



# LONG ISLAND LIGHTING COMPANY

SHOREHAM NUCLEAR POWER STATION

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

August 13, 1982

SNRC-749

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

Regulatory Guide 1.52, Revision 0, June 1973  
Shoreham Nuclear Power Station - Unit 1  
Docket No. 50-322

Dear Mr. Denton:

As requested in your July 7, 1982 letter, an evaluation was performed to determine Shoreham's compliance with Regulatory Guide 1.52. In addition to the deviations indicated in Shoreham's FSAR table 6.2.3-2 Revision 24, additional exceptions to the regulatory guidance were identified. These additional items and their justification is enclosed as Attachment 1. Deviations identified in FSAR Revision 24 and accepted by NRC staff are not included.

Attachment 2 is a tabular listing of Regulatory Guide 1.52 criteria, by paragraph, with which the Shoreham design is not in compliance, or which is not applicable.

The Shoreham FSAR will be revised in the next amendment to reflect this information.

If you have any questions on this matter or if you require additional information, please contact this office.

Very truly yours,

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

RCW:mp

cc: All parties  
J. Higgins  
E. Weinkam

Attachment

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Regulatory Guide 1.52 Deviation Evaluation Summary

1. Paragraph 1e This paragraph is not applicable to the Shoreham design. The system design for both the RBSVS and CRAC filter trains is such that the filters are not exposed to high and low outdoor conditions. The RBSVS filter trains draw air from within the secondary containment. The CRAC filter trains draw a mixture of 1000 cfm outside air and 3000 cfm return air from the control room. The filter trains are design consistent with the above configuration.
2. Paragraph 2d This paragraph is not applicable to the Shoreham design. CRAC filter trains are not exposed to pressure surges.
3. Paragraph 2g The Shoreham design for CRAC does not comply with this paragraph. Filter Discharge Air flow is not indicated; however, the flow rate of outside air which is required for pressurizing the control room, is monitored and recorded in the Control Room. The filter discharge air quantity is therefore, not required to be monitored or recorded.
4. Paragraph 3b This paragraph is not applicable to Shoreham design for CRAC. Heaters are not required for the CRAC filter trains which do not require heaters to control relative humidity. Air passing through the filter train is made up of 1000 cfm outside air and 3000 cfm return air from the control room. Due to these mixture conditions, humidity for the CRAC filter trains will not exceed the design 70 percent relative humidity under worst outside air conditions.
5. Paragraph 3d The Shoreham design is in partial compliance with the requirements of this paragraph. The HEPA filters are steel cased and are designed, constructed, tested and qualified in accordance with USAEC Health and Safety Bulletin No. 306, March 31, 1971, military specification MIL-F-51068C, and UL Standard 586. HEPA filters also meet the requirements of MIL-F-51079A via Specification MIL-F-51068C. Neither the RBSVS nor the CRAC filter trains are subjected to iodine removal sprays. Testing of the HEPA filters is in accordance with sections 5a and b of Reg. Guide 1.52.

6. Paragraph 3f The Shoreham design is in partial compliance with this paragraph.

The filter housing access doors and spacing between the filter bays are not in accordance with the recommendations made in ERDA 76-21.

Standby filter trains of the CRAC system are provided with three 20" X 50" access doors, one for each compartment. Forty-two inches and thirty-two inches of working space is provided inside the housing between the charcoal filter bank and final HEPA filter, and between first HEPA filter and charcoal filter frame respectively. Moreover, 30" of common aisle space is provided between the two filter trains as work space for filter change, testing, service, and maintenance.

HEPA filters are 24" X 24" X 11-1/2" deep and charcoal filter trays are 24-3/4" X 7 3/4" X 32-5/8" deep.

From the above it is obvious that the size of the access doors and the space provided between the filter banks is adequate for filter change, filter removal, and easy access.

Standby filter trains of RBSV3 system are provided with four 28" X 83" access doors, one for each component (pre-filter, first HEPA, charcoal filter, final HEPA). The filter trains are designed so that all the components are easily accessible and can be removed from the access doors. A minimum aisle space of 48" is provided as work space for filter change, service, testing, and maintenance. Minimum spacing required between the filter bays is not applicable to these filter trains due to the configuration and location of filters (filters are mounted sideways as opposed to in-line).

7. Paragraph 3h The Shoreham design is not in compliance with the requirements of this paragraph. Welds internal to the filter housing are painted; however, the paint does not meet the postulated radiation levels for this area. These filters and associated ducts are located in an area free from containment sprays associated with the primary containment.

8. Paragraph 3m The Shoreham design is in partial compliance with this paragraph.

The ductwork associated with the RBSVS and CRAC filter systems is pressure tested in accordance with paragraph 2l. In the CRAC system, rectangular ducts were used in lieu of round ducts due to building space available, and space required for interconnection with other duct systems. The filter trains for the CRAC system handle 3000 cfm of recirculation air out of the total of 4000 cfm, and the air is not highly contaminated. The system, when operating, is under negative pressure, thus producing in-leakage only. Therefore, the system as designed and installed will meet the intent of the recommendations of Regulatory Guide 1.52.

9. Paragraph 3n The Shoreham design is in partial compliance with this paragraph.

Turning vanes have not been incorporated due to the configuration and size of the inlet air duct to the filter train and due to the space limitation of the filter trains.

CRAC system and RBSVS system standby filter trains are of 4000 cfm and 1310 cfm capacity respectively and the velocity through the various components is relatively low. Low velocity/high pressure drop components are inherently self balancing. Air balancing dampers are incorporated in each of the filter trains for system balancing. Moreover, the filter trains will be in-place tested for airflow distribution in accordance with ANSI-N510-1975.

10. Paragraph 4c The Shoreham design does not comply with the requirements of this paragraph.

The filters are not designed to permit a man walking erect to pass through carrying a loaded filter carton since its height is smaller than a man.

Vacuum breakers are not included in access door design as maintenance is not performed when exhaust air is passing through the unit.

11. Paragraph 4d The Shoreham design does not comply with the requirements of this paragraph.

Less than 5 feet is provided between mounting frames. Noncompliance to this paragraph is discussed under Paragraph 3f.

12. Paragraph 4g The Shoreham design is in partial compliance with this paragraph.

During routine filter change of CRAC standby filter trains, dollies will be used to transport filters between the housing area and the south staircase of the control building. Contaminated filters will be encapsulated and sealed in place at the housing before transportation. In the stairwell, the filters will be carried to el 25-0 of the control building and then to the radwaste building for disposal.

Roof hatches are provided to allow removal of a filter housing as a complete unit including its components, if required.

13. Paragraph 4k The Shoreham design is in partial compliance with this paragraph.

The CRAC filter trains are provided with one vapor-tight light fixture in each compartment serviceable from inside. The CRAC filter trains are only 5 ft. 9 in. wide, and one vapor-tight light fixture is adequate for this size. In the case of the RBSVS filter trains there is no need to enter filter housing for filter removal. Therefore, no lights are provided. Normally, CRAC and RBSVS filter trains are not operating and are easily accessible for replacement of light bulbs or fixtures.

DEVIATIONS FROM FSAR REVISION 24 \*  
TABLE 6.2.3-2

<u>Reg. Guide 1.52</u> <u>Paragraph</u>	<u>FSAR Rev. 24</u>		<u>Revised</u> <u>Determination</u>	
	<u>RBSVS</u>	<u>CRAC</u>	<u>RBSVS</u>	<u>CRAC</u>
1e	C	C	N/A	N/A
2d	C	C	N/A	N/A
2g	C	C	C	N
3b	C	C	C	N/A
3d	N/A	N/A	P	P
3f	C	C	P	P
3h	N/A	N/A	N	N
3m	C	C	P	P
3n	C	C	P	P
4c	P	P	N	N
4d	C	C	N	N
4g	C	C	P	C
4k	C	C	P	P

Note: Deviations from the requirements of the following Reg. Guide 1.52 paragraphs was identified in FSAR Rev. 24:

2a	3a
2i	3e
2j	4i

\* Footnotes

C = Compliance  
 N = Noncompliance  
 P = Partial Compliance  
 N/A = Regulatory Position does not apply