


United States Nuclear Regulatory Commission Official Hearing Exhibit	
In the Matter of:	Entergy Nuclear Operations, Inc. (Indian Point Nuclear Generating Units 2 and 3)
	ASLBP #: 07-858-03-LR-BD01 Docket #: 05000247 05000286 Exhibit #: ENT000305-00-BD01 Admitted: 10/15/2012 Rejected: Other:
	Identified: 10/15/2012 Withdrawn: Stricken:



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Senior Nuclear Consultant

Summary

Carl Paperiello is a Senior Nuclear Consultant to Talisman. He is a retired Senior Nuclear Regulatory Commission (NRC) Executive with extensive experience in health physics, fuel cycle and materials licensing, waste management and decommissioning, NRC inspection and enforcement, emergency preparedness, regulatory policy and international nuclear regulatory activities. He has extensive experience with regulating the safety of fuel reprocessing facilities, including performance of environmental radiochemistry analyses and environmental analytical method development for Nuclear Fuels Reprocessing at West Valley, New York, for the New York State Health Department; management responsibility for the NRC's oversight of the Department of Energy (DOE) activities at West Valley and the licensing of a DOE MOX facility; management responsibility for the development of potential NRC licensing of decommissioning of Hanford reprocessing waste tanks; and management responsibility for the NRC office with potential licensing responsibility for fuel reprocessing.

Dr. Paperiello was the former Director of NRC's Office of Nuclear Regulatory Research, Director of NRC's Office of Nuclear Materials Safety and Safeguards and was the Deputy Executive Director for Materials, Research and State Programs. He has NRC regional experience, including the position as Deputy Regional Administrator, Region III (Chicago). He has experience in Nuclear Physics, Environmental Radiochemical Analysis and Nuclear Spectroscopy. He has both worked on and led numerous inspection teams and task groups. He has been certified in Comprehensive Health Physics since 1975 and was recently re-elected a Councilor for the National Council for Radiological Protection and Measurement (NCRP). Dr. Paperiello currently holds a Q clearance through DOE's Office of Naval Reactors.

Education

Ph.D., Nuclear Physics, University of Notre Dame
 B.A., Physics, LaSalle College

Qualifications

Management - Over 20 years of management experience with U.S. government organizations from five to 500 persons and budgets of \$30 to \$70 million. As Director of NRC's Office of Nuclear Materials Safety and Safeguards (NMSS), responsible for the management of all safety and security regulatory activities, including licensing, inspection, rule making and environmental reviews, and for all activities regulated by the NRC except operating power and non-power reactors. Position involved management of the initial Certification of the Gaseous Diffusion Plants and management of relations with EPA which resulted in an agreement with EPA to end dual regulation of nuclide air missions of NRC licensees. As Director of NRC's Division of



Industrial and Medical Nuclear Safety (IMNS), managed health physics and radiation protection, nuclear safety reviews and the use of licensed materials in medicine, research, industry, and other purposes with a focus on assuring safety and effective and efficient delivery of regulatory services. In this position, developed, implemented, and evaluated material policies and the overall NRC materials regulatory program to assure program effectiveness and efficiency. Also managed the NRC program for “exempt” use of radioactive material and for evaluation of sealed sources and devices. Held previous positions as Deputy Regional Administrator for Region III in Chicago, Director of Reactor Safety for Region III, and Chief of NRC’s Emergency Preparedness and Radiological Safety Branch, which involved:

- Management of programs for licensing, enforcement, emergency response, security, government liaison, agreement state activities and resource management within regional boundaries
- Pre-operational inspection of several new nuclear plants.

Nuclear Regulatory Research and Waste Management - As Director of NRC’s Office of Nuclear Regulatory Research during 2004-2006, conducted or contracted for research to improve regulatory programs for safety, security, efficiency and effectiveness for nuclear reactors, materials and fuel facilities, waste, decommissioning, and health physics. Made major improvements in office effectiveness and efficiency by revising office procedures, ensuring the timeliness of research results, assessing human capital and elimination of research programs lacking a direct link of an identifiable regulatory product. Represented the United States at Nuclear Energy Agency meetings and presented NRC positions at professional conferences in the U.S. and overseas. Also, conducted cooperative research with DOE, the nuclear industry, universities and international partners to leverage resources. As Director of Office of NMSS, developed and implemented NRC policy for the regulation of activities involving transportation of nuclear materials; disposal of high-level and low-level radioactive waste. Coordinated all environmental monitoring around Three Mile Island after the 1979 accident for about one month as Chief of NRC’s Materials and Radiological Protection Section-1. As Senior Research Scientist for the New York State Health Department, provided health physics services and performed contract research in environmental areas for AEC; developed analytical methods for alpha and gamma ray spectroscopy, radioiodine, uranium, plutonium, and americium; and developed beta spectroscopy systems using internal gas proportional counters.

Fuel Cycle and Materials Licensing - While Director of Office Nuclear Materials Safeguards (NMSS), established the Spent Fuel Project Office to focus on certification of dry cask storage, and established the first operating plan in NMSS to more effectively manage resources and track results. As Director of Office of NMSS, developed and implemented NRC policy for the regulation of activities involving medical, industrial, academic, and commercial uses of radioactive materials as well as safeguards activities. Initiated business process reengineering that resulted in the development of the first published standard review plans for all areas licensed by NMSS, initiated rulemaking and prepared draft rules for 10 CFR 35, 10 CFR 63 and 10 CFR 70. Improved licensing timeliness across all areas of licensing. As Deputy Executive Director for Materials, Research and State Programs 1999-2004, assisted the Executive Director for Operations in the management oversight of the NRC’s Materials and Waste Licensing and Inspection Programs, Research Programs, and State and Tribal Programs. Initiated the National



Materials Program with NRC Agreement States to improve relationships and enable States to assist the NRC in developing mutually usable materials licensing and inspection procedures (NUREG-1556 series). As Director of Office of NMSS, developed and implemented NRC policy for the regulation of activities involving the use and handling of radioactive materials, such as uranium recover and fuel fabrication

Inspection and Enforcement - As Deputy Executive for Materials Research and State Programs had broad oversight responsibility for all inspection activities in the U.S. of civilian nuclear activities other than nuclear reactors and including those conducted by Agreement States. While Director of NRC's Division of Industrial and Medical Nuclear Safety, provided technical support and training of regional and Agreement State licensing and inspection staffs. Initiated a review of the NRC medical use regulatory program than resulted in the revision of 10 CRF Part 35. Initiated IMPEP, Integrated Materials Performance Evaluation Program, in 1994 to permit the objective evaluation of Agreement State and NRC Regional licensing and inspection programs. Also, conducted regulatory impact surveys of materials licensees that resulted in the completion and public availability of standard review plans. As Director of the Division of Reactor Safety in Region III, managed all engineering specialist inspections including construction, pre-operation testing, and start-up testing of new nuclear power plants. While Chief of NRC's Environmental and Special Projects Section in Region III, he was responsible for inspectors and their inspection of reactors and fuel facility licensees in the area of emergency planning, environmental monitoring and confirmatory measurements. He also managed the initial implementation of the NRC's first Systematic Assessment of Licensee Performance program in R III. As Chief of Emergency Preparedness and Radiological Safety Branch, was in charge of inspecting licensee emergency preparedness, worker radiation protection, environmental monitoring, and cleanup of contaminated sites. He operated the NRC Regional Measurements Laboratory mobile laboratory as Radiation Specialist for Region 1, Philadelphia. As part of this position, also conducted confirmatory radioactive effluent measurements at all Region 1 nuclear power plants.

Decommissioning - Negotiated the NRC/EPA MOU on Consultation and Finality for Decommissioning Sites as Deputy Executive Director for Materials, Research and State Programs. While Director of the Office of NMSS, developed and implemented NRC policy for the regulation of decommissioning.

Health Physics - While Director of NRC's Division of Industrial and Medical Nuclear Safety, managed health physics and radiation protection, nuclear safety reviews and the use of licensed materials in medicine, research, industry, and other purposes with a focus on assuring safety and effective and efficient delivery of regulatory services. Also, served as the US representative on the Nuclear Energy Agency Committee on Radiation Protection and Public Health. Provided health physics services for the New York State Division of Labs and Research as Senior Research Scientist for New York State Health Department and supervised regional health physics inspections of reactor, fuel facility and materials licensees. He is certified in Comprehensive Health Physics by the American Board of Health Physics through 2011.

Emergency Preparedness and Radiological Safety - As Deputy Executive for Materials,



Research and State Programs, coordinated NRC activities with DOE in areas of materials security and radiological dispersion devices (RDD's), high-level waste and enrichment. Participated in safety and security emergency exercises as member of Executive Response Team. From 2002-2004, he represented the United States on the IAEA Radiation Safety Standards Committee. Also, participated in TOPOFF II and other emergency preparedness exercises as Executive Response Team member as Deputy Executive Director for Materials, Research and State Programs. While Deputy Regional Administrator for Region III (Chicago), served on several special task groups including the NRC Task Force for the Comanche Peak Nuclear Power Plant, the NRC Committee to Review Generic Requirements, and as a U.S. representative at an International Atomic Energy Agency meeting for the International Review of the Goiania Radiological Emergency in Brazil. Participated in the June 1987 Federal Field Exercise (FFE-2) at the Zion Nuclear Power Station as Protective Measures Coordinator. While Chief of Emergency Preparedness and Radiological Safety Branch, responsible for the NRC regional incident response program, the regional laboratory, confirmatory measurements program, management information system, and coordination of SALP (Systematic Analysis of Licensee Performance) activity. Successfully completed the first emergency preparedness appraisal program for all nuclear power plants in Region III. As Director of NRC's Division of Reactor Safety in Region III, led an Augmented Inspection Team in response to a seismic event at the Perry Nuclear Plant. While Deputy Regional Administrator in Region III, lead an Incident Investigation Team in response to the death of a patient from a defective high dose rate brachytherapy device in Indiana, Pennsylvania.

Employment

Talisman International, LLC, Senior Nuclear Consultant, 2006-Present

U.S. Nuclear Regulatory Commission, 1975-2006

- Director, Office of Nuclear Regulatory Research
- Deputy Executive Director for Materials, Research and State Programs
- Director, Office of Nuclear Materials Safety and Safeguards
- Director, Division of Industrial and Medical Nuclear Safety, NMSS, Washington, DC
- Deputy Regional Administrator, Region III (Chicago)
- Director, Division of Reactor Safety, Region III
- Chief, Emergency Preparedness and Radiological Safety Branch
- Chief, Environmental and Special Projects Section
- Chief, Materials Radiological Protection Section-1, Region III
- Radiation Specialist, Region 1 (Philadelphia)

New York State Health Department, 1970-1975

- Senior Research Scientist
- Research Scientist II
- Research Scientist I

Honors/Affiliations



Commission Meritorious Service Award
Commission Distinguished Service Award
Presidential Meritorious Rank Award (Senior Executive Service)
Presidential Distinguished Rank Award (Senior Executive Service)

Professional Organizations:

Member, American Physical Society
Member, Health Physics Society
Member, American Academy of Health Physics
Councilor, National Council for Radiation Protection and Measurements
Baltimore-Washington Chapter, Health Physics Society

Security Clearance

DOE (Office of Naval Reactors) Q Clearance.