DOCKETED USNRC

# UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION '87' JUN -5 P4:00

# BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)
	) Pocket Nos. 50-443 OL
PUBLIC SERVICE COMPANY OF	) 50-444 OL
NEW HAMPSHIPE, et al.	) Off-site Emergency Planning
(Seabrook Station, Units 1 and 2)	)

NEC STAFF RESPONSE TO TOWN OF HAMPTON SUPPLEMENTAL INTERROGATORIES AND REQUEST FOR DOCUMENTS TO THE NRC ON THE NEW HAMPSHIRE RADIOLOGICAL RESPONSE PLANS

# Interrogatory S-1:

Please supplement, and provide a full and complete response, to TOWN OF HAMPTON INTERROGATORIES AND REQUEST FOR THE PRODUCTION OF DOCUMENTS TO THE NUCLEAR REGULATORY COMMISSION ON THE NEW HAMPSHIRE RADIOLOGICAL RESPONSE PLANS dated March 5, 1987 and previously served upon the NRC.

1.c. Identify all persons you may call as witnesses on each of these contentions during these proceedings; describe the substance of their testimony; and identify and describe any documents and the portions thereof that they may rely on for their testimony.

### Answer S-1, 1.c.

The Staff identifies Dr. Thomas Urbanik II, Associate Research Engineer, as a witness it intends to call on Town of Hampton Contention III and SAPL Contentions 18, 31, 34, and 37. Dr. Urbanik is a consultant to the NRC through Battelle Pacific Northwest Laboratories and is associated with the Texas Transportation Institute, Texas A&M University, College Station, Texas. A copy of Dr. Urbanik's Curriculum Vitae is attached to this response.

Dr. Urbanik will testify on the State of New Hampshire Radiological Emergency Plan, Volume 6, Rev.2, Seabrook Station with respect to his evaluation of the Seabrook Station Evacuation Time Estimate Study by KLD relative to the guidance of NUREG-0654. The testimony will include his evaluation of the data and assumptions used in the KLD Study.

Dr. Urbanik may rely on the following documents:

- 1. Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants, NUREG-0654, FEMA-REP-1, Rev.1. November 1980.
- 2. Highway Capacity Manual. Transportation Research Board, National Academy of Science. 1985.
- 3. New Hampshire Radiological Emergency Response Plan, Vol. 6, Rev. 2, Evacuation Time Estimate Study, KLD Associates, Inc.

# Interrogatory S-2:

Please identify and describe the NRC's present position with respect to all Motions for Summary Disposition, and responses thereto, previously filed in this proceeding.

# Answer S-2:

Except for a withdrawal of objection to the summary disposition of Town of Rye Contention 2 as set forth in the "Affidavit of Edward A. Thomas in Support of Applicants' Motion for Summary Disposition to Town of Rye Contention 2" and forwarded to the Licensing Board by NRC Staff Counsel on April 29, 1987, the NRC Staff does not alter the position

expressed in its April 15, 1987, Answer to Motions for Summary Disposition of Off-site Emergency Planning Contentions.

Respectfully submitted,

Elaine I. Chan

Counsel for NRC Staff

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Dated at Bethesda, Maryland this 4th day of June, 1987

### CURRICULUM VITAE

URBANIK II, Thomas P.E., Ph.D.

OFFICE PHONE:

409/845-1535

HUME ADDRESS: 12 Post Vak Bend Rd.

HOME PHONE:

409/690-6795

College Station, Texas 77840

Birthdate: February 15, 1946

Citizenship:

S.S. No.: 079-36-0185

Marital Status: Married, 2 Sons

PRUFESSIUNAL INTERESTS: Traffic Engineering

Transportation Planning Evacuation Planning Highway Design/Safety Public Transportation

### EDUCATION:

Ph.D., Civil Engineering, Texas A&M University, 1982

M.S., Transportation Engineering, Purdue University, 1971

B.S., Civil Engineering, Syracuse University, 1969

B.S., Forest Engineering, New York State College of Environmental Science and Forestry, 1968

#### PROFESSIONAL LICENSES:

Registered Professional Engineer, Michigan No. 22008 Registered Professional Engineer, Texas No. 42384

### EXPERIENCE:

1982-1986

\* Lecturer - Department of Civil Engineering Civil Systems Group Texas A&M University College Station, Texas 77843-3136

Undergraduate instruction in transportation engineering and planning, traffic engineering, and highway design.

Program Manager - Transport Uperations Texas Transportation Institute . Texas A&M University College Station, Texas 77843-3135

Duties and responsibilities are to provide specific direction to program in its conduct of transportation research projects for federal, state, and local transportation agencies.

The range of transportation projects include: traffic engineering, transportation planning, highway safety, public transportation, and transportation systems management.

Management responsibilities are to identify and pursue research opportunities, locate and recommend staff, monitor research activities to meet budget and project objectives, develop overall program funding, provide an annual staff review (15 personnel), supervise preparation of proposals, develop writing and communication skills of the program staff, review and allocate work, coordinate equipment and staffing needs, recommend and approve pertinent expenditures for annual budget of approximately \$600,000.

### 1976-1982

\* Assistant Research Engineer

Conducted research, prepared proposals, and provided project supervision on research activities. Responsible for final report preparation and presentation. Research areas included traffic engineering, transportation planning, public transportation and evaluation planning.

### 1972-1976

\* Traffic Engineer

City of Ann Arbor Department of Streets, Traffic and Parking Ann Arbor, Michigan

Responsible to Director of Streets, Traffic and Parking, Ann Arbor, Michigan. Responsible supervisory and professional traffic engineering work in directing the traffic engineering function of the department. Work involved responsibility for the application of professional engineering skill and knowledge to difficult traffic engineering problems in traffic regulation and control, street use, street lighting, geometrics, parking, school safety, curb cuts, and related traffic engineering activities. Was directly responsible for the supervision of the traffic signal and traffic sign maintenance personnel.

# 1971-1972

\* Transportation Planning Engineer

City of Ann Arbor
Traffic Engineering and
Transportation Department
Ann Arbor, Michigan

Responsible to Director of Traffic Engineering and Transportation, Ann Arbor, Michigan. Reviewed transportation aspects of all plans for development in the city. Staff member to the Ann Arbor Transportation Authority responsible for budget and union negotiations. Staff Coordinator for the planning, design, implementation, and operation of the Dial-A-Ride demand-responsive demonstration project.

### 1970-1971

\* Research Assistant

Joint Highway Research Project Purdue University West Lafayette, Indiana

Conducted research concerning high-way related grade crossings. Designed attitudinal questionnaire concerning public transportation for a home interview survey in Lafayette, Indiana. Also analyzed survey results for inclusion in a report on public transportation in Lafayette, Indiana

### SOCIETY MEMBERSHIP:

Transportation Research Board
Institute of Transportation Engineers
American Society of Civil Engineers
American Society for Engineering Education

### HUNUR SOCIETIES

thi Epsilon

## CURRENT COMMITTEE MEMBERSHIP

Chairman, Institute of Traffic Engineers, Texas Section, Committee on Continuing Education

Member, Transportation Research Board, Committee on Intercity Bus
Transportation

#### PUBLIC SERVICE

Member, Wellborn Community Center, Board of Directors

# CUNTINUING EDUCATION/PROFESSIONAL DEVELOPMENT

Association of Oil Pipelines, Educators Tour, July 1984
The University of Michigan, Bureau of Industrial Relations, Graduate
School of Business Administration, Principles of Effective Supervisory
Management

U.S. Department of Transportation Federal Highway Administration, Digital Computer-Urban Traffic Control/Bus Priority System (UTCS/BPS) Course.

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# CURRENT RESEARCH

"Cost-Effectiveness Analysis for Ranking New Interchanges and Highway Railroad Grade Separations", Texas State Department of Highways and Public Transportation

"Automated Transit Ridership Data Collection", Texas State Department of

Highways and Public Transportation.

"Computerized Dispatch Aids for Small Public Transportation Providers", Texas State Department of Highways and Public Transportation.

"Safety and Operational Evaluation of Shoulders on Urban Freeways,"
Texas State Department of Highways and Public Transportation.

"Traffic Engineering/Transportation Planning Relative to Evacuation-Time

Estimates", Battelle Pacific Northwest Laboratories.

"Evaluation of Transportation Analysis Techniques Used for Estimating Evacuation Timer at Nuclear Power Plant Sites", Battelle Pacific Northwest Laboratories.

### PUBLICATIONS AND PAPERS

### Traffic Engineering

Understanding Forced Flow, ITE Journal, Institute of Transportation

Engineers, Washington, D.C., October 1986.

Safety and Operational Evaluation of Shoulders on Urban Freeways, With Carlos R. Bonilla, Texas State Department of Highways and Public Transportation, Research Report Number 395-1, Austin, Texas, August 1986.

The Effectiveness of Using Freeway Shoulders for Traffic, With Wes Lum, District 6-District 7 Joint Annual Meeting, Institute of

Transportation Engineers, Vancouver, B.C., Canada, July 1986.

Effects of Shoulder Reductions on Highway Safety, With Wes Lum, American Society of Civil Engineers, Specialty Conference on Effectiveness of Highway Safety Improvements, Nashville, Tennessee, March 1986.

Speed/Volume Relationships on Texas Highways, State Department of Highways and Public Transportation, Research Report 327-2F, Austin,

Texas, Uctober 1983.

Priority Treatment of Buses at Traffic Signals, Transportation

Engineering, November 1977.

Priority Treatment of High-Occupancy Vehicles on Arterial Streets. State Department of Highways and Public Transportation, Report 205-5, 1977.

Evaluation of Alternative Concepts for Priority Use of Urban Freeways in Texas, State Department of Highways and Public Transportation, Report 205-1, 1977.

Driver Information Systems for Highway-Railway Grade Crossings, with K.W. Heathington, Highway Research Record Number 414, 1972.

### Evacuation Planning

Iransportation Analysis for Evacuation: State-of-the-Art, ITE Journal, Institute of Transportation Engineers, Washington, D.C., March 1986.

An Independent Assessment of Evacuation Times For a Peak Population Scenario in the Emergency Planning Zone of the Seabrook Nuclear Power Station, with others, U.S. Nuclear Regulatory Commission, NUREG/CR-2903, 1982.

CLEAR (Calculates Logical Evacuation And Response), A Generic Transportation Network Model for the Calculation of Evacuation Times Estimates, with others, U.S. Nuclear Regulatory Commis-sion, NUREG/CR-

2504 October 1981.

Analysis of Techniques for Estimating Evacuation Times for Emergency Planning Zones, with others, U.S. Nuclear Regulatory Commission NUREG/CR-1745, 1980.

Analysis of Evaucation Times Around 52 Nuclear Power Plant Sites, with others, U.S. Nuclear Regulatory Commission, NUREG/CR-1856 Volume 1, 1980.

Texas Hurricane Lacuation Study, The Coastal and Marine Council, 1978.

### Public Transportation

Analysis of Rural Public Transportation in Texas, with others, State Department of Highways and Public Transportation, Technical Report 1069-1F, August 1982.

Intercity Bus Riders in Texas, Transportation Research Record 887, 1982. The Intercity Bus Industry in the U.S. and Texas, with others, State Department of Highways and Public Transportation, Technical Report 0965-1F, 1981. Bryan-College Station Energy Contingency Study, Metropolitan Planning Organization of Bryan-College Station, 1980.

Bryan-College Station Transit Improvement Plan, with others, Metro-

politan Planning Organization, 1979.

Ann Arbor Dial-A-Ride Project Final Report, Ann Arbor Transportation Authority, 1973.

Ann Arbor Dial-A-Ride Operations, Highway Research Board Special Report 136, 1973.

The Greater Lafayette Area Bus Transit Study, with others, Joint Highway Research Project, Purdue University, 1971.

### Elderly and Handicapped Transportation

Guidelines for Evaluation of Human Services Transportation Programs, with others, State Department of Highways and Public Transportation, Report 1065-2F, 1981.

Evaluation of Selected Human Services Transportation Providers, with Diane Bullard, State Department of Highways and Public

Transportation, 1980.

Cost-Effectiveness of Accessible Fixed-Route Buses in Texas, with Jose Soegard, Technical Report 1061-1F, 1979.

Transportation of the Elderly and Handicapped in Texas: A Case Study, with Jose A. Soegard, State Department of Highways and Public Transportation, Technical Report 1056-2F, 1979.

Total Accessibility Versus Equivalent Mobility of the Handicapped.
Institute of Transportation Engineers, Compendium of Technical

Papers, 49th Annual Meeting, 1979.

Survey of Vehicles and Equipment for Elderly and Handicapped Transportation. State Department of Highways and Public Transpor-tation, Technical Report 1056-1, 1978.

Corpus Christi Elderly and Handicapped Transportation Study, with R.W.

Holder, City of Corpus Christi, Texas, 1978.

### PRESENTATIONS

Presentation entitled Shoulder Reductions on Urban Freeway, ASCE Specialty Conference, "Shaping the Future of American Highways", San Diego, CA, April 15-17, 1985.

Presented seminar on transportation analysis at Emergency Preparedness Plans and Programs Workshop Battelle Pacific Northwest Laboratories.

Williamsburg, VA.

Presentation on Evacuation, Transportation, and Traffic Control, National Emergency Training Center, Emergency Management Institute Evacuation Planning and Response Actions Simulation Course, Emmitsburg, Maryland, July 8-12, 1985.

### EXTENSION:

Texas Engineering Extension Service, Instructor on various courses including basic traffic engineering, geometric design of highways and highway capacity.

University of California at Berkely, Institute of Transportation Studies, Extension Programs, Guest Lecturer, highway capacity courses presented to California Department of Transportation.

### EXPERT WITNESS

Presented expert testimony before the Atomic Safety and Licensing Board, U.S. Nuclear Regulatory Commission, concerning evacuation times at several nuclear power plant sites including Three-Mile Island, Diablo Canyon, Indian Point, Seabrook and Shoreham.

### UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION

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In the Matter of	)
	) Docket Nos. 50-443 OL
PUBLIC SERVICE COMPANY OF	) 50-444 OL
NEW HAMPSHIRE, et al.	) Off-site Emergency Planning
(Seabrook Station, Units 1 and 2)	)

# AFFIDAVIT OF DONALD J. PERROTTI

I, Donald J. Perrotti, being duly sworn, hereby state that I am employed as Emergency Preparedness Specialist, Emergency Preparedness Branch, Division of Radiation Protection and Emergency Preparedness, in the Office of Nuclear Reactor Regulation, Nuclear Regulatory Commission. A statement of my professional qualifications is attached.

The information reflected in the Staff's responses to supplemental interrogatories S-1 and S-2, contained in the "NRC Staff Response to Town of Hampton Supplemental Interrogatories and Request for Documents to the NRC on the New Hampshire Radiological Emergency Response Plans" attached hereto, is true and correct to the best of my knowledge, information and belief.

Donald J. Perrotti

Subscribed and sworn to before me this 4th day of June, 1987

Notary Public

My Commission expires: 7/1/90

# DONALD J. PERROTTI OFFICE OF NUCLEAR REACTOR REGULATION STATEMENT OF PROFESSIONAL QUALIFICATIONS

I am employed as an Emergency Preparedness Specialist in the Emergency Preparedness Branch, Division of Radiation Protection and Emergency Preparedness, Office of Nuclear Regulation, U.S. Nuclear Regulatory Commission. I have responsibility for the review and evaluation of radiological emergency plans submitted by reactor applicants and licensees to assure that proposed plans meet the regulatory requirements and guidance of the Commission. I also function as a Team Leader and Team Member on Emergency Preparedness Appraisal Teams engaged in the onsite inspection of the implementation phase of licensee emergency programs. I observe nuclear power plant emergency drills and exercises involving State and local government response agencies and participate in interagency critiques. I served as the staff's expert witness for onsite emergency planning during the evidentiary hearings for the Waterford 3 and Perry 1 operating licenses and for the Clinch River Breeder Reactor construction permit.

From December 1976 to October 1980 I was employed at the NRC's Region II Office of Inspection and Enforcement in Atlanta, Georgia. was the lead inspector for Region II emergency planning inspections at nuclear power reactors and fuel facilities. My responsibilities included planning, conducting and documenting inspections of licensees' emergency plans and procedures, emergency facilities and equipment, emergency training, tests and drills, and coordination with offsite support agencies. From April 1977 to August 1978, I assisted my immediate supervisory who served as Chairman of the Federal Regional Advisory Committee (RAC) in the review of State Radiological Emergency Plans. During October 1978 I assisted in the review and approval of emergency plans for two nuclear fuel facilities. During the period of March - August, 1979, I participated in the Commission's coverage of environmental monitoring programs at Three Mile Island, where I served as Emergency Monitoring Team Leader; in that capacity, I was responsible for coordination with State and Federal agencies engaged in measurement and evaluation of environmental radioactivity levels in the vicinity of the TMI nuclear plant.

From 1973 to 1976, I was employed at Florida Power and Light Company's Turkey Point Nuclear Power Plant, as Health Physics instructor. My duties included radiation safety training of plant personnel (general employees and technicians), special project reports such as providing background material for management comment on proposed changes to the Code of Federal Regulations, and maintaining radiation exposure records for plant personnel.

From 1953 to 1973, I served in the United States Army. As a member of the U.S. Army Engineer Reactors Group during the period 1961 - 1973, I performed a variety of jobs with varying degrees of responsibility as rank and experience were gained. Among my more responsible jobs were shift health physics technician at the PM-3A Naval

nuclear power plant in McMurdo, Antarctica (1965-1966), Senior Health Physics/Process Chemistry instructor at Ft. Belvoir, Virginia (1966-1972), and Project Officer for the SM-1 Army nuclear power plant (1972-1973).

I received an Associate of Arts Degree from the New York State Regents, Albany, NY, in 1973. In addition, I attended Army service schools including Special Nuclear Weapons Disposal and the 52-week Nuclear Power Plant Operators course. I have completed the following U.S. Public Health Service courses:

Basic Radiological Health
Radionuclide Analysis by Gamma Spectroscopy
Environmental Radiation Surveillance
Analysis of Radionuclides in Water
Occupational Radiation Protection
Chemical Analysis for Water Quality
Statistical Methods - Quality Control in the Laboratory
Operational Aspects of Radiation Surveillance
Reactor Hazards Evaluation

I attended the "Radiological Emergency Response Operations" course at the Nevada Test Site, the "Planning for Nuclear Emergencies" course at Harvard University, and the "Advanced Management Radiation Accidents" course at the University of New Mexico School of Medicine.

I have successfully completed at NRC's Pressurized Water Reactor Technology Boiling Water Reactor Technology Probability Risk Assessment (PRA) Fundamentals, PRA Perspective for Emergency Planning and Response and PRA for Inspection Application courses.

I am and have been a member of the Health Physics Society since 1974.

### UNITED STATES OF AMERICA NUCLEAR REGULATORY COMMISSION '87 JUN'-5 P4:00

# BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

In the Matter of	)
	) Docket Nos. 50-443 OL
PUPLIC SERVICE COMPANY OF	) 50-444 OL
NEW HAMPSHIRE, et al.	) Off-site Emergency Planning
(Seabrook Station, Units 1 and 2)	j

### CERTIFICATE OF SERVICE

I hereby certify that copies of "NRC STAFF RESPONSE TO TOWN OF HAMPTON SUPPLEMENTAL INTERROGATORIES AND REQUEST FOR DOCUMENTS TO THE NRC ON THE NEW HAMPSHIRE RADIOLOGICAL RESPONSE PLANS" in the above-captioned proceeding have been served on the following by deposit in the United States mail, first class or, as indicated by an asterisk, by deposit in the Nuclear Regulatory Commission's internal mail system, or as indicated by double asterisk, by express mail, this 4th day of June, 1987.

Helen Hoyt, Esq., Chairman\* Administrative Judge Atomic Safety and Licensing Board U.S. Nuclear Regulatory Commission Washington, DC 20555

Dr. Jerry Harbour\*
Administrative Judge
Atomic Safety and Licensing Board
U.S. Nuclear Regulatory Commission
Washington, DC 20555

Beverly Hollingworth 209 Winnacunnet Road Hampton, NH 03842

Sandra Gavutis, Chairman Board of Selectmen RFD 1 Box 1154 Kensington, NH 03827 Gustave A. Linenberger, Jr.\* Administrative Judge Atomic Safety and Licensing Board U.S. Nuclear Regulatory Commission Washington, DC 20555

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Concord, NH 03301

Angie Machiros, Chairman Board of Selectmen 25 High Road Newbury, MA 09150

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Federal Emergency Management Agency
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Boston, MA 02109

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Assistant General Counsel
Federal Emergency Management Agency
500 C Street, SW
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Atomic Safety and Licensing Appeal Panel\* U.S. Nuclear Regulatory Commission Washington, DC 20555 Paul McEachern, Esq.\*\*
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25 Maplewood Avenue
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Portsmouth, NH 03801

Roberta C. Pevear State Representative Town of Hampton Falls Drinkwater Road Hampton Falls, NH 03844

Mr. Robert J. Harrison President and Chief Executive Officer Public Service Co. of New Hampshire P.O. Box 330 Manchester, NH 03105

Robert A. Backus, Esq.\*\* Backus, Meyer & Solomon 116 Lowell Street Manchester, NH 03106

Philip Ahren, Esq. Assistant Attorney General Office of the Attorney General State House Station #6 Augusta, ME 04333

Thomas G. Dignan Jr., Esq.\*\*
Ropes & Gray
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Boston, MA 02110

William Armstrong Civil Defense Director Town of Exeter 10 Front Street Exeter, NH 03833

Atomic Safety and Licensing Board\* U.S. Nuclear Regulatory Commission Washington, DC 20555 Jane Doughty
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Portsmouth, NH 03801

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Mr. Robert Carrigg, Chairman Board of Selectmen Town Office Atlantic Avenue North Hampton, NH 03862

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Mrs. Anne E. Goodman, Chairman Board of Selectmen 13-15 Newmarket Road Durham, NH 03824

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Honorable Gordon J. Humphrey United States Senate 531 Hart Senate Office Building Washington, DC 20510

Elaine I. Chan

Counsel for NRC Staff