

RAS 14739

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION
BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the matter of
Entergy Corporation
Pilgrim Nuclear Power Station
License Renewal Application

Docket # 50-293

DOCKETED
USNRC

November 30, 2007 (8:58am)


OFFICE OF SECRETARY
RULEMAKINGS AND
ADJUDICATIONS STAFF

November 29, 2007

PILGRIM WATCH WITNESS LIST - DOCKET NO. 50-293

Pilgrim Watch hereby submits the Witness List for Pilgrim Watch's Contention 1, regarding the adequacy of the Aging Management Program for buried pipes and tanks and the potential need for monitoring wells to supplement the program. The witnesses include David P. Ahlfeld and Arnold Gundersen. Their respective Curriculum Vitae are attached.

Respectfully submitted,



Mary E. Lampert, representing Pilgrim Watch
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November 29, 2007

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SECY-02

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CERTIFICATE OF SERVICE

I hereby certify that the foregoing Pilgrim Watch Witness List has been served this 29th day of November, 2007 by electronic mail and by U.S. Mail, first class to each of the following:

Administrative Judge
Ann Marshall Young, Esq., Chair
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Washington, D.C. 20555-0001
amy@nrc.gov

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Administrative Judge
Paul B. Abramson
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Office of the Secretary *
Att'n: Rulemakings and Adjudications Staff
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*ORIGINAL AND TWO COPIES

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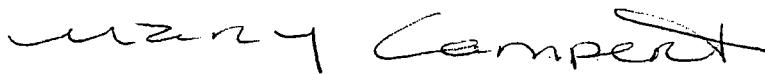
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Mary Lampert, representing Pilgrim Watch
November 29, 2007

Biographical Sketch

David P. Ahlfeld

Department of Civil and Environmental Engineering
University of Massachusetts, Amherst, MA 01002

Education

Humboldt State Univ., Arcata, California B.S. in Environmental Resources Engineering, 1983
Princeton University, M.A. in Civil Engineering, 1985
Princeton University Ph.D. in Civil Engr. and Oper. Research, 1983-1987

Academic Appointments

Professor, Department of Civil and Environmental Engineering, University of Massachusetts, September 2004 to present.

Associate Professor, Department of Civil and Environmental Engineering, University of Massachusetts, January 1998 to September 2004.

Associate Professor, Department of Civil and Environmental Engineering, University of Connecticut, September 1994 to January 1998.

Assistant Professor, Department of Civil Engineering, University of Connecticut, January 1988 to August 1994.

Lecturer, Department of Civil Engineering and Operations Research, Princeton University, Spring semester 1987 and Spring semester 1988

Selected Recent Publications

M.G. Kennedy, D.P. Ahlfeld, D.P. Schmidt, J.E. Tobiason, "Three Dimensional Modeling for Estimation of Hydraulic Retention Time in a Reservoir", in press, Journal of Environmental Engineering.

D.P. Ahlfeld, "Nonlinear Response of Streamflow to Groundwater Pumping For A Hydrologic Streamflow Model", Advances in Water Resources, January 2004, Vol 27, pgs 349-360.

D. P. Ahlfeld, A. Joaquin, J.E. Tobiason and D. Mas, "Case Study: Impact of Reservoir Stratification on Interflow Travel Time", Journal of Hydraulic Engineering, December 2003, Vol 129, No. 12, pp. 966-975.

Barlow, P.M., D.P. Ahlfeld, and D.C. Dickerman, "Conjunctive-Management Models for Sustained Yield of Stream-Aquifer Systems", Journal of Water Resources Planning and Management, January-February 2003, Vol. 129, No. 1, pgs 35-48.

A.E. Mulligan and D.P. Ahlfeld, "Advective Control of Contaminant Plumes: Model Development and Comparison to Hydraulic Control", Water Resources Research, Vol. 35, No. 8, August 1999, pgs 2285-2295.

Ahlfeld, D.A., Barlow, P.M., and Mulligan, A.E., 2005, GWM-A ground-water management process for the U.S. Geological Survey modular ground-water model (MODFLOW-2000): U.S. Geological Survey Open-File Report 2005-1072, 124 p (refereed).

Mulligan, A. E., and D. P. Ahlfeld, 2001, "Optimal plume capture design in unconfined aquifers", J. Smith and S. Burns, eds., Chapter in Physicochemical groundwater remediation, Kluwer Academic, p. 23-44.

Ahlfeld, D. P., and A. E. Mulligan, 2000, "Optimal Management of Flow in Groundwater Systems", Academic Press, San Diego, CA.

D.P. Ahlfeld and M.P. Sprong, "Presence of Non-Convexity in the Groundwater Concentration Response Function", ASCE, Journal of Water Resources Planning and Management, Vol 124, No. 1, Jan/Feb 1998, pgs 8-14.

D.P. Ahlfeld and E.H. Hill, III, " The Sensitivity of Remedial Strategies to Design Criteria", Groundwater, Vol. 34, No. 2, March-April 1996, pgs 341-348.

CURRICULUM VITAE

Arnold Gundersen
June 2007

Education And Training

ME NE	Masters of Engineering Nuclear Engineering Rensselaer Polytechnic Institute, 1972 U.S. Atomic Energy Commission Fellowship Thesis: Cooling Tower Plume Rise
BS NE	Bachelor of Science Nuclear Engineering Rensselaer Polytechnic Institute, 1971 Cum Laude, 3.74 out of 4.0 James J. Kerrigan Scholar
RO	Licensed Reactor Operator, U.S. Atomic Energy Commission License # OP-3014

Special Qualifications – including and not limited to:

Nuclear Safety Expert Witness; 37-years of nuclear industry experience and oversight; former nuclear industry Senior Vice President; nuclear engineering management assessment; prudence assessment; Employee Awareness Programs; nuclear power plant licensing and permitting production, assessment, and review; public communications, contract administration, assessment and review; former Licensed Reactor Operator; systems engineering, radioactive waste processes and storage issue assessment, technical patents, federal and congressional hearing testimony, decommissioning, waste disposal, source term reconstructions, thermal discharge assessment, aging plant management assessment

Special Remediation Expertise

Director of Engineering, Vice President of Site Engineering, and the Senior Vice President of Engineering at Nuclear Energy Services (NES).

- Department of Energy chose NES to write *DOE Decommissioning Handbook* because NES had a unique breadth and depth of nuclear engineers and nuclear physicists on staff.
- Personally wrote the "Small Bore Piping" chapter of the DOE's first edition Decommissioning Handbook, personnel on my staff authored other sections, and I reviewed the entire Decommissioning Handbook.
- Served on the Connecticut Low Level Radioactive Waste Advisory Committee for 10 years from its inception
- Managed groups performing analyses on dozens of dismantlement sites in order to thoroughly remove radioactive material from nuclear plants and their surrounding environs.
- Managed groups assisting in decommissioning the Shippingport nuclear power reactor. Shippingport was the first large nuclear power plant ever decommissioned. The decommissioning of Shippingport included remediation of the site after decommissioning.
- Managed groups conducting site characterizations (preliminary radiation surveys prior to commencement of removal of radiation) at the radioactively contaminated West Valley site in upstate New York.
- Personnel reporting to me assessed dismantlement of the Princeton Avenue Plutonium Lab in New Brunswick, NJ. The lab's dismantlement assessment was stopped when we uncovered extremely toxic and carcinogenic underground radioactive contamination.
- Personnel reporting to me worked on decontaminating radioactive thorium at the Cleveland Avenue nuclear licensee in Ohio. The thorium had been used as an alloy in turbine blades. During that project, previously undetected extremely toxic and carcinogenic radioactive contamination was discovered below ground after an aboveground gamma survey had purported that no residual radiation remained on site.

Publications

Co-author — DOE Decommissioning Handbook, First Edition
Authorship solicited by DOE

Patents

Energy Absorbing Turbine Missile Shield – U.S. Patent # 4,397,608 – 8/9/1983

Committee Memberships

ANSI N-198, Solid Radioactive Waste Processing Systems
 Three Rivers Community College Nuclear Academic Advisory Board
 Founding Member of Connecticut Low Level Radioactive Waste Advisory Committee
 (Member for 10 years)
 Founding Member National Nuclear Safety Network

Honors

James J. Kerrigan Scholar 1967–1971
 Tau Beta Pi (Engineering Honor Society), RPI, 1969

(1 of 5 in Sophomore class of 700)
B.S. Degree, Cum Laude, RPI (3.74 GPA) 1971
U.S. Atomic Energy Commission Fellowship, 1972
Publicly commended to U.S. Senate by NRC Chairman, Ivan Selin, in May 1993
 "It is true...everything Mr. Gundersen said was absolutely right; he
 performed quite a service."

Teacher of the Year – 2000, Marvelwood School

Nuclear Consulting and Expert Witness Testimony

Peach Bottom Reactor Litigation

Evaluated extended 28-month outage caused by management breakdown and deteriorating condition of plant.

Commonwealth Edison

In depth review and analysis for Commonwealth Edison to analyze the efficiency and effectiveness of all Commonwealth Edison engineering organizations, which support the operation of all of its nuclear power plants.

Western Atlas Litigation

Evaluated neutron exposure to employees and license violations at this nuclear materials licensee.

Three Mile Island Litigation

Evaluated unmonitored releases to the environment after accident, including containment breach, letdown system and blowout. Proved releases were 15-times higher than government estimate and subsequent government report.

PennCentral Litigation

Evaluated license violations and material false statements by management at this nuclear engineering and materials licensee.

Federal Congressional Testimony

Publicly recognized by NRC Chairman, Ivan Selin, in May 1993 in his comments to U.S. Senate, "It is true...everything Mr. Gundersen said was absolutely right; he performed quite a service."

State of Connecticut

Assisted the State in drafting Whistle-blower Protection legal statutes, the strongest in the United States.

Nuclear Regulatory Commission (NRC)

Assisted the NRC Inspector General in investigating illegal gratuities paid to NRC Officials by Nuclear Energy Services (NES) Corporate Officers. In a second investigation, assisted the Inspector General in showing that material false statements (lies) by NES corporate president caused the NRC to overlook important license violations.

International Nuclear Safety Testimony

Worked for ten days with the President of the Czech Republic (Vaclav Havel) and the Czech Parliament on their energy policy for the 21st century. Continue to work with Czech Friends of the Earth on Czech Energy and Environmental Issues

State of Vermont Public Service Board

Expert witness retained by New England Coalition to testify to the Public Service Board on the reliability, safety, technical, and financial ramifications of a proposed increase in power (called an uprate) to 120% at Entergy's 31-year-old Vermont Yankee Nuclear Power Plant. April 2003 to present

U.S. Senators Jeffords and Leahy (2003 to 2005)

Provided the Senators and their staff with periodic overview regarding technical, reliability, compliance, and safety issues at Entergy Nuclear Vermont Yankee (ENVY).

10CFR 2.206 filed with the Nuclear Regulatory Commission

Filed 10CFR 2.206 petition with NRC requesting confirmation of Vermont Yankee's compliance with all General Design Criteria.

State of Vermont Legislative Testimony to Senate Finance Committee

Testimony to the Senate Finance Committee, 2006 regarding Vermont Yankee decommissioning costs, reliability issues, design life of the plant, and emergency planning issues.

Finestone v FPL

Plaintiffs' Expert Witness for Federal Court Case with Attorney Nancy LaVista, from the firm Lytal, Reiter, Fountain, Clark, Williams, West Palm Beach, FL.

This case involved twenty-six families in a cancer cluster alleging illegal radiation releases from nearby nuclear power plant caused children's cancers.

Production request, discovery review, preparation of deposition questions and attendance at Defendant's experts for deposition, preparation of expert witness testimony, preparation for Daubert Hearings, ongoing technical oversight, source term reconstruction.

U.S. Nuclear Regulatory Commission Atomic Safety and Licensing Board (NRC-ASLB) Expert witness retained by New England Coalition to provide Atomic Safety and Licensing Board with an independent analysis of the integrity of the Vermont Yankee Nuclear Power Plant condenser.

U.S. Senators Bernie Sanders and Congressman Peter Welch (2007)

Briefed Senator Sanders, Congressman Welch and their staff members regarding technical and engineering issues, reliability and aging management concerns, regulatory compliance, waste storage, and nuclear power reactor safety issues confronting the U.S. nuclear energy industry.

State of Vermont Environmental Court

Expert witness retained by New England Coalition to review Entergy and Vermont Yankee's analysis of alternative methods to reduce the heat discharged by Vermont Yankee into the Connecticut River. Provided Vermont's Environmental Court with analysis of alternative methods systematically applied throughout the nuclear industry to reduce the heat discharged by nuclear power plants into nearby bodies of water. This report included the review of condenser and cooling tower modifications.

Experience

Teaching and Academic Administration

Burlington High School

Mathematics Teacher – 2001 to present

Physics Teacher – 2004 to 2006

The Marvelwood School – 1996-2000

Chairman: Mathematics and Physics Department

Taught both mathematics and physics.

Director of Summer School and Director of Residential Life

Awarded Teacher of the Year – June 2000

Additional teaching experience: The Forman School, St. Margaret's School, and college level Advanced Nuclear Reactor Physics Lab at RPI (Rensselaer Polytechnic Institute).

Nuclear Engineering 1970 to 1990

Nuclear Energy Services, Division of PCC (Fortune 500 company) 1979 to 1990

Corporate Officer and Senior Vice President - Technical Services

Responsible for overall performance of the company's Inservice Inspection (ASME XI), Quality Assurance (SNTC 1A), and Staff Augmentation Business Units.

Senior Vice President of Engineering

Responsible for the overall performance of the company's Site Engineering, Boston Design Engineering and Engineered Products Business Units. Integrated the Danbury based, Boston based and site engineering functions to provide products such as fuel racks, nozzle dams, and transfer mechanisms and services such as materials management and procedure development.

Vice President of Engineering Services

Responsible for the overall performance of the company's field engineering, operations engineering, and engineered products services. Integrated the Danbury

based and field based engineering functions to provide numerous product and services required by nuclear utilities.

General Manager of Field Engineering

Managed and directed NES' multi-disciplined field engineering staff on location at various nuclear plant sites. Site activities included structural analysis, procedure development, technical specifications and training. Have personally applied for and received one patent.

Director of General Engineering

Managed and directed the Danbury based engineering staff. Staff disciplines included structural, nuclear, mechanical and systems engineering. Responsible for assignment of personnel as well as scheduling, cost performance, and technical assessment by staff on assigned projects. This staff provided major engineering support to the company's nuclear waste management, spent fuel storage racks, and engineering consulting programs.

New York State Electric and Gas Corporation (NYSE&G) — 1976 to 1979

Supervisor, Reliability Engineering

Organized and supervised reliability engineers to upgrade performance levels on seven operating coal units and one that was under construction. Applied analytical techniques and good engineering judgments to improve capacity factors by reducing mean time to repair and by increasing mean time between failures.

Lead Power Systems Engineer

Supervised the preparation of proposals, bid evaluation, negotiation and administration of contracts for two 1300 MW NSSS Units including nuclear fuel, and solid-state control rooms. Represented corporation at numerous public forums including TV and radio on sensitive utility issues. Responsible for all nuclear and BOP portions of a PSAR, Environmental Report, and Early Site Review.

Northeast Utilities Service Corporation (NU) — 1972 to 1976

Engineer

Responsible Nuclear Engineer assigned to Millstone Unit 2 during start-up phase. Lead the high velocity flush and chemical cleaning of condensate and feedwater systems and obtained discharge permit for chemicals. Developed Quality Assurance Category 1 Material, Equipment and Parts List. Modified fuel pool cooling system at Connecticut Yankee, steam generator blowdown system and diesel generator lube oil system for Millstone. Evaluated Technical Specification Change Requests.

Associate Engineer

Responsible Nuclear Engineer assigned to Montague Units 1 & 2. Interface Engineer with NSSS vendor, performed containment leak rate analysis, assisted in preparation of PSAR and performed radiological health analysis of plant. Performed environmental radiation survey of Connecticut Yankee. Performed chloride intrusion transient analysis for Millstone Unit 1 feedwater system. Prepared Millstone Unit 1 off-gas modification licensing document and Environmental Report Amendments 1 & 2.

Rensselaer Polytechnic Institute (RPI) — 1971 to 1972

Critical Facility Reactor Operator, Instructor

Licensed AEC Reactor Operator instructing students and utility reactor operator trainees in start-up through full power operation of a reactor.

Public Service Electric and Gas (PSE&G) — 1970

Assistant Engineer

Performed shielding design of radwaste and auxiliary buildings for Newbold Island Units 1 & 2, including development of computer codes.

Vetted as expert witness in nuclear litigations, federal, international, and state hearings

including but not limited to: Three Mile Island, US Federal Court, US NRC ASLB, Vermont State Public Service Board, Czech Senate, Connecticut State Legislature, Western Atlas Nuclear Litigation, U.S. Senate Nuclear Safety Hearings, Peach Bottom Nuclear Power Plant Litigation, and OIG NRC.

Public Service, Cultural, and Community Activities

Sunday School Teacher, Christ Episcopal Church, Roxbury, CT

Parents Association Washington Montessori School

High School Guest Lecturer on Nuclear Safety Issues (30+ times)

Episcopal Marriage Encounter: Basic Training & Group Leadership Training, Presenting Team [with wife] – Provided weekend communication and dialogue workshops weekend retreats/seminars, Administrative Couple – supervised Connecticut Episcopal Marriage Encounter – 5 years

Co-Founder Parents Association Berkshire School

Co-Chair Annual Appeal Berkshire School

Featured Nuclear Safety Expert for Television, Newspaper and Radio, including but not limited to CNN (Earth Matters), The Crusaders, WPTZ VT, WZBG CT

Founding Board Member NNSN – National Nuclear Safety Network

Ongoing Public Testimony to Committees of the Vermont State Legislature

Tutoring of Refugee Students – Lost Boys of the Sudan and others

Certified Foster Parent State of Vermont – 2004 to 2007

Working with Burlington Electric Department (BED) on solar modifications to Burlington High School (BHS)

Mentoring former students regarding college and employment questions and applications.