

REBUTTAL TESTIMONY OF ROBERT L. MITTL
GENERAL MANAGER - LICENSING AND ENVIRONMENT
PUBLIC SERVICE AND GAS COMPANY
RELATED TO CONSIDERATION OF ALTERNATIVES

Q. Please state your name, your employer, and your position with this employer.

A. My name is Robert L. Mittl. I have held the position of General Manager - Licensing and Environment in the Engineering and Construction Department of Public Service Electric and Gas Company since April 1977.

Q. Please state your educational background.

A. I graduated from Stevens Institute of Technology with a Mechanical Engineering degree in 1954. In 1958, I received a Master of Science in Nuclear Science degree from Carnegie Institute of Technology. In 1957-58, I studied at the Oak Ridge School of Reactor Technology.

Q. Please describe your work experience leading up to your present position.

A. In 1954 I joined Public Service Electric and Gas Company as a cadet engineer in the Electric Department. From 1954 to 1957, I worked on assignments in the design, construction, and operation of fossil-fuel power plants. From 1958 to 1960, I was on loan to Argonne National Laboratory and assigned to the Experimental Boiling Water

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Reactor project where I participated in experimental work, reactor operation and testing, and design modifications for increased power operation.

From 1960 to 1962, I was on loan to the General Atomic Division of the General Dynamics Corporation where I participated in the design and development of the Peach Bottom Atomic Power Station and the Empire State Atomic Development Associates large reactor study.

In 1962, I returned to the Electric Engineering Department in Newark and from 1962 to 1965 I worked in all phases of a series of conceptual design and feasibility studies for light-water reactor plants in the range of 600 to 1000 mw electric.

From December 1965 through 1969 I participated in the Salem project with responsibilities in preliminary design, site evaluation, licensing, nuclear engineering and fuel cycle evaluation and management.

In 1969 and 1970, while retaining the above responsibilities in the Salem project, I participated in the Newbold Island project with responsibilities in engineering, licensing, and fuel cycle evaluations. I was appointed Project Manager for the Newbold Island project in late 1969. I held the position of Chief Mechanical Engineer

from January 1971 to December 1972. From January 1973 to July 1974, I held the position of Assistant Manager of Engineering. In July 1974, I became General Manager of Projects, a position which I held until I assumed my current position.

Q. Please describe the general function of your department which you head.

A. My department is responsible for assuring that necessary licenses and approvals for new and existing Company facilities are obtained. In addition, my department has responsibility for the planning and execution of near and long-term environmental impact analyses for such new and existing facilities. These functions include preparation and review of documentation to be submitted to cognizant regulatory agencies, including the U. S. Nuclear Regulatory Commission.

Q. With regard to projects such as the expansion of the spent fuel pool, would you describe generally the roles of the various departments within the Licensee's organization.

A. All of the Company's nuclear activities are under the direction of the Senior Vice President - Energy Supply and Engineering. The specific departments which report to this Senior Vice President are the Fuel Supply Depart-

ment, responsible for all procurement aspects of the fuel cycle; the Production Department, responsible for the operation of nuclear facilities, including the on-site handling of nuclear fuel; and the Engineering and Construction Department, responsible for providing technical services in support of the Production Department and responsible for the engineering, construction, licensing and environmental programs associated with new facilities and major modifications to existing facilities. Within the latter department, I am General Manager of the Licensing and Environment Department.

Q. Would you describe your knowledge of the request to increase the storage capacity of the spent fuel pool.

A. As I previously stated, between mid-1974 and early 1977, I held the position of General Manager of the Projects Department, with the overall project management responsibilities for the engineering and construction of the Salem units. Any modifications to the facility in the construction stage of the project would come to my attention. I, thus, participated in the decision to go forward with soliciting proposals for the design and manufacture of increased capacity spent fuel storage racks. Since April 1977, in my present position, I have supervised the licensing efforts with regard to these spent fuel racks.

Q. With regard to Salem Unit 1 spent fuel pool Application, what did Licensing and Environment Department do?

A. The Licensing and Environment Department coordinated the preparation of the license Application for expansion of the spent fuel storage capacity at Salem 1, including the safety and environmental evaluations. This effort was done under my supervision and directly headed up by Mr. Edwin A. Liden (Project Licensing Manager - Salem) who reports to me. A part of my department's responsibility was the development of the section of the Application relating to alternatives to the proposed action to assure that a range of available alternatives had been explored and evaluated.

Q. Once the decision was made to proceed with installation of increased capacity spent fuel racks, what were the functions of the three departments you have previously described with regard to the expansion of the capacity of the racks.

A. The Engineering Department, within the Engineering and Construction Department, initiated a request for proposals for design and manufacture of the racks from various suppliers of spent fuel racks. A number of responses were received. The evaluation of responses was performed by the Engineering and Construction Department, which recommended that high density racks be

procured from the Exxon Nuclear Company. This recommendation was concurred in by both the Production and Fuel Supply Departments and approved by the Vice President - Engineering and Construction. After the award of the contract, the Engineering Department administered the contract with Exxon. In addition, the Quality Assurance Department performed the quality assurance functions required by NRC regulations.

Q. Could you describe how various alternatives to increasing capacity of the racks were considered by the Company prior to the submission of the Application to the NRC?

A. In 1974, the Company, as well as a large number of other utilities in the United States, was approached by E. R. Johnson Associates and Merrill, Lynch, Pierce, Fenner and Smith to determine whether it had any interest in participating in their proposal to construct an independent spent fuel storage installation. The Company was not interested in this proposal because of schedule incompatibility and financial considerations.

It should be noted that during this time, the Company had an existing contract for the reprocessing of spent fuel for the Salem 1 Unit with Allied General Nuclear Services. However, it was questionable whether AGNS

would be operational in time to accept Salem fuel in the needed time frame.

In the 1975-76 period, the Company held discussions with Nuclear Fuel Services and Exxon Nuclear Company regarding their plans for building separate spent fuel storage pools at West Valley, New York, and a spent fuel storage and reprocessing facility at Oak Ridge, Tennessee, respectively. Shortly, thereafter, the NFS proposal was withdrawn inasmuch as that company was withdrawing from the reprocessing field. Exxon did not submit a formal proposal to the Company and its plans for the Oak Ridge facility have since become indefinite due to change in government policy regarding commercial reprocessing.

Prior to the time that a decision to increase the storage capacity of the Salem spent fuel pool was made, a number of alternative arrangements were considered. One alternative considered was contracting for off-site storage capacity. This was rejected on the basis that off-site facilities could not be licensed or constructed within the time frame necessary to meet Salem's needs, the comparative costs, and the complexity of shipping considerations. Constructing an on-site fuel storage facility was considered and rejected on the basis of cost and licensing implications. The use of the Unit 2 fuel pool was also considered and rejected because of

the short increase in storage time gained, the potential licensing difficulties, equipment requirements and operational considerations associated with the transfer of spent fuel between the units.

Q. Did the Company consider joining with other utilities in building an independent spent fuel storage installation in a dry area.

A. No, not specifically. We believe that this alternative is encompassed within the other alternatives reviewed. We see no advantage in this alternative compared to the expansion of the spent fuel pool and it suffers from several disadvantages, e.g., higher costs, impacts of construction, the need for additional fuel transport and possible licensing difficulties.

Q. From the standpoint of PSE&G management, what considerations would be given with regard to the decision to ship fuel off-site?

A. A number of considerations would be given any decision to ship fuel off-site if there were remaining storage space available in the Salem Unit 1 spent fuel pool. Initially, space would have to be physically available for fuel shipped from Salem Unit 1. If space were limited in an off-site repository, it is unlikely that

space would be made available to the Licensee if storage capacity remained unused at the Salem Unit 1 spent fuel pool. Economic considerations would probably be the primary determinative in such a decision in that the Company does not see any safety problem associated with the storage of spent fuel at the Salem Generating Station. Another consideration would be the availability of a permanent disposal facility prior to the exhaustion of the capacity of the spent fuel pool. If it appeared that such a permanent disposal facility would be available in such time frame, it would appear more prudent to ship to that facility directly, instead of shipping to an interim facility with the associated costs and potential impact of the additional transfer of fuel.

While these are the general factors which would be taken in account, any decision to ship fuel off-site would be carefully considered and reviewed based upon the best information existing at that time. I do not consider it beneficial to speculate on the factors to be considered at that time and the weight to be accorded to each.