RAS M-6

UNITED STATES
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the matter of		
ENTERGY NUCLEAR VERMONT YANKEE, LLC	)	Docket No. 50-271-LR
and ENTERY NUCLEAR OPERATIONS, INC.	)	ASLB No.06-849-03-LR
Vermont Yankee Nuclear Power Station	)	
License Renewal Application	)	

NEW ENGLAND COALITION, INC.'S (NEC) FINAL WITNESS LIST

Pursuant to Section 11.1.C of the Initial Scheduling Order (November 17, 2006), New England Coalition, Inc. (NEC) hereby submits its final witness list:

1. **Joram Hopenfeld**
   1724 Yale Place
   Rockville, MD 20850-1116
   Tele: 301-801-7480

   Dr. Hopenfeld will testify concerning NEC's Contentions 2A (invalidity of Entergy's environmentally-assisted fatigue analysis and calculations); NEC's Contention 3 (steam dryer); and NEC's Contention 4 (flow-accelerated corrosion). His resume is attached hereto as Exhibit A.

2. **Ulrich Witte**
   71 Edgewood Way
   Westville, Connecticut 06515
   Tele: 203-389-7374

   Mr. Witte will testify concerning NEC's Contentions 3 (steam dryer) and 4 (flow-accelerated corrosion). His resume is attached hereto as Exhibit B.

3. **Rudolph Hausler**
   Corro-Consulta
   8081 Diane Drive
   Kaufman, TX 75142
   Tele: 972-962-8287

Template Secy-043

Secy-02

Dr. Hausler will testify concerning NEC's Contention 4 (flow-accelerated corrosion). His resume is attached hereto as Exhibit C.

March 7, 2008 New England Coalition

by: Karen Tyler

Karen Tyler
Andrew Raubvogel
SHEMS DUNKIEL KASSEL & SAUNDERS PLLC
For the firm

Attorneys for NEC

EXHIBIT A

DOCKET 50-271
NEW ENGLAND COALITION/HOPENFELD

Curriculum Vitae for Dr. Joram (Joe) Hopenfeld

A. Professional Expertise

Technical analyst in the fields of nuclear safety, thermal hydraulics, corrosion, industrial instrumentation and environmental monitoring.

B. Current Position

CEO, Noverflo Inc

C. Education

Engineering- University of California at Los Angeles: BS 1960, MS 1962, Ph.D 1967.

D. Summary of Work Experience

I have 45 years of experience in industry and government primarily in the areas of thermal hydraulics, material corrosion, instrumentation and PWR steam generator testing and licensing. I have managed major international programs on steam generator performance during accidents involving various thermal transients. As a result of my work at the Nuclear Regulatory Commission, ("NRC") my position regarding the safety implication of steam generator tube degradation was adopted. Consequently, in 2001 the NRC launched a five-year major program on the effects of steam generator tube aging on core melt. This program is related to the 2002 reactor head failure at Davis-Besse. I have testified at great lengths before the Advisory Committee on Reactor Safety, ("ACRS") on steam generator tube degradation and related safety issues. In the last several years, I have consulted to law firms and citizen groups regarding steam generator issues.

I am the owner and CEO of a small Maryland company, Noverflo, Inc.. Noverflo is developing fiber optic sensors for the oil & gas, the transportation, and the environmental monitoring industries. In 2004 Noverflo has completed a three year program which was sponsored by the U.S. Department of Energy. The program produced a new system for automatic tank gauging. In 1994-1996 Noverflo has developed and commercialized a shutoff valve for fuel tanks to comply with new EPA regulations.

I have funded and sponsored research and development work at the Engineering Department of the University of Virginia, which resulted in a novel method of measuring pipe wall thinning from erosion/corrosion

I have published 14 papers in peer-reviewed technical journals in the areas of thermal-hydraulics, corrosion/ erosion, steam generator dose releases during accidents, steam explosions, sensors and ECM machining. I hold eight US patents and I am listed in the Engineers of Distinction published by the Engineers Joint Council and in American Men and Women in Science.

E. Recent Consulting

1. Winston & Strawn , 1400 L St. Washington D.C

2001

Provided assistance in connection with the February 2000 steam generator event at Indian Point.

2. C-10 Research and Education Foundation, Inc. 44Merrimac St. Newburyport, MA

2002-2003

Provided assistance in the preparation of a 2.206 petition to the NRC and other matters in connection with steam generator problems at the Seabrook Station

3. California Earth Corps (Sabrina D. Venskus, Attorney at Law, Santa Monica, CA)

2005

Provided testimony to the Public Utility Commission of the State of California on behalf of California Earth Corps in connection with the San Onofre steam generator replacement project

F. Brief Employment History

1962- 1971 –Corrosion testing of materials for the design and operation of liquid metal cooled nuclear reactors. Atomics International, Canoga Park, Calif.

1971- 1973- Participated in the resolution of design issues as related to material corrosion and thermal hydraulics of nuclear reactors. Atomic Energy Commission

1973 – 1978 Project Manager for the safety evaluation and testing of steam generators for liquid metal reactors. Department of Energy (and its predecessor ERDA).

1978 – 1982 Project Manager for the development of materials and instrumentation for high temperature steam generators for fossil plants. Responsible for the resolution of issues relating to corrosion/erosion. Department of Energy.

1982 – 2001 Program manager for the resolution of various material and safety issues primarily in relation to PWR steam generators. Nuclear Regulatory Commission.

PUBLICATIONS IN PEER REVIEWED JOURNALS

1. Distributed Fiber Optic Sensors for Leak Detection In Landfills, Proceeding of SPIE Vol 3541 (1998)
2. Continuous Automatic Detection of Pipe Wall Thinning, ASME Proceedings of the 9th, International Conference on Offshore Mechanics and Arctic Engineering. Feb. 1990
3 Iodine Speciation and Partitioning in PWR Steam Generators, Nuclear Technology, March 1990
4. Comments on "Assessment of Steam Explosion Induced Containment Failures" Letter to the Editor, Nuclear Science and Engineering, Vol. 103, Sept. 1989
5. Experience and Modeling of Radioactivity Transport Following Steam Generator Tube Rupture, Nuclear Safety, 26,286, 1985
6. Simplified Correlations for the Predictions of Nox Emissions from Power Plants. AIAA Journal of Energy, Nov.-Dec., 1979
7. Grain Boundary Grooving of Type 304 Stainless Steel in Armco Iron Due to Liquid Sodium Corrosion, Corrosion, 27, No.11, 428, 1971
8. Corrosion of Type 316 Stainless Steel with Surface Heat Flux in 1200 Flowing Sodium, Nuclear Engineering and Design, 12; 167-169, 1970
9 Prediction of the One Dimensional Cutting Gap in Electrochemical Machining, ASME Transaction, J. of Engineering for Industry, p100 (1969)
10. Electrochemical Machining- Prediction and Correlation of Process Variables, ASME Transactions, J. of Engineering for Industry, 88:455-461, (1966)
11. Laminar Two-Phase Boundary Layers in Subcooled Liquids, J. of Applied Mathematics and Physics (ZAMP), 15, 388-399 (1964)
12. Onset of Stable Film Boiling and the Foam Limit, International j. of Heat Transfer and Mass Transfer, 6; 987-989 (1963)) (co-author)
13 Operating Conditions of Bubble Chamber Liquids, The Review of Scientific Instruments, 34, 308-309. (1963); co-author
14. Similar Solutions of the Turbulent Free Convention Boundary Layer for an Electrically Conducting Fluid in the Presence of a Magnetic Field, AIAA J. 1:718-719 (1965)

LIST OF PATENTS

1. Automatic Shut-Off Valve for Liquid Storage Tanks, 5,522,415
2. Method and Apparatus for Detecting the Presence of Fluids, 5,200,615
3. Sensors For Detecting Leaks, 5,187,366
4. Method for Monitoring Thinning of Walls and Piping Components 4,922,748
5. Method for Monitoring Thinning of Pipe Walls, 4,779,453
6. Looped Fiber Optic Sensor for the Detection of Substances (5,828,798)
7. Coated Fiber Optic Sensor for The Detection of Substances (5,982,959)
8. Method and Apparatus for Analyzing Information of Sensors Provided Over Multiple Waveguides (6,870,607)

EXHIBIT B

Ulrich K. Witte

71 Edgewood Way
Westville, Connecticut 06515
Home: 203 389 7374
Office: 860 577 8077
Mobile: 860 391 1183

Summary:

Over twenty-six years' of professional experience in engineering, configuration management, licensing, regulatory compliance of large scale commercial nuclear facilities. This includes management and implementation of design change control programs, engineering standards programs, multi-department/multi-functional licensing initiatives, plant design basis and engineering process improvement programs for six energy companies operating seven nuclear power plants. Responsibilities include:

- Systems solutions to plant operations, engineering modifications, safety analyses, design changes, installation and testing, software, drawing change programs, and training. Optimized function interfaces to insure proper coordination and synchronization for cost effective and compliant operation of the facility.
- Technical support management, and issue resolution programs that identified potential hardware, operational or equipment function issues, as well as document problems, data management problems and organizational enhancements
- Engineering Change Processes from change inception to document close-out
- Multi-department Configuration Management Program including technical approach, consensus, approval, and implementation. Managed a standing Configuration Management Programs Group whose goal was to integrate ten functional areas under a corporate strategic plan encompassing two nuclear facilities.
- Vertical slice system design/operation reviews, design bases / regulatory rule reconciliation, and licensing bases reconstitution and transitioning projects
- Integration of plant equipment information systems with business processes within engineering, materials management, maintenance, and plant operations.
- Structured business process modeling. Application of functional analysis purely from a data prospective—to enhance change management, efficiency.
- Chaired ANSI certified industry guidance on cost effective, compliant, and institutionalized programs for successful configuration management enhancement
- EPRI guidance on optimizing the Engineering Change Process
- Formal training to engineering department personal with specific courses on the engineering change process, plant safety analysis, and modification testing. Trained engineering personal on the requirements of the plant wide Configuration Management Program.

Technical Consultant

Northern Lights Engineering, L.L.C., 71 Edgewood Way, Westville, Connecticut 06515 (May 2002 –Today)

Established a consulting practice where I provided expertise in matters affecting the safe operation and regulatory compliance of commercial nuclear power facilities. This includes licensing andregulatory compliance issues, modification and implementation of industry standards, engineering design reviews, and configuration management analysis associated with an unexpected event, a design failure, or an elevated risk condition, and includes review of proposed changes to the plant operating license in preserving design efficacy.

Technical Advisor and Expert Witness to the law firm of Shems, Dunkiel, Kassel, & Saunders, PLLC
Currently providing technical assistance in prefiled testimony regarding Entergy Nuclear Operations application for renewing the operating license of Vermont Yankee. This includes the Aging Review Management Program, in particular flow-accelerated corrosion issues, and finite element fatigue analysis reviews of susceptible components and a number of other contentions related to the safe operation of the plant beyond its 40 year license at 120% of original design power.

Technical Advisor, to the law firm of Leroche, Meyers, and Conswel, LLP.
Provided licensing and regulatory compliance expertise in legal claim and derivative action by the board of directors of the First Energy Corporation against its corporate officers in their role associated with the Northeast black out of August 2003, and the mismanagement of the Davis Besse Nuclear Power Plant.

Technical Advisor to the Union of Concerned Scientists
Provided technical review of UCS analysis of the Davis Besse reactor head corrosion event. This included analysis of the loss of integrity of the reactor vessel, and the immediacy of the reactor head failure.

Senior Scientist, Dominion Resources Inc, Millstone Station:

P.O. Box 128, Waterford, Connecticut 06385-0128 (December 1996 – 2002)

Project Manager, Licensing Commitments. Established the Regulatory Commitment Management Program. Developed a program that established senior management and department level control of more than 30,000 licensing commitment that was previously broken. The substantially enhanced program captured, dispositioned, consolidated, and managed implementation of docketed commitments to the NRC. Status, responsibility and clear communication were successfully implemented to allow Millstone to successfully restart Units 2 and 3.

The effort required substantial procedure revisions, customer consensus building, and integration of separate free-standing department specific database applications, as well as the station wide action item tracking system. A near term deliverable necessary for the successful restart of Unit 3 was to provide a workable, compliant and functioning regulatory commitment management program.

Project Manager, 50.54(f) Licensing Bases Transition Project. I led a team of 14 individuals to disposition and validate approximately 5100 regulatory commitments necessary for restart of Unit 3. The effort has led to a quality rate of more than 98 percent with production average of about four hours per commitment.

Manager, Configuration Management Program, New York Power Authority:

123 Main Street, White Plains New York 10621, Nuclear Generation Department, Engineering Division
(November 1991 - November 1996)

Established the Configuration Management Program for the New York Power Authority's nuclear facilities. Included are 10 functional areas and integrated controls as authored in the corporate strategic plan. Management functions and technical skills include the following:

- Established Configuration Programs Group. This group and my position were established as a result of INPO Plant Evaluation calling for configuration management enhancement, and resolution of design control issues identified by the NRC in their DET Inspection of 1991 of the FitzPatrick Plant, as well as independent assessments. Recruited permanent staff, and supplemented the group with contracted staff on as needed basis to support both plants.

- Modified the engineering change process. Areas of immediate attention included the Design Control and Modification Programs, where a series of working groups were established to correct technical content and improve quality, ownership, and business efficiency of the design change process. This effort was achieved via: (1) a formal process to assess, model, and enhance the design change and modification process and interfaces to key functions; and (2) immediate changes to engineering procedures.

- Assessed and enhanced the Plant Equipment Data Base and controls for each plant. Results of the assessment indicated that the IP3 Plant Equipment Database contained significant problems with component classification, equipment type and status, maintenance history etc. Prepared and implemented a recovery plan and project team to reestablish the controls and content of database to be compliant with NRC Generic Letter 83-28 and to support the plant restart. Streamlined and enhanced the component classification process for both plants. Established controlled and non-controlled segregation of plant equipment in accordance with recent EPRI guidance.

- Automated and validated existing fragmented and corrupt sources of engineering information. These data sources were compiled, validated, and controlled and included multi-department areas such as set point controls, Electrical Cable and Raceway Information Systems for JAF and IP3, along with the fuse controls and data management.

- Developed design basis problem resolution process, "Design Document Open Item". Established methods for prioritizing, tracking and closing out design document issues. Established proper interface and control room notifications as per tech spec requirements. Provided guidance on operability determinations and reportability. Provided oversight for classifying and tracking more than 1100 open design issues for IP3 and 300 for JAF. Defended program to the NRC.

- Established working groups between Nuclear Generation Department and the corporate wide Information Management Organization. Gained management endorsement for areas of data quality improvement and automation for the Nuclear Generation Department. This led to enhanced implementation of the equipment information systems for both sites.

Project Manager, Program to Assure Completion and Quality, Tennessee Valley Authority:

(December 1990 - March 1991) Under contract by CYGNA Energy Services to the Vice-President, Engineering and Operations Department, Watts Bar Nuclear Plant.

- Developed a comprehensive plan to measure progress and confirm quality of the in-progress design evolution of the plant. Developed a methodology for linking specific plant equipment to that equipment's respective design basis (and associated design attributes); license commitments; and numerous verification programs currently in place. The five phase program was presented to NRR in January and received approval as an activity to assist TVA in removing the stop work order on construction of the facility.

Technical Manager, Configuration Management Program, Southern Nuclear Operating Company:

(December 1988 - November 1991). Under contract by ABB Impell and CYGNA Energy Services to Corporate Engineering Manager, Edwin I. Hatch Nuclear Plant, Georgia Power Company.

- Established and implemented the Hatch Configuration Management Program. Phase one of the effort included definition, establishment of management objectives, specification of the configuration management program scope and development of a reference manual.
- Developed and executed formal rigorous horizontal evaluations (the second phase of the project) of each relevant functional area including engineering design, implementation, plant operations and maintenance, procurement, information systems, document control and others. The program integrates functional areas across the plant, each architect engineer, and corporate (SONOPCO and Southern Company Services) organizations.
- Implemented enhancements to the program. This phase includes upgrading the design change process to achieve successful integration across organizations; stricter adherence to closure activities; and formal design engineering involvement in such activities as procurement of replacement items (equivalency). Additional controls were established such that misapplication of information obtained through informal design change processes such as the "Request for Engineering Assistance".
- Reconciling the plant's design basis. A second major activity of the program was to compile, consolidate, and ultimately, automate the plant's design basis. A major objective is to provide access and retrievability of current design basis to each of the key users of each participant organization.
- Applied Structured Business Analysis including CASE tools in the evaluation and enhancement phases. The as-found configuration management activities of all relevant processes were modeled and analyzed with this technique. Proposed enhancements are then tested on the model prior to actual implementation.
- Chaired the subcommittee for the Nuclear Information and Records Management Association which is developing a Technical Position Paper entitled, "Implementation of a Configuration Management Enhancement Program for a Nuclear Facility".

Team Leader, NRC Safety System Functional Inspection Response Organizations:

Led the NRC Safety System Functional Inspection Response Teams for Georgia Power Company (1989), and Sacramento Municipal Utility District (1987). Assisted as team coordinator in the GPC - Plant Hatch Electrical Distribution System Functional Inspection Response Team (1991). Under contract by ABB Impell (December 1987 - November 1990) to the site Engineering Manager, Rancho Seco, SMUD. and CYGNA Energy Services (December 1990 - November 1991) to the Corporate Engineering Manager, Edwin I. Hatch Nuclear Plant, Georgia Power Company.

- In the case of GPC, the NRC SSFI resulted in validation of the in progress implementation of the Hatch Configuration Management Program, and only one violation to the licensee.
- The effort included an SSFI self-assessment as well as managing the utility through the NRC inspection.
- For SMUD, developed and executed a plan for closure of both immediate findings and long term corrective action required. Assisted in defending the plan to the NRC.
- For GPC - Plant Hatch EDSFI in June 1991. Developed and implemented an EDSFI Preparation Plan for the Engineering (both A/Es) and site organizations. This effort included management of a 27 man team preparation and inspection response team for the Hatch EDSFI.

Deputy Mechanical Engineering Manager, Engineering Department

Under Contract to the Site Engineering Manager, Rancho Seco, Sacramento Municipal Utilities District, Rancho Seco (April 1986 - September 1987)

Managed the implementation and closure of over 400 modifications to the plant. Provided the NRC with a basis for allowing a successful restart of the facility. (January 1986 to November 1986) Impell Lead Project Engineer, Class 1 Piping and Support Recertification Effort, SMUD.

- Developed an engineering department action plan to improve technical quality, reconstitute design basis for five systems, control costs of plant modifications, and improve adherence to schedule.
- Responsible for the complete recertification of the Pressurizer Relief Line, Decay Heat System, and others. Responsible for expediting and implementing design changes as necessary through to closure. Assisted in Utility responses to NUREG-0737, and I&E 79-14.
- Upgraded the Engineering Department procedures to gain credit for the relaxation of ASME code requirements in structural damping values. Initiated the FSAR changes as well.

Project Engineer, Fire Protection:

Under Contract to Sacramento Municipal Utilities District, Rancho Seco (November 1984 to April 1986), SMUD Fire Protection Coordinator, Fire Protection Program

- Developed the SMUD Appendix R Fire Protection Program. Established or substantially revised 110 plant and engineering procedures including shutdown procedures on total loss of the plant's control room, technical specification surveillance procedures, fire protection system maintenance procedures, and the development of a fire protection program manual.

Successfully defended the program to the NRC during the 1985 Appendix R Inspection, with no resulting findings or open items.

Additional Experience (6/78 through 8/84):

Senior Engineer, performed original pipe stress analysis and support placement for Duke Power's Catawba Plant. Qualified approximately 8 class one and two plant systems. (ABB Impell 6/78 - 12/79).

Non-linear finite element analysis of large diameter piping for EPRI. Analysis of production stress codes versus non-linear evaluation techniques, versus actual in situ testing of the system. Results were published in EPRI Report "Seismic Piping Test and Analysis. (ABB Impell, 1980 -1981)

As Project Engineer, directed the preparation of the annual Emergency Plan exercises for Kansas Gas and Electric Company, Union Electric Company, and Texas Utilities. In two plants, the exercise was installed on the plants simulator, and received recognition from the NRC for realism of the scenario. (ABB Impell 1982-1984).

EMPLOYER SUMMARY:

Northern Lights Engineering, L.L.C. 12/2002 – current
71 Edgewood Way
Westville, CT 06515

Northeast Utilities /Dominion Resources Inc 12/1996 – 12/2002
(Under Contract via Cataract Inc through 9/97.)
2500 McClellan Ave.
Pennsauken, NJ 08109

New York Power Authority 11/1992 - 12/1996
123 Main Street
White Plains, New York 10671

Cygna Energy Services 11/1991 - 11/1992
5600 Glenridge Drive, Suite 380
Atlanta, Georgia 30075

ABB Impell Corporation 6/1978 - 11/1991
333 Research Court
Technology Park-Atlanta
Norcross, Georgia 30095

EDUCATION:

University of California, Berkeley
B.A. Physics, 1983
Senior level and graduate course work in Mechanical Engineering, and Electrical Engineering

Quinnipiac University School of Law
J.D expected June, 2009

PUBLICATIONS:

- EPRI Report Number 108736, "Guidelines for the Optimization of the Engineering Change Process," March 1994.
- NIRMA PP-03, "Position Paper for a Configuration Management Enhancement Program for a Nuclear Facility," April, 1992. Subcommittee Chair.
- EPRI Report Number 8480, " Seismic Piping Test and Analysis," 1980.

PROFESSIONAL AFFILIATIONS AND AWARDS

American Society of Mechanical Engineers, American Nuclear Society, Nuclear Information and Records Management Association, Who's Who For Rising Young Americans.

REFERENCES:

References available upon request.

EXHIBIT C

Rudolf H. Hausler

SUMMARY Over 30+ years planned, conducted, and directed advanced chemical research focused on oil production and processing additives. Acquired expertise in corrosion prevention, chemical inhibition, and materials selection, failure analysis, trouble shooting and economic analysis. Proficient in German, French, and Italian.

EXPERIENCE:

1996 - Present **CORRO-CONSULTA** (Dallas TX, and Kaufman TX)

President private Consulting Company

Consulted with major Oil Companies on selection, testing and application of Oil Field Chemicals, primarily corrosion inhibitors.

- Worked on Global Sourcing Team for Mobil Oil Company (major fulltime 6+ months study)
- Consulted for Mobil Oil Company on production chemical usage at Mobile Bay sour gas production field and prepared for changeover to alternate chemical supplier (two year project).
- Consulted for Arco Oil company
  - on sour production in Middle East
  - reviewed North Slope corrosion data (statistical evaluation)
- Consulted for Mobil Oil Company at major CO_2 flood in Oklahoma (extensive laboratory and field testing - two major publications)
- Consulted with Teikoku Oil Company (Japanese National Oil Company) on various subjects of
  - drill string corrosion
  - amine unit corrosion of 304 stainless steel
  - corrosion of 13%-Cr in sweet production and the chemical inhibition thereof
  - identifying qualified corrosion testing laboratories in the US and the world
  - application limits for 3% Cr-steels in oil and gas production
- Consulted for Exxon Mobil on new sourcing study for combined Mobile Bay operations. (Developed novel approach for bid procedure and evaluation of bids on purely technical basis. Developed long-range approach to streamlining operations with potentially large savings.)
- Consulting for Oxy Permian Ltd. on major gas gathering system (changing from dry gas gathering to wet gas gathering)
- Prepared several major publications (see list of publications)
- Major consulting contract for ExxonMobil in Indonesia
- Consulting with various smaller Producers in the US (incl. Anadarko Petroleum Corp and Swift Energy Company)

- Consulting with various engineering companies (e.g. Stress Engineering Services Inc.)
- Consultant on call for Blade Energy Partners
- Consulted with various organization concerned with nuclear safety, including the safety of spent fuel storage casks.

1991 - 1995 **MOBIL Oil Company** (Dallas Research Center), Dallas, Texas

Senior Engineering Advisor

Developed corrosion testing facilities for basic research and to meet specific oil field requirements.

- Planned and developed H_2S corrosion test facility
- Planned safety and wrote safety manual
- Developed unique continuous flow-through corrosion test facility ($$ 1.5MM)
- Developed test protocols and supervised operations of the FTTF
- Extensive consultation with Affiliates on problem solving and chemical usage
- Established supplier relationships and consulted with Affiliates on establishing Enhanced Supplier Relationships
- Developed theory and practice of novel approach to autoclave testing

1979 - 1991 **PETROLITE CORPORATION** St. Louis, Missouri

Research Associate 1986 - 1991

Directed and conducted the development of novel corrosion inhibitors for extreme operating conditions

- New corrosion inhibitor to combat erosion corrosion of carbon steel in gas condensate wells
- Extensive studies on CO_2 corrosion aimed at establishing predictive corrosion model
- Developed the only qualified corrosion inhibitor for nuclear steam generator cleaning (EPRI publication NP-3030 June 1983)

Special Assistant to Executive Vice President 1985 - 1987

Special Assignments focused at support of International Sales

- Extensive travel to secure major accounts in Europe, Russia and East Asia
- Monitored out-sourced R&D in Germany and England

Senior Research Scientist 1979 - 1985

- Developed novel chemical composition under contract with EPRI for corrosion inhibition of cleaning fluids used in nuclear steam generators and methodology of application (only effective formulation still used today)
- Developed unique corrosion model for CO_2 corrosion in oil and gas wells
- Conducted numerous detailed field studies to establish case histories of chemical performance and applications technology

1976 - 1979 **Gordon Lab, Inc.**, Great Bend, Kansas

Technical Director

Responsible for all technical issues involving formulation, application and sales of sucker well production chemicals (corrosion, emulsion, scale, bacteria)

- Conducted failure analysis for customers and developed pertinent reports
- Supervised service laboratory
- Established technical training of sales and support personnel
- Developed technical sales literature and company brochure

1963 - 1976 **UOP (a division of SIGNAL COMPANIES)** Des Plaines, Illinois

Research Associate	1972 - 1976
Associate Research Coordinator	1967 - 1972
Research Chemist	1963 - 1967

To conduct research in electrochemistry, analytical methods development, heat exchanger fouling processes and refinery process additives

- Developed novel organic electrochemical synthesis procedure
- Developed unique (patented) test apparatus for measuring anti-foulant activity
- Introduced statistical design and evaluation of experiments to R&D department and Developed 20 hr course on statistics.
- Developed full 3 credit hour corrosion course to be taught at IIT and DeSoto Chemical Company

EDUCATION

- Ph.D. Chemical Engineering; Swiss Federal Institute of Technology, Zurich Switzerland
- BS, MS Chemical Process Technology, same as above

PROFESSIONAL ASSOCIATION

- American Chemical Society
- The Electrochemical Society
- Society of Petroleum Engineers
- NACE International (Corrosion Engineers)
- American Society fro Metals (ASM)

- Active in NACE on local, regional and national level

RECOGNITION

- N ACE Technical Achievement Award (1990)
- NACE Fellow Award 2003

ACHIEVEMENTS

- 17 patents, 58 publications and more than 100 technical presentations
- Registered Professional Engineer (Corrosion Branch, California)
- NACE certified Corrosion Specialist

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

Before the Atomic Safety and Licensing Board

In the Matter of	)	
	)	
Entergy Nuclear Vermont Yankee, LLC	)	Docket No. 50-271-LR
and Entergy Nuclear Operations, Inc.	)	ASLBP No. 06-849-03-LR
	)	
(Vermont Yankee Nuclear Power Station)	)	

CERTIFICATE OF SERVICE

I, Christina Nielsen, hereby certify that on March 7, 2008, I sent *New England Coalition, Inc.'s (NEC) Final Witness List* and attachments by email and by First Class Mail in a sealed and properly stamped envelope to the attached service list:

Administrative Judge
Alex S. Karlin, Esq., Chair
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Washington, DC 20555-0001
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Washington, DC 20555-0001
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Administrative Judge
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SHEMS DUNKIEL KASSEL & SAUNDERS, PLLC

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Attorneys for New England Coalition, Inc.