

SHAW, PITTMAN, POTTS & TROWBRIDGE

A PARTNERSHIP OF PROFESSIONAL CORPORATIONS

1800 M STREET, N. W.
WASHINGTON, D. C. 20036

December 27, 1983

JAY E. SILBERG, P.C.

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Sheldon J. Wolfe, Chairman
Atomic Safety and Licensing
Board Panel
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dr. George C. Anderson
Department of Oceanography
University of Washington
Seattle, Washington 98195

Dr. Hugh C. Paxton
1229 - 41st Street
Los Alamos, New Mexico 87544

Re: Kansas Gas and Electric Company, et al.
(Wolf Creek Generating Station, Unit No. 1)
Docket No. STN 50-482

Gentlemen:

Pursuant to the schedule established by the Licensing Board in its Prehearing Conference Order dated March 18, 1983, Applicants hereby submit their direct testimony on the emergency evacuation plan issues admitted as contentions in this proceeding. The testimony will be presented by the following witnesses:

1. Norman Bowers, County Engineer, Coffey County;
2. Earl B. Freeman, Sheriff, Coffey County;
3. Joseph W. Fritz, County Appraiser and Shelter Systems Officer, Coffey County;
4. Ray Lewis, Manager, Radiological and Environmental Assessment, KG&E;
5. Leon H. Mannell, P.E., Radiological Systems Administrator, Kansas Division of Emergency Preparedness;

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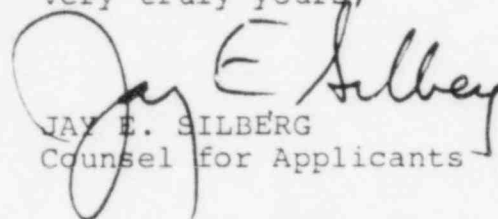
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6. Dr. Dennis S. Milet, Associate Professor, Colorado State University;
7. Susan Mueller, County Health Nurse and Assistant Health and Medical Management Team Leader, Coffey County;
8. Robert Naylor, Radiological Defense Officer, Coffey County;
9. Jack E. Scott, County Clerk and Public Information Officer, Coffey County;
10. Michael Stern, Phoenix Power Services, Inc.;
11. Jack W. Swing, Wyle Laboratories; and
12. Carroll M. Wilcox, Emergency Preparedness Coordinator, Coffey County.

Statements of professional qualifications for all non-County witnesses are also enclosed.

Very truly yours,


JAY E. SILBERG
Counsel for Applicants

Enclosures
cc: Service List
JES:lam

PROFESSIONAL QUALIFICATIONS

OF

MICHAEL E. STERN

GENERAL

Mr. Stern has developed evacuation time estimate analyses for two operating reactor sites and one pre-operational site. Mr. Stern has been responsible for the development of a facility emergency plan for an operating nuclear plant. Mr. Stern has provided technical assistance in emergency planning to Kansas Gas & Electric for the past three years.

EXPERIENCE

Phoenix Power Services Inc. Vice President 1981 - Present
McLean, Virginia

Provide technical consulting and engineering services to utility clients with operating nuclear facilities or with applications for operating licenses pending before the NRC. Provide technical support in rate-making hearings, plant operations, radiation protection, licensing, and emergency planning for utility clients.

Currently serving as Technical Advisor to the Executive Vice President and Nuclear Department of an operating nuclear utility. This activity entails review of every aspect of nuclear station operations, including but not limited to organization, management policy and practices, process control (design changes), operational quality assurance, regulatory interfaces and reporting, waste management, radiation protection, system and component design, and technical specifications. Also serving as member of the Nuclear Safety Review Committee.

Nutech Chief Consultant 1980 - 1981
Bethesda, MD

Provided technical guidance and direction to engineering staff offering a variety of technical and management consulting services to utility clients.

Professional Qualifications
Michael E. Stern
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Wisconsin Public Superintendent 1970 - 1980
Service Corporation Nuclear Licensing/Systems

Responsible for technical supervision of licensing and engineering activities for the Kewaunee Nuclear Power Plant. Responsible for all internal technical support for the nuclear steam supply system for the Kewaunee Plant. Chairman of the Nuclear Safety Review Committee. Responsible for technical contact with the NRC staff. Active in various Westinghouse Owners' Group; chaired Westinghouse Owners' Group on Regulatory Guide 1.97.

As Director of the Startup Test Program for the Kewaunee Plant, was responsible to develop, direct and implement all technical activities necessary to accomplish all evolutions from prior to core loading to final acceptance of the unit and commercial operation. Prepared system performance acceptance criteria, developed test procedures, and organized and directed the overall test program.

The President's Commission Technical Summer, 1979
on the Accident at Consultant
Three Mile Island
Washington, D.C.

Consultant to the Commission responsible for definition and evaluation of technical factors contributing to the accident. Developed technical recommendations aimed at minimizing the potential for recurrence. Reviewed and evaluated NRC licensing procedures, NSSS vendor and A/E design methods and procedures, and utility operating procedures and management structure.

Babcock and Wilcox Nuclear Engineer 1968 - 1970
Lynchburg, Virginia

Developed experimental methods for accurate measurement of response of incore neutron detectors for commercial applications. Completed a variety of other experiments relative to neutron and gamma radiation detection and calibration techniques.

Lead instructor, Babcock and Wilcox reactor operations courses.

EDUCATION

BS, Nuclear Engineering University of Wisconsin 1968

Professional Qualifications
Michael E. Stern
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PROFESSIONAL ACCREDITATION

Registered Professional Engineer, States of Virginia, South Carolina and Wisconsin

Have held SRO License on Babcock and Wilcox research/test facilities.

Member, American Nuclear Society

PROFESSIONAL QUALIFICATIONS

DENNIS S. MILETI

Associate Professor

Department of Sociology

COLORADO STATE UNIVERSITY

My name is Dennis S. Miletì and my business address is Department of Sociology, Colorado State University, Fort Collins, Colorado 80523. I am presently a tenured Associate Professor at Colorado State specializing in those areas of study dealing with complex organizations, hazards, policy and methods. I have held this position since 1978. Prior to this appointment, from 1974 to 1978, I held the position of Assistant Professor. I was also an Instructor for one year in the Department of Sociology at the University of Colorado, Boulder, from 1971 to 1972. I have taught numerous undergraduate courses, including Introduction to Sociology, Complex Organizations, Sociology of Natural Hazards, Research Methods, Demographic Process, and Social Change. In addition, I have taught courses at the graduate level such as Advanced Quantitative Analysis, Research Methods I and II, Demography and Population, and Complex Organizations.

I received my Bachelor of Arts degree in Sociology in 1968 from the University of California, Los Angeles. In 1971 I was awarded a Master of Arts degree in Sociology from California State University, Los Angeles. I completed my doctorate degree in Sociology in 1974 at the University of Colorado, Boulder.

In 1975 I was appointed Visiting Assistant Professor at the University of Southern California Graduate School of Public Administration. During this year I offered an Intensive Seminar Program sponsored by the University. From 1978 to 1979 I was an Invited Instructor for the Chautaugua Short Course Program sponsored by the American Association for the Advancement of Science. In 1981 I was appointed Policy Analyst for the Seismic Safety Commission by the State of California. During the year I served this appointment I was on leave from my university duties.

I am a member of the American Sociological Association; the International Sociological Association; the Pacific Sociological Association; the Midwest Sociological Society; the American Association for the Advancement of Science; the Earthquake Engineering Research Institute; the New York Academy of Sciences; and the American Association for the Advancement of Science. In addition, I have been a member of several committees since 1976, including:

1983-date	Front Range Consortium on Natural Hazards Studies, Colorado State University, University of Colorado, University of Denver.
1983-date	International Sociological Association, Research Committee on Disasters.
1982-1983	Pacific Sociological Association, Nominations Committee for the Standing Committees for 1983.
1982-date	Earthquake Engineering Research Institute, Chair, Committee on Social Science Research, Berkeley.

In 1975 I was appointed Visiting Assistant Professor at the University of Southern California Graduate School of Public Administration. During this year I offered an Intensive Seminar Program sponsored by the University. From 1978 to 1979 I was an Invited Instructor for the Chautaugua Short Course Program sponsored by the American Association for the Advancement of Science. In 1981 I was appointed Policy Analyst for the Seismic Safety Commission by the State of California. During the year I served this appointment I was on leave from my university duties.

I am a member of the American Sociological Association; the International Sociological Association; the Pacific Sociological Association; the Midwest Sociological Society; the American Association for the Advancement of Science; the Earthquake Engineering Research Institute; the New York Academy of Sciences; and the American Association for the Advancement of Science. In addition, I have been a member of several committees since 1976, including:

1983-date	Front Range Consortium on Natural Hazards Studies, Colorado State University, University of Colorado, University of Denver.
1983-date	International Sociological Association, Research Committee on Disasters.
1982-1983	Pacific Sociological Association, Nominations Committee for the Standing Committees for 1983.
1982-date	Earthquake Engineering Research Institute, Chair, Committee on Social Science Research, Berkeley.

1981-1983	U.S. Geological Survey, Advisory Panel on the Earthquake Studies Program, U.S. Department of the Interior.
1981-1982	Pacific Sociological Association, Program Committee for the 1982 Annual Meetings in San Diego.
1981-1982	Governor's Emergency Task Force on Earthquakes, Threat Assessment Committee, State of California, Sacramento.
1981-1982	Governor's Emergency Task Force on Earthquakes, Disaster Reconstruction Committee, State of California, Sacramento.
1980-1981	Governor's Science and Technology Advisory Council, Committee on Uranium Mill Tailing Relocation. State of Colorado, Denver.
1979-year	American Association for the Advancement of Science, Committee on Intergovernmental Research and Development on Fire Safety and Disaster Preparedness, Washington, D.C.
1976-78	National Academy of Sciences, National Research Council, Commission on Sociotechnical Systems, Committee on Socioeconomic Effects of Earthquake Prediction, Washington, D.C.

The following comprises a current 1982-83 listing of my professional and academic publications to date:

PUBLICATIONS

Books and Monographs: Discipline Focus

Mileti, Dennis S., John Schneider and Stan Eitzen
1984 Graduate Research Methods in the Social Sciences. (in progress).

Gillespie, David F., and Dennis S. Mileti
1979 Technostructures and Interorganizational Relations.
Lexington, Massachusetts: Lexington Books.

Gillespie, David F., Dennis S. Mileti and Ronald Perry
1976 Organizational Response to Changing Community
Systems. Kent, Ohio: Kent State University Press.

Monographs: Applied Focus

Mileti, Dennis S., Janice Hutton and John Sorensen
1981 Earthquake Prediction Response and Options for Public
Policy. Boulder: Institute of Behavioral Science,
Monograph 28.

Hutton, Janice, and Dennis S. Mileti
1979 Analysis of Adoption and Implementation of Community
Land Use Regulations for Floodplains. San Francisco:
Woodward-Clyde.

Mileti, Dennis S., Thomas E. Drabek and J. Eugene Haas
1975 Human Systems in Extreme Environments: A Sociological
Perspective. Boulder: Institute of Behavioral Sci-
ence, Monograph: 21.

Mileti, Dennis S.
1975 Natural Hazard Warning Systems in the United States.
Boulder: Institute of Behavioral Science, Monograph
12. Portions reprinted in Joseph Perry and Meredith
Pugh, Collective Behavior: Response to Stress, 1978.

Chapters: Discipline Focus

Mileti, Dennis S.
1982 "A bibliography for graduate research methods." Pp.
249-255 in Russel Schutt, Alan Orenstein and Theodore
C. Wagenaar (Eds.). Research Methods Courses:
Syllabi, Assignments and Projects. Washington, D.C.:
American Sociological Association.

Chapters: Applied Focus

Mileti, Dennis S.
1981 "Planning initiatives for seismic hazard mitigation."
Pp. 44-53 in J. Isenberg (Ed.). Social and Economic

Impact of Earthquakes on Utility Lifelines. New York: American Society of Civil Engineers.

- Hutton, Janice, John Sorensen and Dennis S. Mileti
1981 "Earthquake prediction and public reaction." Pp. 129-166 in T. Rikitake (Ed.). Current Research in Earthquake Prediction. Boston: Reidel Publishing Company, Tokyo: Center for Academic Publications.

Journal Articles: Discipline Focus

- Mileti, Dennis S.
1982 "Structure and process in the implementation of public policy," Political Science Review 21: (1): 1-34.
- Mileti, Dennis S.
1982 "A review of research on public policy adoption," Public Administration Review: accepted and forthcoming.
- Mileti, Dennis S., Doug Timmer and David F. Gillespie
1982 "Intra and interorganizational determinants of decentralization," Pacific Sociological Review 25(2): 163-183.
- Mileti, Dennis S., David F. Gillespie and Stan Eitzen
1981 "The multidimensionality of organizational size," Sociology and Social Research 65(4): 400-414.
- Gillespie, David F., and Dennis S. Mileti
1981 "Heterogeneous samples in organizational research," Sociological Methods and Research 9(3): 375-388.
- Mileti, Dennis S.
1980 "Human adjustment to the risk of environmental extremes," Sociology and Social Research 64(3): 327-347.
- Gillespie, David F., and Dennis S. Mileti
1980 "Determinants of planning in organizations," Administrative Science Review 10(3): 21-32.
- Mileti, Dennis S., and David F. Gillespie
1980 "Organizational and technological interdependencies," Journal of Contemporary Sociology 17(3-4): 132-158.
- Gillespie David F., Ronald Perry and Dennis S. Mileti
1980 "Stress and transformation," Journal of Social Research 21(2): 139-147.

- Mileti, Dennis S., David F. Gillespie and Stan Eitzen
1979 "Structure and decision making in corporate organizations," Sociology and Social Research 63(4): 723-744.
- Gillespie, David F., and Dennis S. Mileti
1979 "Action and contingency postulates in organization-environment relations," Human Relations 32(3): 261-271.
- Mileti, Dennis S., David F. Gillespie and Elizabeth Morrissey
1978 "Technology and organizations: methodological deficiencies and lacunae," Technology and Culture 19(1): 83-92.
- Gillespie, David F., and Dennis S. Mileti
1978 "Organizational technology and environment adaptation-manipulation," Scottish Journal of Sociology 2(2): 205-219.
- Mileti, Dennis S., David F. Gillespie and J. Eugene Haas
1977 "Size and structure in complex organizations," Social Forces 56(1): 208-217.
- Gillespie, David F., and Dennis S. Mileti
1977 "Technology and the study of organizations: an overview and appraisal," Academy of Management Review 2(1): 6-19. Reprinted in Readings on How Managers Manage. Englewood Cliffs, New Jersey: Prentice Hall, 1982.
- Mileti, Dennis S., and David F. Gillespie
1976 "An integrated formalization of organization-environment interdependencies," Human Relations 29(1): 80-100.
- Gillespie, David F., and Dennis S. Mileti
1976 "Organizational adaptations to changing cultural contingencies," Sociological Inquiry. 46(2): 135-141.
- Gillespie, David F., Roy Lotz, Dennis S. Mileti and Ronald Perry
1976 "Historical and paradigmatic differences in the use of the goal concept," International Review of History and Political Science 8(30): 1-14.
- Gillespie, David F., and Dennis S. Mileti
1976 "A refined model of differentiation in organizations," Sociology and Social Research 60(3): 263-278.

- Perry, Ronald, David F. Gillespie, Roy Lotz and Dennis S. Mileti
1976 "Attitudinal variables as estimates of behavior," European Journal of Social Psychology 6(1): 74-90.
- Mileti, Dennis S., and Elwood M. Beck
1975 "Explaining evacuation symbolically: communication in crisis," Communication Research 2(1): 24-49.
- Gillespie, David F., Ronald Perry, Dennis S. Mileti and Roy Lotz
1975 "Organizational tensions and decentralization: the interactive effect on member commitment," International Journal of Group Tensions 5(2): 26-37.
- Perry, Ronald, David F. Gillespie and Dennis S. Mileti
1974 "Collective stress and community transformation," Human Relations 27(8): 767-788.
- Mileti, Dennis S.
1974 "Change ratios in age-specific percent contributions to fertility: a new method with applications to the United States," Pacific Sociological Review 17(1): 3-26. First Prize, student paper competition, Pacific Sociological Association, 1974.
- Mileti, Dennis S., and David F. Gillespie
1974 "An integrative approach to the study of organizational technology, structure and behavior," Current Sociology 23(1): 189-200.
- Gillespie, David F., and Dennis S. Mileti
1974 "System stress and the persistence of emergent organizations," Sociological Inquiry 44(2): 111-119.
- Mileti, Dennis S., and Larry Barnett
1972 "Nine demographic factors and their relationship toward abortion legalization," Social Biology 19(2): 43-50.
- Journal Rejoinders and Comments: Discipline Focus
- Gillespie, David F., and Dennis S. Mileti
1982 "Differentiation in organizations: a comment on Miller and Conaty," Social Forces 60(4): 1172-1175.
- Mileti, Dennis S., Ronald Perry and David F. Gillespie
1975 "The analytical use of case study materials in the study of organizations: a rejoinder to Griffin and Griffin," Sociological Inquiry 45(4): 72-50.

Journal Articles. Applied Focus

Mileti, Dennis S.

1983 "Societal comparisons of organizational response to earthquake prediction: Japan versus the United States," Mass Emergencies and Disasters 1(3): accepted and forthcoming.

Mileti, Dennis S.

1982 "Public perceptions of seismic hazards and critical facilities," Bulletin of the Seismological Society of America 72(6): 13-18.

Haas, J. Eugene, and Dennis S. Mileti

1977 "Socioeconomic and political consequences of earthquake prediction," Journal of the Physical Earth 25(4): 283-293. Revised and reprinted in California Geology 30(7): 147-157, 1977; and San Francisco 20(4): 60-68, 1978.

Haas, J. Eugene, and Dennis S. Mileti

1976 "Earthquake prediction and other adjustments to earthquakes," Bulletin of the New Zealand Society for Earthquake Engineering 9(4): 183-194.

Journal Rejoinders and Comments: Applied Focus

Mileti, Dennis S.

1976 "Social scientists and applied research," The American Sociologist 11(4): 220-221.

Other Published Comments: Applied Focus

Mileti, Dennis S.

1983 "Disasterous warnings," Omni (March): 24, 44, 152.

Mileti, Dennis S.

1982 "Hazards reduction work: the next era," Natural Hazards Observer 6(4): 1-2. Reprinted in Earthquake Information Bulletin 14(2): 60, 1982.

Mileti, Dennis S.

1979 "Sociological aspects of earthquake prediction," Earthquake Information Bulletin 11(3): 102-105.

- Mileti, Dennis S., and Patricia Harvey
1978 "Correcting for the human factor in tornado warnings," Disaster Preparedness 2(February): 5-9, 1978.
- Haas, J. Eugene, and Dennis S. Mileti
1977 "Earthquake prediction response," Time (January 24): 83.
- Haas, J. Eugene, Thomas Drabek and Dennis S. Mileti
1976 "Individual and organizational response to threat," Mass Emergencies 1(4): 247.
- Mileti, Dennis S.
1974 "Response to research and national needs," Footnotes 2 (October) 6.

Technical Reports: Applied Focus

- Mileti, Dennis S.,
1983 Human Response Scenarios: Law Enforcement Applications and Media Implications. Sacramento: California Division of Mines and Geology.
- Task Force on Learning from Earthquakes
1983 Lessons Learned from Recent Earthquakes. Berkeley: Earthquake Engineering Research Institute. (in progress).
- Review Panel of the National Earthquake Hazards Reduction Plan
1983 National Earthquake Hazards Reduction Program: Five Year Program Plan. Washington, D.C.: Federal Emergency Management Agency. (in progress).
- Mileti, Dennis S.
1982 Organizational Behavior and Interorganizational Relations: Implications for Nuclear Power Plant Emergencies and Preparedness. Oak Ridge, Tennessee: Oak Ridge National Laboratories.
- Mileti, Dennis S., Donald M. Hartsough and Patti Madson
1982 The Three Mile Island Incident: A study of Behavioral Indicators of Human Stress. Washington, D.C.: Shaw, Pittman, Potts and Trowbridge.
- Mileti, Dennis S., and Arthur Svenson
1981 Earthquake Prediction-Warning Response for Emergency Organizations to the Prediction Terminology. Van Nuys: Southern California Earthquake Preparedness Project.

- Santopolo, Frank, and Dennis S. Milet
1980 Impacts of Population Growth in Agricultural Colorado Communities. Fort Collins: Colorado State University Experiment Station Bulletin.
- Committee on Fire Safety and Disaster Preparedness
1979 Fire Safety and Disaster Preparedness. Washington, D.C.: American Association for the Advancement of Science.
- Committee on Socioeconomic Effects of Earthquake Prediction
1978 A Program of Studies on the Socioeconomic Effects of Earthquake Prediction. Washington, D.C.: National Academy of Sciences-National Research Council.
- Haas, J. Eugene, and Dennis S. Milet
1976 Socioeconomic Impact of Earthquake Prediction on Government, Business and Community. Boulder: Institute of Behavioral Science.
- Milet, Dennis S., and David F. Gillespie
1976 Interorganizational Relations and Community Service Delivery Systems. Boulder: Center for Action Research.
- Erickson, Neil, John Sorensen and Dennis S. Milet
1975 Landslide Hazards in the United States: A Research Assessment. Boulder: Institute of Behavioral Science.
- Milet, Dennis S.
1975 Disaster Relief and Rehabilitation in the United States. Boulder: Institute of Behavioral Science.
- Ayre, Robert, Dennis S. Milet and Patricia Trainer
1975 Earthquake and Tsunami Hazards in the United States: A Research Assessment Boulder: Institute of Behavioral Science.

Book Reviews

- Milet, Dennis S.
1982 "A review of Unequal Care: Interorganizational Relations in Health Care by M. Milner, Jr. New York: Columbia University Press, 1980." Social Forces 60(3): 943-944.

Mileti, Dennis S.

- 1982 "A review of Whistle Blowing: Loyalty and Dissent in the Corporation by Alan Westin (Ed.). New York: McGraw-Hill, 1981." Sociology: A Review of New Books 7(2).

Mileti, Dennis S.

- 1980 "A review of Aftermath: Communities After Natural Disasters by H. Paul Friesema et al. Beverly Hills: Sage Publications, 1979 and After the Clean-up: Long-range Effects of Natural Disasters by James Wright and Peter Rossi et al. Beverly Hills: Sage Publications, 1979." Journal of the American Planning Association. (October): 484-485.

Mileti, Dennis S.

- 1976 "A review of A Sociology of Organizations by J. Eldridge and A. Crombie. New York: International Publications, 1975." Contemporary Sociology 5(6): 784.

PROFESSIONAL PAPERS
AND PRESENTATIONS

Conference Papers

Mileti, Dennis S.,

- 1983 "Social Impact and Use of Earthquake Prediction -- Warnings," Paper presented to the U.S.-Japan seminar on practical approaches to earthquake prediction and warning, Tokyo: November 1983.

Mileti, Dennis S., Donald M. Hartsough, Patti Madson and Rick Hufnagel

- 1983 "The Three Mile Island incident: a study of unobtrusive indicators of human stress," paper presented to the Disasters and Hazards Research Session of the Midwest Sociological Society, Kansas City: April.

Hufnagel, Rick, and Dennis S. Mileti

- 1983 "Organizational and environmental catastrophe: factors affecting organizational response to a predicted earthquake," paper presented to the Disasters and Hazards Research Session of the Western Social Science Association, Albuquerque: April.

- Mileti, Dennis S.
1982 "Earthquake prediction response: cultural comparisons between Japan and the United States," paper presented to the Disaster Research Session of the International Sociological Association, Mexico City: August.
- Mileti, Dennis S.
1982 "Influencing corporate decisions on the use of microzonation information." paper presented to the Third International Conference on Microzonation, Seattle: June.
- Mileti, Dennis S.
1982 "Earthquake prediction and warnings: the human equation," paper presented to the Conference on Hazards Research, Policy Development, and Implementation Incentives: Focus on Urban Earthquakes, Policy Research Center at the University of Redlands, Redlands: June.
- Mileti, Dennis S.
1982 "Public perception of seismic hazards," paper presented to the Seismological Society of America, Anaheim: April.
- Williams, Gary, Frank Santopolo and Dennis S. Mileti
1980 "Perception of growth impacts in energy impacted communities," paper presented to the Rural Sociological Society, Ithaca: August.
- Mileti, Dennis S.
1980 "Planning initiatives for seismic hazard mitigation," paper presented to the Conference on Social and Economic Impacts of Earthquakes on Critical Lifelines of the American Society of Civil Engineer, San Francisco: May.
- Timmer, Doug, and Dennis S. Mileti
1980 "Interorganizational and structural determinants of decision making," paper presented to the Session on Complex Organizations of the Midwest Sociological Society, Milwaukee.
- Williams, Gary, Dennis S. Miti and Frank Santopolo
1980 "Community growth and impacts," paper presented to the Western Social Science Association, Albuquerque: April.
- Mileti, Dennis S.
1980 "Human response to earthquake prediction," paper presented to the Status of Knowledge Session of the Conference on Earthquake Prediction Information, Los Angeles: January.

- Williams, Gary, and Dennis S. Mileti
1979 "Perceptions of growth impacts in non-metropolitan Colorado," paper presented to the Impacts Session of the Conference on Regional Migration Trends, St. Louis: October.
- Mileti, Dennis S., and Gary Williams
1979 "Resident perceptions in growth impacted western agricultural communities," paper presented to the Rural Sociological Society, Vermont: August.
- Gillespie, David F., Dennis S. Mileti and Stan Eitzen
1979 "The epiphenomenality of organizational size," paper presented to the Session on Complex Organizations of the Midwest Sociological Society, Milwaukee: April.
- Mileti, Dennis S., Janice R. Hutton and John Sorensen
1979 "Social factors and response to earthquake prediction," paper presented to the International Symposium on Earthquake Prediction, UNESCO, Paris: April.
- Hutton, Janice, R., Dennis S. Mileti, and John Sorensen
1979 "Factors affecting earthquake warning system effectiveness," paper presented to the International Symposium on Earthquake Prediction, UNESCO, Paris: April.
- Sorensen, John, Janice R. Hutton and Dennis S. Mileti
1979 "Institutional management of risk information following earthquake predictions," paper presented to the International Symposium on Earthquake Prediction, UNESCO, Paris: April.
- Mileti, Dennis S., and Janice Hutton
1978 "Social aspects of earthquakes," paper presented to the State of the Art Session of the Second International Conference on Microzonation, San Francisco: November.
- Mileti, Dennis S., and David F. Gillespie
1978 "Organizational size, complexity and decision making," paper presented to the Organizations Session of the American Sociological Association, San Francisco: September.
- Gillespie, David F., and Dennis S. Mileti
1978 "Corporate size as work," paper presented to the Organization of Work Session of the American Sociological Association, San Francisco: September.

- Mileti, Dennis S., and David F. Gillespie
1978 "Action postulates in organization-environment relations," paper presented to the Organizations-Environment Session of the Midwest Sociological Society, Omaha: April.
- Gillespie David F., and Dennis S. Mileti
1978 "Size and organizational differentiation," paper presented to the Formal and Complex Organizations Session of the Pacific Sociological Association, Spokane: April.
- Mileti, Dennis S., and Patricia Harvey
1977 "Correcting for the human factor in tornado warnings," paper presented to the Conference on Severe Local Storms of the American Meteorological Society, Omaha: October.
- Mileti, Dennis S., and David F. Gillespie
1977 "Organization and environment adaptation-manipulation," paper presented to the Organizational Relations Session of the Amercian Sociological Association, Chicago: September.
- Hutton, Janice R., and Dennis S. Mileti
1977 "The uses and abuses of scenarios in policy research," paper presented to the Social Policy Session of the American Sociological Association, Chicago: September.
- Gillespie, David F., and Dennis S. Mileti
1977 "Organizational growth and managerial efficiency," paper presented to the Social Organization/Formal/Complex Session of the Pacific Sociological Association, Sacramento: April.
- Mileti, Dennis S., and David F. Gillespie
1977 "Organizational manipulation and adaptation to complex environments," paper presented to the Complex Organizations Session of the Midwest Sociological Society, Minneapolis: April.
- Gillespie, David F., Dennis S. Mileti and J. Eugene Haas
1976 "Size and structure in complex organizations," paper presented to the Organizational Change Session of the American Sociological Association, New York City: August.
- Mileti, Dennis S.
1976 "Learning theory and disaster warning response," paper presented to the Issues in Environmental

Analysis Session of the Society for the Study of Social Problems, New York City: August.

Haas, J. Eugene, and Dennis S. Milet

- 1976 "Consequences of earthquake prediction on other adjustments to earthquakes," paper presented to the Australian Academy of Science, Canberra: May.

Milet, Dennis S., and J. Eugene Haas

- 1976 "A methodology for future collective events," paper presented to the Collective Behavior Session of the Midwest Sociological Society, St. Louis: April.

Gillespie, David F., and Dennis S. Milet

- 1976 "Operations technology and organizational structure," paper presented to the Formal Organizations Session of the Midwest Sociological Society, St. Louis: April.

Haas, J. Eugene, and Dennis S. Milet

- 1976 "Assessing the consequences of earthquake prediction" paper presented to the Social Risk Session of the American Association for the Advancement of Science, Boston: February.

Milet, Dennis S., and David F. Gillespie

- 1975 "Technological uncertainty in organization-environment relations," paper: presented to the Formal Organizations Session of the American Sociological Association, San Francisco: August.

Milet, Dennis S., and David F. Gillespie

- 1975 "A resolution of inconsistencies between size, complexity and the administrative component in organizations," paper presented to the Formal Organizations Session of the Midwest Sociological Society, Chicago: April.

Milet, Dennis S., and David F. Gillespie

- 1975 "Technology and the study of organizations," paper presented to the Formal Organizations Session of the Pacific Sociological Association, Victoria: April.

Milet, Dennis S., and David F. Gillespie

- 1975 "An interaction model for organization-environment relations," paper presented to the Interorganizational Relations Session of the Midwest Sociological Society, Omaha: April.

Mileti, Dennis S., and David F. Gillespie

1974 "A formalization of organization-environment dependencies," paper presented to the Formal Organizations Session of the Pacific Sociological Association, San Jose: March.

Farhar, Barbara, and Dennis S. Mileti

1974 "Value and role issues for the involved social scientist," paper presented to the Applied Session of the Pacific Sociological Association, San Jose: March.

Mileti, Dennis S.

1973 "Drowning: a communications disease," paper presented to the Mass Communications and Public Opinion Session of the American Sociological Association, New York City: August.

Mileti, Dennis S., and Sigmund Krane

1973 "Response to impending system stress," paper presented to the What Do We Know Session on Human Behavior in Disaster of the American Sociological Association, New York City: August.

Mileti, Dennis S.

1973 "A paradigm and sociology of knowledge for theories of natural law," paper presented to the Theory Session of the Midwest Sociological Society, Milwaukee: April.

Mileti, Dennis S.

1972 "Response to hazards warnings," paper presented to the Organizational and Community Response to Disaster Seminar at the Disaster Research Center of the Ohio State University, Columbus: July.

Speeches and Guest Lectures

"Human Response to Disasters," American Red Cross, Mile High Chapter Boulder Region, Boulder: October 1983.

"The Use of Earthquake Prediction-Warnings," Colloquium on Earthquake Prediction Research in the United States, Earthquake Research Institute, University of Tokyo: November 1983.

"Public Response to Flood Disasters," Conference on the Need for Team Work in Managing Flood Hazards, Association for State Floodplain Managers, Sacramento: April 1983.

"Integrated Emergency Management: Challenges and Opportunities," Natural Hazards Research Applications Workshop, Boulder: July 1983.

"Natural hazards, disasters and public policy," Environmental Management Institute University of Southern California, Los Angeles: April, 1982.

"Myths of disaster response," Earthquake Planning Conference for Business and Industry, Los Angeles: May, 1982.

"Communicating lessons learned from social science research on earthquakes," Workshop of Identifying and Disseminating Lessons Learned from Recent Earthquakes," Earthquake Engineering Research Institute. Los Altos: December, 1982.

"Social causes of earthquake prediction-warning response: implications for the design of California's warning system and information dissemination," Southern California Earthquake Preparedness Project, Van Nuys: October, 1981.

"Assessment of research on natural hazards: what have we learned and what problems demand further attention," Natural Hazards Research Applications Workshop, Boulder: July, 1981.

"Disaster reconstruction: patterns to guide planning," Governor's Task Force for Earthquake Emergency Preparedness, Committee on Long Range Reconstruction, Sacramento: July, 1981.

"Socio-cultural dimensions of earthquake risk," Governor's Emergency Task Force on Earthquakes, General Assembly, Sacramento: May, 1981.

"Interorganizational relations and service delivery systems," Health Sciences Center, University of Colorado, Denver: October, 1980.

"Social response to earthquake prediction: local policy issues," Southern California Emergency Services Association, Montebello: February, 1980.

"Human response to weather-borne hazards warnings," Department of Atmospheric Sciences, Colorado State University: October, 1979.

"Natural hazards, disasters and social research," Department of Sociology, University of Denver: December, 1980, 1979.

"Measuring implementation of public policy for floodplain land use controls," Natural Hazards Research Applications Workshop, Boulder: August, 1978.

"Socioeconomic effects of earthquake prediction and state policy," Conference on State Policy for Earthquake Prediction Technology, Boulder: November, 1977.

"Population, resources and policy for social change," College of Natural Resources, Colorado State University: September, 1977; February, 1978; February, 1980.

"The behavior of government and corporate organizations in an earthquake prediction," American Society for Public Administration, Colorado Chapter, Denver: April, 1976.

"The social and economic aspects of scientifically credible earthquake predictions," California State Seminar on Emergency Preparedness and Earthquake Prediction, Palm Springs: June, 1976.

"Preparing to make use of earthquake predictions," Emergency Preparedness Commission for the County and Cities of Los Angeles, Montebello: February, 1976.

"The social organization of hazard warning systems," Engineering Foundation Conference on Decision Making for Natural Hazards, Pacific Grove: March, 1976.

"Briefing on the likely social and economic impacts of earthquake prediction," Governor's Conference Room, Sacramento: May, 1975; Mayor's Conference Room, Los Angeles: October, 1975.

"Social, economic and legal aspects of earthquake prediction," General Assembly of the International Union of Geodesy and Geophysics, Grenoble: September, 1975.

"Earthquake prediction and its implications for emergency preparedness," Center for Community Studies, Tokyo: September, 1975.

"Social impacts of earthquake prediction: implications for policy," California Water and Power Earthquake Engineering Forum, San Francisco: April, 1975.

Since 1972 I have been awarded numerous research grants and contracts, including:

1983-1984	Principal Investigator, "Research and Applications for Emergency Preparedness," Contract for Long Island Lighting Company.
1982-1983	Associate Investigator, "Organizational Interface for Nuclear Reactor Emergency Preparedness," Subcontract for Oak Ridge National Laboratories for the Nuclear Regulatory Commission.
1981-date	Principal Investigator, "Nuclear Hazard Warnings and Emergency Evacuation Preparedness," contract for Pacific Gas and Electric Company.
1980-1981	Principal Investigator, "Power and Networks in Local Land Use Policy Decisions," Colorado State University Experiment Station.
1979-date	Principal Investigator, "Behavioral Aspects of the Three Mile Island Incident and Restart," contract for General Public Utilities and Metropolitan Edison.
1977-1980	Principal Investigator, "Impacts of Migration on Non-metropolitan Areas in the West," U.S. Department of Agriculture Regional Project, Colorado State University Experiment Station.
1977-1979	Principal Investigator, "Adoption and Organizational Implementation of Policy for Community Land Use Regulations," multidisciplinary grant from the National Science Foundation.
1975-1977	Coprincipal Investigator, "Socioeconomic, Political and Organizational Response to Earthquake Prediction," multidisciplinary grant from the National Science Foundation.
1972-1974	Research Sociologist, "Assessment of Research on Natural Hazards," multidisciplinary grant from the National Science Foundation.

Other professional services I have engaged in include the following:

Organizer and Presider

Session on Earthquake Hazard Reduction: Is the National Earthquake Hazard Reduction Program Meeting its Congressional Mandate, Seventh Annual Workshop on Natural Hazards Research Applications, Boulder: July, 1982; Session on Disasters and Cataclysms: Can Sociology Help, Pacific Sociological Association, San Diego: April, 1982; Session on Collective Behavior, American Sociological Association, New York: August, 1980; Session on Complex Organizations, Pacific Sociological Association, San Francisco: April, 1980; Session on Complex Organizations, Western Social Science Association, Tempe, 1976.

Discussant

Session on Public Response to Earth Science Information, Natural Hazards Research Applications Workshop, Boulder: July, 1980; Session on Warning Systems, National Conference on Natural Hazards, Boulder: June, 1976; Session on Warning Systems, National Conference on Natural Hazards, Boulder: July, 1975; Session on Disaster Relief and Warning Systems, National Conference on Natural Hazards, Estes Park: June, 1973.

Participant

Review Panel, Corresponding Member, Task Group on Social and Economic Aspects of Earthquakes, National Academy of Sciences, National Research Council, Commission on Sociotechnical Systems, Washington, D.C.: 1982; Workshop on Disseminating Lessons Learned from Recent Earthquakes, Earthquake Engineering Research Institute, Los Altos: December, 1982; Tennessee Valley Authority Flood Plain Evaluation Panel, Boulder: November, 1982; Earthquake Prediction Warning Task Force Workshop, Southern California Earthquake Preparedness Project, Asilomar: December, 1981; Symposium on Earthquake Prediction, Preparedness and Human Response, San Fernando: June, 1976; Seminar on Disaster Research, Colorado State University, Fort Collins: February, 1975; Symposium on Complex Organizations: Research and Applications, Western Social Science Association, El Paso: April, 1974.

Editorships

Corresponding editor on Hazards and Disaster, Environmental Sociology, Newsletter of the Section on Environmental Sociology of the American Sociological Association, 1981-date; Guest editor, special issue on Environmental Stress, Threat and Social System Response, Mass Emergencies 1(4): 247-346, 1976.

Testimony

Nuclear Regulatory Commission in the matter of pre-emergency public education and information for emergency planning at the Waterford Three nuclear reactor, New Orleans: February, 1983; Suffolk County Legislature, State of New York, in the matter of emergency planning at the Shoreham nuclear reactor, Suffolk: January, 1983; Nuclear Regulatory Commission in the matter of Emergency planning at the Diablo Canyon nuclear reactor, San Luis Obispo: January, 1982; Senate Subcommittee on Science, Technology and Space in the matter of the National Earthquake Hazards Reduction Act, Washington, D.C.: April, 1980; Nuclear Regulatory Commission in the matter of the impact of floating nuclear plants on tourist behavior, Bethesda: May, 1977 and July, 1973.

Legislative and Program Reviews

Earthquake Hazards Reduction Program, U.S. Congressional Panel, Federal Emergency Management Agency, 1983-82; Earthquake Hazards Reduction Program of the U.S. Geological Survey, 1982; Final Regulations for Floodplain Management and Protection of Wetlands, Federal Emergency Management Agency, Federal Register 176(45): 59520-59538, 1980; Applied Research Program Evaluation, National Science Foundation, 1979-78.

Proposal Reviews

Sociology Program, National Science Foundation, 1982-81; Design Research Program, National Science Foundation, 1982; Civil and Environmental Engineering Program of the Earthquake Hazards Mitigation Program, National Science Foundation, 1983-81; Division of Problem Focused Research, National Science Foundation, 1980; Division of International Programs, National Science Foundation, 1987; Division of Advanced Environmental Research and Technology, National Science Foundation, 1978-76.

Article Reviews

Risk Analysis, 1983; The Environmental Professional, 1983.

Sociology and Social Research, 1982-81, 1979-78, 1976; Social Forces, 1980; The Environmental Professional, 1982; The Environmental Professional, 1982; The Social Science Journal, 1981-77; Bulletin of the Seismological Society of America, 1982; Sociological Focus 1980; Human Relations 1978-77; Mass Emergencies, 1978, 1976-75; Policy Analysis 1978; The Sociological Quarterly, 1975.

Other Reviews

L. Lave and D. Epple, "Future Scenarios," Chapter 21 in R.W. Kates (Ed.) Climate Impact Assessment: Studies of the Interaction of Climate and and Society. Geneva, for the International Council of Scientific Union's Scientific Committee on Problems of the Environment, 1982; Study on Earthquake Hazards Information Dissemination: Charleston, South Carolina. Reston for the U.S. Geological Survey, 1982.

Department and University Service

Ad hoc Committee on Research Space, 1983; Department Executive Committee, 1983-83, 1980-77; Department ad hoc Committee on Research Space, 1983; Department Five-Year Review Committee 1982; Department Comprehensive Examination Committee, 1983-75; Department Evaluation of Independent Study Courses, 1978; University Committee on Ethnic Studies, 1976-74; University Committee on Latin American Studies, 1975-74.

JACK W. SWING

POSITION: Program Manager

JOINED WYLE: 1969 to 1974; 1981

PRINCIPAL DUTIES AND RESPONSIBILITIES:

- Directs Wyle consulting programs relative to design and performance evaluation of nuclear plant Alert and Notification Systems, and serves as a principal investigator. Also manages and conducts studies related to industrial and military noise control engineering and community noise.

BACKGROUND:

- Wyle Laboratories, Arlington, VA. Engineering consulting in industrial noise control including workplace noise surveys and equipment and machinery quieting and vibration isolation. Dynamic and structural analysis of machinery mountings. Building acoustic design for control of internal and external noise sources including acoustic barrier design. Design of nuclear plant emergency warning systems and management of related programs. Licensing support in areas related to emergency planning.
- Digital Equipment Corporation, Product Acoustics Group (1 year) - Principal Engineer. Responsible for regulatory issues relating to noise emissions from computer equipment; development of international standards for computer noise emissions; noise measurements and consulting for product quieting. Developed enhanced "next generation" computer equipment enclosures incorporating improved EMI (primarily radiated emissions) controls and acoustic insertion loss. This program considered non-ferrous enclosure "skins", conductive coatings, EMI "screens", EMI/acoustic seal concepts, and innovative techniques for the provision of module cooling and accessibility.
- Office of Noise Control, California State Department of Health Services (6 years) - Senior Noise Control Engineer. Responsible for development and coordination of noise control activities with state and local agencies, and for conducting studies in transportation and community noise. Performed background studies for proposed legislation to reduce vehicle noise emissions.

Major commitments to local noise control program development through conduct of training (served as course coordinator and instructor for University of California Extension Division-Berkeley and Santa Cruz), development of simplified noise prediction methodologies (highway and on-line railroad noise), development of the Office of Noise Control's Model Community Noise Control Ordinance, and development of the Office's "Guidelines for the Preparation and Content of Noise Elements of the General Plan".

- Wyle Laboratories, Wyle Research, El Segundo, CA (5 years) - Senior Engineer/Consultant. Responsibilities included serving as head of Wyle's Community Studies Group and functioning as Program Manager/Principal Consultant on the following projects: development of an analytical technique and computer model for the Motor Vehicle Manufacturers Association to optimize resources (dollar expenditures) for the abatement of source-specific environmental noise in given communities; studies on railroad noise emissions for a consortium of western railroads and the Association of American Railroads, and development of a noise prediction

BACKGROUND (Continued):

model for on-line and classification yard operations; numerous general plan noise element studies for California communities including the City of Los Angeles and the Comprehensive Planning Association (San Diego County); airport noise assessment study, contour validation, and noise monitoring system specification for San Francisco International Airport; assignments included managing transmission loss testing activities and analytical support in a research project conducted for HUD to develop new and innovative concepts for achieving high dwelling sound insulation, and assisting in development of an improved vehicle noise measurement technique for the California Highway Patrol.

- Ford Motor Company, Dearborn, MI (3 years) -- Project Engineer. Responsible for intermediate size car line powertrain noise and vibration problem definition, analysis, and vehicle development. Developed innovative engine/transmission mounting systems incorporating high damping coefficient rubber compounds (Butyl, etc.). Developed powertrain system analysis techniques incorporating power spectral density correlation and computer modeling of engine/transmission mounting systems and subsequent dynamic response and vibration mode analysis. Assignments included serving as staff engineer in the computer group with responsibilities for "computerizing" a variety of automotive design techniques ranging from leaf-spring design to body sheet metal contouring to avoid "stone pecking" (tire-thrown projectiles) and conducting simulated vehicle performance tests.

EDUCATION:

- B.S., Mechanical Engineering, University of California, Berkeley, CA, 1966.
- M.S., Mechanical Engineering, University of Michigan, Dearborn, MI, 1969.
- Postgraduate courses in Acoustics, Random Vibration Analysis, and Earthquake Engineering at UCLA and California State University at Long Beach.

PROFESSIONAL MEMBERSHIPS:

- Member, Institute of Noise Control Engineering.
- Member, Acoustical Society of America (Chairman, Working Group S12-15, Measurement of Community Noise).
- Member, Society of Automotive Engineers.
- Member, National Association of Noise Control Officials (Past-Member, Board of Directors; Chairman, Motor Vehicle Noise Task Force).
- Registered Mechanical Engineer, California (No. 15917).

PUBLICATIONS:

- "High Transmission Loss Wall Panels", 80th Meeting of the Acoustical Society of America, Houston, TX, November 1970 (co-author).
- "Assessment of Noise Environments Around Railroad Operations", Wyle Laboratories Consulting Report WCR 73-5, July 1973 (co-author).

PUBLICATIONS (Continued):

- "Analysis of Potential Noise Impact for the Proposed South Runway Extension Project at Portland International Airport", Wyle Laboratories Consulting Report WCR 73-7, October 1973.
- "Development of Community Noise Ratings for Railroad Operations", 86th Meeting of the Acoustical Society of America, Los Angeles, CA, November 1973 (co-author).
- "A Methodology for Assessing Potential Community Impact Resulting From Noise Emitted by Railroad Yard Operations", 86th Meeting of the Acoustical Society of America, Los Angeles, CA, November 1973 (co-author).
- "Development of Ground Transportation Systems Noise Contours for the San Diego Region", Wyle Research Report WCR 73-8, December 1973.
- "Supporting Documentation for the Development of Transportation Noise Contours for the City of Los Angeles", Wyle Research Report WCR 74-3, June 1974.
- "Development of Noise Elements for Communities' General Plans", InterNoise 74, Washington, D.C., September 30-October 2, 1974.
- "Noise Levels in Railroad Operations", Annual Winter Meeting of American Society of Mechanical Engineers, New York, NY, November 17-22, 1974 (co-author). (ASME #74-WA/RT-8.)
- "Simplified Procedure for Developing Railroad Noise Exposure Contours", Sound and Vibration, 9, February 1975.
- "Noise Element of the General Plan Concept in California: Planning for Environmental Noise", 90th Meeting of the Acoustical Society of America, San Francisco, CA, November 1975.
- "Community Noise Countermeasures Cost-Effectiveness Analysis", Wyle Research Report WCR 75-2, prepared for the Motor Vehicle Manufacturers Association, Detroit, MI, July 1975 (co-author).
- "A Revised Procedure for New Vehicle Noise Emission Certification in California", Intersociety Conference on Transportation, Los Angeles, CA, July 1976 (co-author).
- "Guidelines for the Preparation and Content of Noise Elements of the General Plan", California Office of Noise Control, February 1976.
- "Model Community Noise Control Ordinance", California Office of Noise Control, April 1977.
- "Effects of Freeway Noise on Hearing Levels and Academic Achievement of Children - Preview of a Study", InterNoise 78, San Francisco, CA, May 8-10, 1978.
- "Regulation of Surface Carrier Noise", Chapter 42: Handbook of Noise Control, 2nd Edition, Harris, C.M. (Ed.), McGraw-Hill, New York, NY, 1979.

PUBLICATIONS (Continued):

- "A Case for Single-Event Intrusion Criteria in Achieving Noise-Compatible Land Use", Editorial, Noise Control Engineering, 11, November-December 1978.
- "Results of Monitoring Noise and Air Quality in Feeder Areas at Various Proximities to Freeways for Matched Groups of School Children", 98th Meeting of the Acoustical Society of America, Salt Lake City, UT, November 28, 1979.
- "Model On-Highway Light Vehicle Noise Enforcement Procedures Manual", Motor Vehicle Noise Task Force (Swing, J.W., Chairman), National Association of Noise Control Officials, April 1979.
- "Pocket Manual for the Measurement and Analysis of Railroad Noise", Wyle Research Report WR 81-57, November 1981. (Also, U.S. Department of Transportation Report No. FRA/ORD-82/02/M, January 1982.)

PROFESSIONAL QUALIFICATIONS

OF

LEON H. MANNELL, P.E.

I. General Education

Graduate of Topeka High School - 1943
Graduate of Kansas State University with a Bachelor of
Science degree in Electrical Engineering - 1950

II. Specialized Education

1980 U.S. Nuclear Regulatory Commission/Federal Emergency
Management Agency: Dose Projection, Accident Assess-
ment, and Protective Action Decision Making for
Radiological Response Coordinator.

U.S. Department of Transportation: Hazardous Materials
Emergency Service Workshop.

1979 U.S. Air Force: Aerial Radiological Instructor Course.

1978 U.S. Department of Energy: Radiological Emergency
Response Operations.

1978 State of Colorado: Hazardous Materials in Transporta-
tion Accidents.

1977 Defense Civil Preparedness Agency: Career Development
Program, Phase II.

1975 Defense Civil Preparedness Agency: Career Development
Program, Phase I.

1975 Defense Civil Preparedness Agency: Emergency Response
Planning in Support of Nuclear Facilities.

1974 Defense Civil Preparedness Agency: Radiological Defense;
Part I Officer, Part II Monitor Instructor, Part III
Advanced.

1974 State of Colorado: Hazardous Materials Safety.

1969 U.S. Public Health Service: Occupational Protection-
Radiation.

Professional Qualifications
Leon H. Mannell, P.E.
Page Two

1966 U.S. Office of Civil Defense: Radiological Defense Officer.

1966 U.S. Public Health Service: Basic Radiological Health.

1965 U.S. Navy Department: Recovery from Nuclear Attack.

1963 U.S. Office of Civil Defense: Rural Fallout Shelter Analyses Workshop.

1963 Picker X-Ray Corporation: Nuclear Instruments School.

1962 U.S. Office of Civil Defense: RADIAC Instrument Maintenance.

1961 Taft Engineering Center: Radiological Health.

1957 U.S. Air Force: Chemical, Biological and Radiological Defense Refresher.

1957 U.S. Office of Civil Defense and Mobilization: Radiological Monitoring for Instructors.

1956 U.S. Air Force: Chemical, Biological and Radiological Defense

1951 Picker X-Ray Corporation: Training for Supervisors

III. Military

1943-1946 Served with the 96th Infantry Division and honorably discharged with rank of Master Sergeant.

IV. Experience

1950-1965 Field Sales Engineer for Greb X-Ray Company (Picker X-Ray Distributor). Had complete responsibility for selling radiation producing equipment to medical and industrial users, designing the facility, supervising the construction, installation of equipment, inspection, calibration, certification, training of users and continued liason with customer.

1965-present Administrator, Radiological Systems for Division of Emergency Preparedness. Professional and supervisory work implementing a statewide Nuclear Emergency Management Program.

Professional Qualifications
Leon H. Mannell, P.E.
Page Three

The responsibilities of this program are to provide:

(1) support to the overall operational readiness of Nuclear Emergency response systems by developing and updating plans, participation in tests and exercises, and maintain and comply with provisions of the State of Kansas Radioactive Materials license for use, possession, control and distributed storage of all radioactive materials used by the Division of Emergency Preparedness;

(2) the required periodic inspection, maintenance and recalibration of Emergency Preparedness and Military RADIAC instruments and equipment located in the State; and

(3) The State of Kansas "Nuclear Facilities Incidents Response Plan" for the Nuclear facilities, including implementation and updating the plan.

1969-1974 In addition to the above responsibilities, I was the National Supervisor for DCPA for the retrofit of the high range remote radiation sensors used at protected command posts throughout the nation. This involved the repair, retrofitting, installation and calibration of the units. I supervised the installation and calibration of sensors at all Federal Relocation Centers and Regional DCPA, EOC's. In 1974 I trained the staff at DGSC, Richmond, Virginia, to perform the retrofit and they now have the responsibility.

V. Occupational Licenses and Certificates

1. Kansas Professional Engineers License
2. Certified Fallout Shelter Analyst
3. Kansas Radioactive Materials License for Multi-Curie sources
4. Kansas Radioactive Material License for Fissionable materials

Professional Qualifications
Leon H. Mannell, P.E.
Page Four

VI. Professional Societies

Institute of Electrical and Electronic Engineers - Senior
Member

Kansas Engineers Society

National Society of Professional Engineers

Health Physics Society

Kansas Society of Fire Service Instructors

PROFESSIONAL QUALIFICATIONS

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LEON H. MANNELL, P.E.

I. General Education

Graduate of Topeka High School - 1943
Graduate of Kansas State University with a Bachelor of
Science degree in Electrical Engineering - 1950

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1980 U.S. Nuclear Regulatory Commission/Federal Emergency
Management Agency: Dose Projection, Accident Assess-
ment, and Protective Action Decision Making for
Radiological Response Coordinator.

U.S. Department of Transportation: Hazardous Materials
Emergency Service Workshop.

1979 U.S. Air Force: Aerial Radiological Instructor Course.

1978 U.S. Department of Energy: Radiological Emergency
Response Operations.

1978 State of Colorado: Hazardous Materials in Transporta-
tion Accidents.

1977 Defense Civil Preparedness Agency: Career Development
Program, Phase II.

1975 Defense Civil Preparedness Agency: Career Development
Program, Phase I.

1975 Defense Civil Preparedness Agency: Emergency Response
Planning in Support of Nuclear Facilities.

1974 Defense Civil Preparedness Agency: Radiological Defense;
Part I Officer, Part II Monitor Instructor, Part III
Advanced.

1974 State of Colorado: Hazardous Materials Safety.

1969 U.S. Public Health Service: Occupational Protection-
Radiation.

Professional Qualifications
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- 1966 U.S. Office of Civil Defense: Radiological Defense Officer.
- 1966 U.S. Public Health Service: Basic Radiological Health.
- 1965 U.S. Navy Department: Recovery from Nuclear Attack.
- 1963 U.S. Office of Civil Defense: Rural Fallout Shelter Analyses Workshop.
- 1963 Picker X-Ray Corporation: Nuclear Instruments School.
- 1962 U.S. Office of Civil Defense: RADIAC Instrument Maintenance.
- 1961 Taft Engineering Center: Radiological Health.
- 1957 U.S. Air Force: Chemical, Biological and Radiological Defense Refresher.
- 1957 U.S. Office of Civil Defense and Mobilization: Radiological Monitoring for Instructors.
- 1956 U.S. Air Force: Chemical, Biological and Radiological Defense
- 1951 Picker X-Ray Corporation: Training for Supervisors

III. Military

- 1943-1946 Served with the 96th Infantry Division and honorably discharged with rank of Master Sergeant.

IV. Experience

- 1950-1965 Field Sales Engineer for Greb X-Ray Company (Picker X-Ray Distributor). Had complete responsibility for selling radiation producing equipment to medical and industrial users, designing the facility, supervising the construction, installation of equipment, inspection, calibration, certification, training of users and continued liason with customer.
- 1965-present Administrator, Radiological Systems for Division of Emergency Preparedness. Professional and supervisory work implementing a statewide Nuclear Emergency Management Program.

Professional Qualifications
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- (2) the required periodic inspection, maintenance and recalibration of Emergency Preparedness and Military RADIAC instruments and equipment located in the State; and
- (3) The State of Kansas "Nuclear Facilities Incidents Response Plan" for the Nuclear facilities, including implementation and updating the plan.

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Professional Qualifications
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VI. Professional Societies

Institute of Electrical and Electronic Engineers - Senior
Member

Kansas Engineers Society

National Society of Professional Engineers

Health Physics Society

Kansas Society of Fire Service Instructors

Ray Lewis

Employment History

- 1977 - present - Kansas Gas & Electric, Manager, Radiological & Environmental Assessment
- Responsible for administration and technical direction of section activities including radiological dose assessment, meteorology, shielding analysis, health physics & chemistry operations support, emergency planning, radiological & hazardous waste management, environmental permit administrations.
 - Present staff includes: 14 professionals, 2 technicians, distributed over four groups, Radiological Assessment, Radiological Projects, Emergency Planning, Environmental Assessment.
- 1976-77 - Cooper Nuclear Station, Health Physics staff member and technical consultant
- Provided health physics support during normal plant operations and refueling outages. Duties included analytical work, preparation of radionuclide release reports, procedure development, radiological waste & radio environmental work, fuel receipt inspections, participation in emergency drills, and development of a tritium detection system.
- 1975 - US NRC, Health Physics summer intern
- Technical review of 10 C.F.R. 50 Appendix I & supporting Regulatory Guides 1.109, 1.111, 1.112. Assistant to the staff in the review of branch technical position and site standards.
- 1974-76 - University of Kansas, Assistant Radiation Safety Officer
- Perform laboratory radiological surveys, reactor coolant analysis, personnel dosimetry, radwaste disposal & regulatory compliance reviews.

Additional Experience

- 1979 - present - Sedgwick County, Kansas, Hazardous Materials Emergency Response Task Force
- Advisor to the Command Team - participated in the 3/22/79 U_3O_8 spill on I-135 highway outside Wichita.
- 1971-72 - JFK Community Hospital, Edison, N. J., Orderly - operating, recovery, emergency rooms, summer employment
- Assisted with patient handling, instrument preparation and post mortem examinations. Participated in hospital disaster drills and was a member of their disaster team.

Ray Lewis

Education: Formal

BA Honors Biology

University of Kansas, 1973
Dept. of Physiology & Cell Biology

MS Radiation Biophysics

University of Kansas, 1979
Dept. of Radiation Biophysics

PhD course work

University of Kansas
Dept. of Radiation Biophysics

Continuing Education:

Middle Management Development

Wichita State University
College of Business Adm., 1983

FEMA Radiological
Emergency Response for
State & Local Government

Reynolds Electric
Nevada Test Site, 1982

Fundamentals of Supervision

University of Oklahoma
Continuing Education Dept., 1981

Hazardous Waste
RCRA Regulations

Government Institutes
Washington, DC, 1981

Introduction to PWR
Plant Operation &
Simulator Training

Westinghouse Nuclear Training
Center, 1981
Zion, Ill.

Hospital Preparation for
the Management of
Radiation Accidents

E. L. Saenger Radioisotope Lab.
University of Cincinnati Med.
Center, 1980

Certification Review
for Health Physicist

Environmental & Nuclear Resource
Group
Lowell, MA, 1980

Awards and Publications:

USAEC Graduate Studies Fellowship

Aldehyde Dehydrogenase Isozymes in Rat Hepatoma - Mouse
Fibroblast Hybrids. Biochemical Genetics, 8/73