Agency of Natural Resources Leadership & Management Training Program, Fairlee, Vermont, November 29-30, 1994

Supervisory Core Training Program, Vermont Learning Center, Montpelier, Vermont, September, 1994 - December, 1994

Leaking Underground Storage Tank ASTSWMO Task Force Member, June, 1994 – June 2008 & April 2012 - Present

EPA Region I Regional Response Team Alternate Designee, October, 1994 - Present

Personal Protection and Safety Refresher, Vermont Department of Environmental Conservation, Waterbury, VT, December, 1994

Personal Protection and Safety Refresher, Vermont Department of Environmental Conservation, Waterbury, VT, April, 1995


Leaking Underground Storage Tank ASTSWMO Task Force Co-Chair and Chair, January 1996 – June 2008

**Personal Protection and Safety Refresher**, Vermont Department of Environmental Conservation, Waterbury, VT, March, 1996

Moderate and Present Session, “State Tanks Program Responses to Cultural Changes in the 1990's”, ASTSWMO Mid-Year Meeting, ASTSWMO, St. Louis, Missouri, April 2-3, 1996


Alternate Designee to State Emergency Response Commission for the Agency of Natural Resources, November, 1996

Designee to State Emergency Response Commission for the Agency of Natural Resources for a number of years between 1996 and the present


**SCBA Refresher**, Vermont Fire Service Training Council, Pittsford, Vermont, March 17, 1997

**Certificate of Attendance, Essentials 1,2,3**, Lamoille Fire-Mutual Aid Association, May 22, 1997


The Basic of Oil Containment Course, South Hero Fire Department, South Hero, Vermont, September 21, 1997

**Personal Protection and Safety Refresher**, Vermont Department of Environmental Conservation, Waterbury, VT, January, 1998


**SCBA Refresher**, Vermont Fire Service Training Council, Waterbury, Vermont, May 17, 1999

**Personal Protection and Safety Refresher**, Vermont Department of Environmental Conservation, Waterbury, VT, December, 2000


**Personal Protection and Safety Refresher**, Vermont Department of Environmental Conservation, Waterbury, VT, December 4, 2001

Symposium Organizer, Fuel Oxygenates: Analysis, Assessment, and Remediation, Arlington, Virginia, August, 2002

**Personal Protection and Safety Refresher**, Vermont Department of Environmental Conservation, Waterbury, VT, December 13, 2002


**Personal Protection and Safety Refresher**, Vermont Department of Environmental Conservation, Waterbury, VT, December 4, 2003


Participated in U.S. EPA CERCLA Education Training Class, Streamlining Investigations and Cleanup Using the Triad Approach, Providence, Rhode Island, January 14, 2005

**Vermont Hazardous Materials Response Team Member**, February 2005 – present
Moderated/Speaker, “Lead Scavengers: Houston, Do We Have a Problem”, 17th Annual UST/LUST National Conference, Seattle, Washington, March 14-16, 2005


Attended Training, “Assessing the Vapor Intrusion Pathway,” Concord, New Hampshire, April 14, 2005

Environmental Engineering Program Advisory Board Member, University of Vermont, Department of Civil and Environmental Engineering, Burlington, Vermont, 05405, 2005 - 2007

Moderated/Speaker, “EDB/Lead Scavengers”, 2008 National Tanks Conference & Expo, Atlanta, Georgia, March 17-19, 2008

Moderated Session, “Green Remediation”, 2009 National Tanks Conference & Expo, Sacramento, California, March 30-April 1, 2009


Author, Lead Scavengers Survey Report, Association of State and Territorial Solid Waste Management Officials, August, 2014


Procedure for Conducting Hazardous Material Investigation and Remediation Activities 
Under 30 V.S.A Section 248

1) Petitioner shall comply with the following procedure when conducting hazardous material investigation and remediation activities in connection with 30 V.S.A Section 248 projects. This section establishes standards for the issuance of a Certificate of Public Good.

a) If any construction or decommissioning activities will involve disturbance of any areas where hazardous material may be located now or in the past, or where hazardous material may have been released into the environment, Petitioner shall:

i) Conduct a preliminary investigation of records reasonably available to the Petitioner to determine what hazardous materials may be or may have been located, or potentially released, in the areas to be disturbed by the Project;

ii) Conduct a comprehensive visual inspection of all areas where hazardous material may be located now or in the past, or where hazardous material may have been released into the environment;

iii) Develop a site investigation work plan in accordance with the document titled, “Investigation and Remediation of Contaminated Properties Procedure (IROC), Effective April 2012” to investigate the hazardous material locations and potential releases in the areas to be disturbed. Submit the work plan to Vermont Department of Environmental Conservation's Waste Management and Prevention Division ("WMPD") for review and approval prior to commencement of any construction or decommissioning activities;

iv) If required by the WMPD, develop a corrective action plan in accordance with IROC and submit it to WMPD for review and approval.

v) Implement any required corrective action plan and submit any required final report in accordance with a timeline approved by WMPD.

b) The management of polychlorinated biphenyl (PCB) contamination is generally governed by 40 C.F.R. Part 761. Any cleanup notifications, investigations, or work plans sent to EPA shall be copied to WMPD and subject to review and approval of the WMPD. If the PCB contamination is not covered under 40 C.F.R. Part 761, Petitioner shall conduct all activities related to the PCB contamination in the same manner as hazardous materials are treated under subparagraphs (a)(i) through (a)(v).

Approved by:

______________________________  May 23, 2013
George Desch, Director  Date
Waste Management and Prevention Division