



PSEG

Public Service Electric and Gas Company P.O. Box 236 Hancocks Bridge, New Jersey 08038-0236

Nuclear Business Unit

March 16, 1998

LR-N98-0132

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, DC 20555

Attn: Document Control Desk

**MONTHLY OPERATING REPORT
SALEM UNIT NO. 1
DOCKET NO. 50-272**

Gentlemen:

In compliance with Section 6.9.1.6, Reporting Requirements for the Salem Technical Specifications, the original Monthly Operating report for February, 1998, is attached.

Sincerely,

A. C. Bakken III
General Manager -
Salem Operations

RBK/rbk
Enclosures

C Mr. H. J. Miller
Regional Administrator USNRC, Region 1
475 Allendale Road
King of Prussia, PA 19046

IE24/1



9803200112 980228
PDR ADOCK 05000272
R PDR

The power is in your hands.

DOCKET NO.: 50-272
 UNIT: Salem 1
 DATE: 3/15/98
 COMPLETED BY: R. Knieriem
 TELEPHONE: (609) 339-1782

Reporting Period: January 1998

OPERATING DATA REPORT

Design Electrical Rating (MWe-Net)
 Maximum Dependable Capacity (MWe-Net)

No. of hours reactor was critical
 No. of hours generator was on line (service hours)
 Unit reserve shutdown hours
 Net Electrical Energy (MWH)

1115		
1106		
Month	Year-to-date	Cumulative
0	0	104380
0	0	100388
0	0	0
0	0	100136543

UNIT SHUTDOWNS

NO.	DATE	TYPE F=FORCED S=SCHEDULED	DURATION (HOURS)	REASON (1)	METHOD OF SHUTTING DOWN THE REACTOR (2)	CORRECTIVE ACTION/COMMENT
1	2/1/98 - 2/28/98	F	672	F,C	4	Steam Generator Replacement and Refueling Outage

(1) Reason

- A - Equipment Failure (Explain)
- B - Maintenance or Test
- C - Refueling
- D - Regulatory Restriction
- E - Operator Training/License Examination
- F - Administrative
- G - Operational Error (Explain)
- H - Other

(2) Method

- 1 - Manual
- 2 - Manual Trip/Scram
- 3 - Automatic Trip/Scram
- 4 - Continuation
- 5 - Other (Explain)

Summary:

The unit is in a refueling and a steam generator replacement outage and remained shutdown for the entire period. According to commitments from PSE&G and a subsequent confirmatory action letter from the NRC, the unit will remain shutdown pending completion of the following actions:

DOCKET NO.: 50-272
UNIT: Salem 1
DATE: 3/15/98
COMPLETED BY: R. B. Knieriem
TELEPHONE: (609) 339-1782

- Appropriately address long standing equipment reliability and operability issues.
- After the work is completed, conduct a restart readiness review to determine for ourselves the ability of the unit to operate in a safe, event free manner.
- After the restart review, meet with the NRC and communicate the results of that review.

DOCKET NO.: 50-272
UNIT: Salem 1
DATE: 3/15/98
COMPLETED BY: R. B. Knieriem
TELEPHONE: (609) 339-1782

SUMMARY OF CHANGES, TESTS, AND EXPERIMENTS
FOR THE SALEM UNIT 1 GENERATING STATION

MONTH FEBRUARY 1998

The following items completed during **February 1998** have been evaluated to determine:

1. If the probability of occurrence or the consequences of an accident or malfunction of equipment important to safety previously evaluated in the safety analysis report may be increased; or
2. If a possibility for an accident or malfunction of a different type than any evaluated previously in the safety analysis report may be created; or
3. If the margin of safety as defined in the basis for any technical specification is reduced.

The 10CFR50.59 Safety Evaluations showed that these items did not create a new safety hazard to the plant nor did they affect the safe shutdown of the reactor. These items did not change the plant effluent releases and did not alter the existing environmental impact. The 10CFR50.59 Safety Evaluations determined that no unreviewed safety or environmental questions are involved.

Design Changes Summary of Safety Evaluations

1EC-3191, Turbine Driven Auxiliary Feed Pump Pressure Relief Valve. This modification installs a new pressure relief valve on the 13 Turbine Driven Auxiliary Feed pump continuous recirculation line. Installation of the relief valve removed a temporary configuration installed to address undesired discharges and blowdowns which were attributed to a degraded valve condition and reestablished the original design basis configuration.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3292, Pkg. 2, 12 Component Cooling Water (CCW) Heat Exchanger Control System Upgrade. This design change replaced the existing CCW heat exchanger Service Water flow control system with two independent cascade

type control systems to provide better temperature control and to provide more even distribution of pressure drop across the flow control valves.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3311, Pkg. 1, Auxiliary Building Ventilation System Design

Enhancements. This modification provides design enhancements to increase the Auxiliary Building Ventilation system performance and reliability and reduce Auxiliary Building pressure control problems.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3337, Pkg. 1, Switchgear and Penetration Area Ventilation System Design Enhancements.

This modification provides design enhancements which will improve Switchgear and Penetration Area Ventilation system performance, reliability, and reduce pressure control problems.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3346, Rod Cluster Control Assembly (RCCA) Replacement. This design change replaces RCCA with a design which incorporates the following features: (1) A single piece absorber rod with reduced tip diameter to allow for increased swelling of the absorber rod within the clad, (2) A different composition of stainless steel for cladding and end plugs to improve wear resistance and weldability, (3) Ion-nitriding surface treatment to improve wear resistance.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3651, Pkg. 1, Modification To Station Air Compressor Controls. This modification changes the Station Air Compressor controls from a total closure control scheme to a constant pressure control scheme to reduce compressor cycling that occurs during low load operation.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3385, Pkg. 2, Emergency Lighting Inverter Modification. This modification changes the normal and backup power sources for the Emergency Lighting Inverters to remove the bulk of the Emergency Lighting Inverter load from the battery chargers during a battery system recharge.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3439, Pkg. 1, Main Turbine Lube Oil Separator Replacement. This modification replaces the existing centrifugal type separator with a coalescing filter type separator. The change will reduce and simplify drive train maintenance and oil leaks caused by drive train vibration. It also will increase the separator capacity by 100 gpm.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3440, Pkg. 1, Backup Bearing Lift Pump Replacement. This design change will replace the existing Backup Bearing Lift pump with a design with the same capacity as the Primary Bearing Lift pump that will allow automatic operation of the Backup Bearing Lift pump. The previous design utilized a Backup Bearing Lift pump with a capacity that was about half of the capacity of the Primary Lift pump. This precluded automatic operation because operation of the Backup Lift pump required isolation of oil to certain bearings.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3504, Pkg. 1, Instrumentation and Control (I&C) Ground Bus System/Nuclear Instrumentation System Grounding. This modification installed an insulated single-point ground system for use by I&C systems to eliminate the high levels of electro-magnetically induced noise caused by the previously installed grounding system.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3513, Alternate Shutdown System Inverter Replacement. This design change replaced the installed Alternate Shutdown system inverter with an inverter of a more reliable design.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3519, Pkg. 1 & 2, Auxiliary Feed Water Storage Tank High Level Control/Alarm Modification. This design change added an automatic closure feature to the control circuit for the Demineralized Water Make-up Supply valve to Auxiliary Feed Water Storage tank. The change also added the capability to bypass the automatic close feature from the Control Room. Additionally, the modification replaced the existing level transmitter with a more accurate design and added one alarm switch to the instrument loop.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3622, Pkg. 1, Liquid Radwaste System Enhancements. This modification installed a Tubular Ultra Filtration System (TUF) that has a greater removal capability that will reduce the radioactivity released in the liquid effluent.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3640, Pkg. 1, Salem Unit 1 Auxiliary Feed Water Storage Tank Nitrogen Blanket. This design change provided a nitrogen purge/blanket system for the Auxiliary Feed Water Storage tank to control the dissolved oxygen concentration of the feed water.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3650, Pkgs. 2,3, & 4, 4KV Group Bus General Electric Magne-blast Breaker Replacements. This modification replaced the existing 4KV Group Bus Air Circuit Breakers, Type General Electric Magne-Blast metal clad switchgear breakers (models AM-4.16-350, 1200 and 2000 amp), with Siemens manufactured (Model 5-3AFS-350, 1200 and 2000 amp) vacuum breakers to improve reliability, correct maintenance difficulties, and to improve the operating quality of the air circuit breakers.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3668, Pkg. 2, Generic Letter 96-06 Modifications. This modification changed the Containment Fan Cooler Unit (CFCU) Fan Motor Cooler control valves' control setpoint to minimize cavitation following a Loss Of Coolant Accident and installed a travel stop to more accurately control valve position during normal operation.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3668, Pkg. 7, Generic Letter 96-06 Modifications. This modification provided an enclosure for the Service Water Accumulator tanks for protection from seasonal temperature extremes.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3681, Steam Generator Feed Pump Vibration Monitoring Update. This modification replaced the existing obsolete Steam Generator Feed Pump vibration monitoring equipment with new equipment possessing additional monitoring and analytical capabilities.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EC-3700, Pkg. 1, Flux Mapping Cabinet 99-1 Power Change. This modification replaced the existing Flux Mapping Cabinet 99-1 power feed. The new power feed includes a battery backup that will allow the use of the Safety Parameter Display System in the Emergency Operating Procedures.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EE-0037, Pkg. 1, Heat Trace And Insulate Instrument Lines. This modification installed improved insulation and heat tracing for Main Steam system instrument lines. This will provide freeze protection below as well as above the Turbine Deck.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EE-0069, Pkg. 1, Replacement Of Fish Baskets, 12B Circulating Water Traveling Screens. This modification replaced the existing fish baskets in the traveling screens with a design to improve fish survivability. The modification also added spray nozzles to improve debris removal and to aid fish handling.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EE-0071, Pkg. 1, Replacement Of Fish Baskets, 13B Circulating Water Traveling Screens. This modification replaced the existing fish baskets in the traveling screens with a design to improve fish survivability. The modification also added spray nozzles to improve debris removal and to aid fish handling.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

1EE-0186, Pkg.1, Volume Control Tank Hydrogen Pressure Regulating Valve Modification. This design change replaced the existing Volume Control Tank Hydrogen Pressure Regulating valve with a Fisher model valve with a pneumatic controller/actuator that will provide more reliable operation.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

Minor Modification, S97-137, Pkg. 1, Add Welded Pipe Cap At MS61 and MS190 Valves. This modification added a Nuclear Class 2 safety related pipe nipple and welded cap at the outlet of valves 11MS61 through 14MS61. It also replaced the non-nuclear class, non-safety related pipe nipple and screwed cap at the outlet of valves 11MS190 through 14MS190 with a Nuclear Class 2 safety related pipe nipple and a welded cap. The modification provides a passive containment boundary at these connections which will make it no longer necessary to verify the position of the MS61 and MS189 (immediately upstream of MS190) every 92 days while in Modes 1-4. This will provide better unit availability and reduce radiation exposure.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

Minor Modification, S97-099, 11 Charging/Safety Injection Pump Casing Replacement. This design change replaced the existing 11 Charging/Safety Injection carbon steel pump casing with an identical casing fabricated of forged stainless steel.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

Minor Modification, S97-065, Station Air (SA) Supply Header To Penetration Coolers Strainer Installation Modification. This modification provides a normal and backup Station Air supply to Salem Unit 1 and Unit 2 Penetration Cooling with a "Y" strainer capable of removing and collecting Station Air system debris before it enters the SA107 regulating valves and the Penetration Area.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

Minor Modification, S97-174, Rerouting Of Non-Reactor Coolant System Leakage To The Containment Sump Instead Of The Pressurizer Relief Tank. This modification reroutes non-Reactor Coolant system (RCS) leakage to the Containment Sump in lieu of the Pressurizer Relief tank (PRT). This will aid in the determination of identified and unidentified RCS leakage. By removing the sources of non-RCS leakage into the PRT, the remaining leakage into the PRT can then be classified as identified RCS leakage.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

Minor Modification, S98-001, 11 Charging/Safety Injection Pump Mechanical Seal Heat Exchanger Tubing Modification. This modification replaced the existing 1/2" O. D. stainless steel 11 Charging/Safety Injection Pump Mechanical Seal Heat Exchanger cooling water supply tubing with 3/4" O. D. stainless steel tubing to increase cooling water flowrate to a value above the minimum required in the limiting accident alignment and to a value that will provide additional margin.

This design change does not negatively impact any accident response. This design change does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this design change does not involve an Unreviewed Safety Question.

Temporary Modifications Summary of Safety Evaluations

There were no changes in this category implemented during February, 1998.

Procedures Summary of Safety Evaluations

There were no changes in this category implemented during February, 1998.

UFSAR Change Notices Summary of Safety Evaluations

UFSAR CN 98-002, Minimum Ambient Temperature For The Service Water Intake Structure. This evaluates a change to the minimum ambient room temperature within the Service Water Intake Structure from 60°F to 40°F. The safety evaluation assessed the operability of the safety related and non-safety related electrical and instrumentation and controls equipment within the Pump Bays and Control Rooms.

This evaluation does not negatively impact any accident response. This procedure revision does not increase the probability or consequences of either

an accident or a malfunction of equipment important to safety. Therefore, this procedure revision does not involve an Unreviewed Safety Question.

Deficiency Reports Summary of Safety Evaluations

There were no changes in this category implemented during February, 1998.

Other Summary of Safety Evaluations

Safety Evaluation S97-011, Modify Salem Units 1 & 2 Monthly Operating Report Contents To Reflect The Requirements Of Generic Letter 97-02. This evaluates a change to the contents of the Salem Units 1 & 2 Monthly Operating Report to incorporate the reporting requirements of Generic Letter 97-02. This change reduced scope of the plant operating data that was required to be reported.

This evaluation does not negatively impact any accident response. This procedure revision does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this procedure revision does not involve an Unreviewed Safety Question.

Safety Evaluation S98-018, Reanalysis Of Spurious Operation Of The Safety Injection System At Power Event For Salem Unit 1. This evaluates a revision to the UFSAR analysis of the Spurious Operation of the Safety Injection System at Power event in Chapter 15.

This evaluation does not negatively impact any accident response. This procedure revision does not increase the probability or consequences of either an accident or a malfunction of equipment important to safety. Therefore, this procedure revision does not involve an Unreviewed Safety Question.