



**LONG ISLAND LIGHTING COMPANY**

SHOREHAM NUCLEAR POWER STATION

P.O. BOX 618, NORTH COUNTRY ROAD • WADING RIVER, N.Y. 11792

Direct Dial Number

February 3, 1983

SNRC-832

Mr. Harold R. Denton, Director  
Office of Nuclear Reactor Regulation  
U.S. Nuclear Regulatory Commission  
Washington, D. C. 20555

Periodic Verification of Proper Instrument Air Quality  
Shoreham Nuclear Power Station - Unit 1  
Docket No. 50-322

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Dear Mr. Denton:

This letter is in response to the telephone conversation of July 27, 1982 among E. J. Weinkam, R. Lobell and J. Wermeil of the Nuclear Regulatory Commission, J. Riley and R. W. Grunseich of the Long Island Lighting Company. The discussion addressed the NRC concern that individual testing to verify the failure mode of pneumatically operated, safety-related components does not necessarily demonstrate that the particular component will fail in the same manner under postulated deteriorated air quality conditions. The NRC stated that the preoperational loss of air test need not be re-performed, however, they suggested that verification of proper air quality at the dryer discharge outlet be done during refueling outages to preclude potential air quality problems.

The instrument air system supplies compressed air to all safety related air operated components outside primary containment. The system is designed to minimize the possibility of system air contamination. Three multistage, centrifugal oil free compressors supply a common instrumentation service air header. Compressed air passes through one of two prefilters, a dual tower air dryer and one of two after filters before entering the instrument air header. The dryer operates automatically to shift and reactivate towers. The system is designed to produce air with an exit dew-point of -40°F and provide filtering of 100% of all contaminants greater than 1 micron in size. Proper air quality is continuously assured by the control room annunciator which signals air dryer trouble, i.e., high instrument air relative humidity at the dryer outlet.

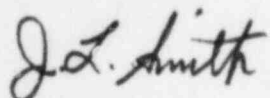
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February 3, 1983  
SNRC-832  
Page 3

Should you have any questions or require further information,  
please contact this office.

Very truly yours,



J. L. Smith  
Manager, Special Projects  
Shoreham Nuclear Power Station

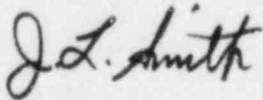
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cc: J. Higgins  
All parties

February 3, 1983  
SNRC-832  
Page 3

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February 3, 1983  
SNRC-832  
Page 2

The Shoreham Nuclear Power Station also incorporates administrative provisions to assure proper air quality. Once per shift plant operators inspect the air dryer skid and assure all local alarms are clear. Every 18 months the instrument air dewpoint is determined independently, using portable instrumentation.

The plant preventative maintenance program specifies the following:

The dryer dessicant is inspected once a year and replaced if it is broken up or contaminated with oil.

The pre and after filters are inspected every 18 months and cleaned or replaced as necessary.

One dryer tower cycle is monitored every 18 months to assure proper control of the dryer/regeneration sequence.

Proper operation of the air dryer trouble annunciator and the associated humidity instrumentation at the dryer discharger is verified every 18 months.

Nitrogen gas is supplied to pneumatically operated components inside primary containment via the primary containment inerting system. Bulk liquid nitrogen, stored in an 11,000 gallon tank, is vaporized and heated as necessary to satisfy system demand. Two banks of nitrogen bottles (Active/Reserve) function as redundant supplies in the event that the main tank is unavailable. There is a crosstie to the compressed air system, but locked closed valves and administrative controls prevent inadvertent usage.

The nitrogen is supplied from offsite sources. LILCO purchase specifications will be drafted to assure high quality nitrogen to preclude the possibility of system contamination.

LILCO believes that the design of the compressed gas systems, in conjunction with preventative maintenance schedules and operator surveillance requirements, assures proper instrument air quality and a high degree of reliability to all safety related pneumatic components.