CENTRAL FILES

Frederick W. Schneider
Vice President
Production

Public Service Electric and Gas Company 80 Park Place Newark, N.J. 07101 201/430-7373

December 27, 1979

Mr. Boyce H. Grier, Director
U.S. Nuclear Regulatory Commission
Office of Inspection & Enforcement
Region 1
631 Park Avenue
King of Prussia, Pennsylvania 19406

Dear Mr. Grier:

NRC IE BULLETIN 79-17, REVISION 1
NO. 1 UNIT
SALEM GENERATING STATION

In response to NRC IE Bulletin 79-17, Revision 1, dated October 29, 1979, the following information is submitted for your review as a supplemental response to NRC IE Bulletin 79-17:

A review of safety-related stainless steel piping systems to identify systems and portions of systems which contain stagnant oxygenated borated water has been completed.

This review was based on the definition of stagnant oxygenated borated water systems as given in Section 1 of IE Bulletin 79-17, Revision 1.

The results of this review have slightly increased the inspection and surveillance requirements of NRC IE Circular 76-06. The current review addressed the following systems:

1) Residual Heat Removal
2) Safety Injection
3) Containment Spray
4) Chemical and Volume Control
5) Spent Fuel Cooling

All safety-related portions of the Spent Fuel Cooling System are now continuously circulated and therefore we eliminated it from the scope of Circular 76-06 and Bulletin 79-17, Revision 1.

In accordance with the requirements defined in Circular 76-06, a program was established to define the surveillance required at Salem to assure the integrity of piping exposed to stagnant borated water. A copy of this program and the first sixty-day report required by Circular 76-06 were submitted to the NRC by the General Manager - Electric Production letter of January 26, 1978.

The program and inspection requirements will be updated, based on the current review of pertinent systems.

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In response to Section 1(a):

1) Hydrotesting - Hydrotesting is not scheduled to be conducted until the Third Inservice Inspection period (1985-1987).

2) Service Pressure Visual Leak Examinations have been conducted as follows:

   a) Safety Injection System (Nuclear Class 3) - June 1978.

   b) Charging and Volume Control, Part 1 (Nuclear Class 2) - January 1979.

   c) Residual Heat Removal (Nuclear Class 2) - September 1979.

   d) Chemical and Volume Control, Parts 2 and 3 (Nuclear Class 2) - November 1979.

3) Service Pressure Visual Leak Examinations scheduled are as follows:

   a) Safety Injection (Nuclear Class 3) - June 1980.

   b) Containment Spray (Nuclear Class 2 and 3) - June 1980.

4) Volumetric (UT) Examinations of welds have been conducted as follows:

   Fifty-six circumferential pipe welds were examined in the Residual Heat Removal, Safety Injection and Chemical and Volume Control Systems during an outage in 1977. Fifteen circumferential pipe welds were examined in these systems during the 1979 Refueling Outage.

   The Ultrasonic Examinations were conducted by Southwest Research Institute during both outages. The procedures and qualifications were in compliance with the requirements of Section XI, ASME Code, 1974 Edition, Summer 1975 Addenda. The procedures and qualifications are filed in the PSI and ISI Plans. The ISI Examination (sampling) Plan is in accordance with the same 1974 Code as is the acceptance criteria. Data sheets of all seventy-one welds examined to date revealed no recordable or reportable indications, and none of the welds required corrective actions.

In response to Section 1(b):

Periodic samples are obtained from the stagnant lines of systems identified by the requirements of this Bulletin. The samples are analyzed for chloride content only. Our response to IE Circular 76-06 included

the sampling and analysis for dissolved oxygen also. However, those portions of systems affected by Circular 76-06 and Bulletin 79-17 are all supplied by oxygen saturated water with high boron concentrations. Accurate oxygen analysis under these conditions is very difficult and the analysis has very little value. Therefore, we have elected to maintain control over the stress-corrosion cracking propensity in stagnant lines through a program of chloride analysis of contained fluids, periodic flushing, and ongoing inspection. Sample schedules, chemistry specifications, and corrective action to be taken have been included in the station Chemistry Procedures. Analysis data sheets are included as Attachment 1.

In response to Section 1(c):

Preservice Inspection (PSI) NDE for Salem Unit No. 1 was conducted between August 1975 and August 1976. The examinations were conducted and results were accepted in accordance with the criteria established in Section XI, ASME Code, 1971 Edition, Winter 1972 Addenda. Hydrotesting of systems and visual leak examinations were conducted in accordance with USAS B31.7 (Nuclear Power Piping). Welds in the following safety-related systems that contain fluids of interest were included in the PSI Examinations when and to the extent they were required by the Code:

1) Residual Heat Removal
2) Safety Injection
3) Containment Spray
4) Chemical and Volume Control

In response to Section 1(d):

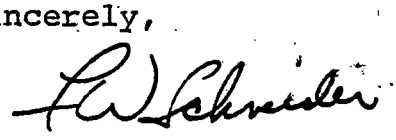
System inspections and weld examinations to date reveal no instance of cracking in identified systems.

In response to Section 2:

Since ISI Examinations have been performed on stagnant portions of systems previously identified, inspection has been done in accordance with the original Bulletin and the requirements of Section 2 of this Revision are also satisfied.

If you require additional information, we will be pleased to discuss it with you.

Sincerely,



CC: Office of Inspection & Enforcement
Division of Reactor Operations Inspection
Washington, D.C. 20555

Office of Nuclear Reactor Regulation
Division of Operating Reactors
Washington, D.C. 20555

Mr. L.J. Norrholm
Hancocks Bridge, N.J.

ATTACHMENT I

October 25, 1979

To: S. LaBruna - I S I Coordinator

SUBJECT: I S I SAMPLE RESULTS FOR THE 3rd QUARTER OF

Sample Points	Chloride, ppm
RWST-1	<0.05
1CS61	Empty
11RHR	<0.05
12RHR	<0.05
1RH71	<0.05
1RH65	<0.05
12RH70	<0.05
1RH58	<0.05
11 Safety Injection Pump	<0.05
12 Safety Injection Pump	<0.05
1SJ905	<0.05
1SJ907	<0.05
1SJ179	<0.05
1SJ297	<0.05
Boron Acid Injection Tank	<0.05
11SJ147	<0.05
12SJ147	<0.05
11 Accumulator	No Flow
12 Accumulator	No Flow
13 Accumulator	No Flow
14 Accumulator	No Flow
11 Boric Acid Storage Tank	<0.05
12 Boric Acid Storage Tank	<0.05
Boric Acid Batching Tank	0.05
Boric Acid Blender	<0.05
1RH63	<0.05
1SJ224	<0.05
1SJ219	<0.05
1SJ217	Empty
1SJ149	<0.05
11 Charging Pump	<0.05
12 Charging Pump	<0.05
11 Containment Spray Pump	3.55
12 Containment Spray Pump	0.18

James Gueller

James Gueller
Senior Performance Supervisor
ED/Chemistry

MSS:pgb

July 3, 1979

To: S. LaBruna - I S I Coordinator

SUBJECT: I S I SAMPLE RESULTS FOR THE SECOND QUARTER OF 1979.

Sample Points	Chlorides, ppm
RWST-1	<0.05
ICS61	Empty
11RHR	<0.05
12RHR	<0.05
1RH71	<0.05
1RH65	<0.05
12RH70	<0.05
1RH58	<0.05
11 Safety Injection Pump	0.125
12 Safety Injection Pump	0.125
1SJ905	0.10
1SJ907	0.05
1SJ179	<0.05
1SJ297	<0.05
Boron Acid Injection Tank	0.13
11SJ147	<0.05
12SJ147	<0.05
11 Accumulator	Out of Service
12 Accumulator	Out of Service
13 Accumulator	Out of Service
14 Accumulator	Out of Service
11 Boric Acid Storage Tank	<0.05
12 Boric Acid Storage Tank	<0.05
Boric Acid Batching Tank	<0.05
Boric Acid Blender	<0.05
1RH63	0.06
1SJ224	0.05
1SJ219	0.05
1SJ217	0.10
1SJ149	Empty
11 Charging Pump	0.05
12 Charging Pump	0.05
11 Containment Spray Pump	0.05
12 Containment Spray Pump	0.05

James D Miller

James Miller
Senior Performance Supervisor
WD/Chemistry

MJB:ppb

April 16, 1979

To: S. LaBruna - I S I Coordinator

SUBJECT: I S I SAMPLE RESULTS FOR THE 1st QUARTER OF 1979.

Sample Points	Chloride, ppm
RWST-1	0.10
1CS61	<0.05
11RHR	<0.05
12RHR	<0.05
1RH71	0.12
1RH65	EMPTY
12RH70	0.175
1RH58	0.15
11 Safety Injection Pump	<0.05
12 Safety Injection Pump	<0.05
1SJ905	<0.05
1SJ907	<0.05
1SJ179	<0.05
1SJ297	<0.05
Boron Acid Injection Tank	<0.05
11SJ147	<0.05
12SJ147	<0.05
11 Accumulator	<0.05
12 Accumulator	<0.05
13 Accumulator	<0.05
14 Accumulator	<0.05
11 Boric Acid Storage Tank	<0.05
12 Boric Acid Storage Tank	<0.05
Boric Acid Batching Tank	<0.05
Boric Acid Blender	<0.05
1RH63	<0.05
1SJ224	<0.05
1SJ219	<0.05
1SJ217	<0.05
1SJ149	<0.05
11 Charging Pump	0.15
12 Charging Pump	<0.05
11 Containment Spray Pump	<0.05
12 Containment Spray Pump	<0.05

James Gueller
Senior Performance Supervisor
HP/Chemistry

MSS:pgb

December 30, 1978

To: S. LaBruna - I S I Coordinator

SUBJECT: I S I SAMPLE RESULTS FOR THE FOURTH QUARTER OF 1978.

Sample Points	Chloride, ppm
RWST-1	<.05
1CS61	<.05
11RHR	.05
12RHR	<.05
1RH71	<.05
1RH65	<.05
12RH70	<.05
1RH58	<.05
11 Safety Injection Pump	.05
12 Safety Injection Pump	.05
1SJ905	.090
1SJ907	.099
1SJ179	<.075
1SJ297	<.075
Boron Acid Injection Tank	<.05
11SJ147	<.05
12SJ147	<.05
11 Accumulator	<.05
12 Accumulator	<.05
13 Accumulator	<.05
14 Accumulator	<.05
11 Boric Acid Storage Tank	.075
12 Boric Acid Storage Tank	.075
Boric Acid Batching Tank	<.05
Boric Acid Blender	<.05
1RH63	<.05
1SJ224	<.05
1SJ219	<.05
1SJ217	<.05
1SJ149	<.05
11 Charging Pump	<.05
12 Charging Pump	<.05
11 Containment Spray Pump	<.05
12 Containment Spray Pump	<.05

James Gueller
James Gueller
Senior Performance Supervisor
HP/Chemistry

MSS:pcb

September 29, 1978

To: S. LaBruna - I S I Coordinator

SUBJECT: I S I SAMPLE RESULTS FOR THE THIRD QUARTER OF 1978.

Sample Points	Chloride, ppm
RWST-1	<.05
1CS61	500
11RHR	<.05
12RHR	<.05
1RH71	<.05
1RH65	<.05
12RH70	<.05
1RH58	<.05
11 Safety Injection Pump	<.05
12 Safety Injection Pump	<.05
1SJ905	<.05
1SJ907	<.05
1SJ179	<.05
1SJ297	<.05
Boron Acid Injection Tank	.09
11SJ147	<.05
12SJ147	<.05
11 Accumulator	.08
12 Accumulator	.07
13 Accumulator	.08
14 Accumulator	.08
11 Boric Acid Storage Tank	.16
12 Boric Acid Storage Tank	.29
Boric Acid Batching Tank	.10
Boric Acid Blender	.11
1RH63	<.05
1SJ224	<.05
1SJ219	<.05
1SJ217	<.05
1SJ149	<.05
11 Charging Pump	<.05
12 Charging Pump	<.05
11 Containment Spray Pump	.17
12 Containment Spray Pump	.35

James Gueller
Senior Performance Supervisor
HP/Chemistry

MSS:pgb

June 30, 1978

To: S. LaBruna - I S I Coordinator

SUBJECT: I S I SAMPLE RESULTS FOR THE SECOND QUARTER OF 1978

Sample Points	Chloride, ppm
RWST-1	0.06
1CS61	750
11RHR	<0.05
12RHR	0.10
1RH71	0.10
1RH65	0.13
12RH70	0.08
1RH58	0.08
11 Safety Injection Pump	0.05
12 Safety Injection Pump	0.06
1SJ905	0.05
1SJ907	0.05
1SJ179	0.14
1SJ297	0.13
Boron Acid Injection Tank	0.06
11SJ147	0.08
12SJ147	0.08
11 Accumulator	0.08
12 Accumulator	0.09
13 Accumulator	0.11
14 Accumulator	0.12
11 Boric Acid Storage Tank	1.28
12 Boric Acid Storage Tank	1.31
Boric Acid Batching Tank	0.10
Boric Acid Blender	0.10
1RH63	<0.05
1SJ224	<0.05
1SJ219	<0.05
1SJ217	0.06
1SJ149	<0.05
11 Charging Pump	0.08
12 Charging Pump	0.10
11 Containment Spray Pump	0.78
12 Containment Spray Pump	0.20

James Gueller

James Gueller
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