

INSERTION INSTRUCTIONS
FOR REVISION 2 TO THE ENVIRONMENTAL
QUALIFICATION REPORT (EQR)

The following text, tables, and figures are to be inserted in the EQR. These pages are either replacement pages or new pages as indicated below.

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SECTION 1

INTRODUCTION

1.1 PURPOSE

The purpose of the Environmental Qualification (EQ) Program for the Shoreham Nuclear Power Station is to provide assurance that all electrical equipment (safety-related Class 1E equipment and equipment required by Regulatory Guide 1.97) located in potential harsh environments maintain functional operability when required to mitigate the consequences of a postulated accident or to bring the plant to a cold shutdown condition afterwards. This assurance is provided by comparing environmental information contained in electrical equipment qualification documents against the postulated environment to which the equipment may be subjected. This review results in one of the following:

- a. documentation of environmental qualification of equipment to demonstrate that requirements are adequately met, or
- b. upgrading of qualification or requalification of equipment which does not meet minimum requirements, or
- c. modification of design to meet the applicable requirements, or
- d. replacement of any equipment which lacks sufficient evidence of qualification with qualified equipment.

1.2 SCOPE

The equipment identified for environmental qualification include:

- a. safety-related Class 1E Electrical Equipment (hereafter referred to as equipment) located in potentially harsh environments, and required to operate during or after such an environment,
- b. sensing devices located in potentially harsh environments for display instruments which monitor the condition of the plant during and after postulated accidents as required by Regulatory Guide 1.97, (these are designated with "RG" in the third column of the Equipment Qualification Status Report (EQSR) in Appendix F), and
- c. Three Mile Island (TMI) Lessons Learned modifications to safety-related systems including control and monitoring devices located in potentially harsh environments.

Environmental conditions to which the above equipment may be subjected consist of the following:

- a. pressure
- b. temperature
- c. relative humidity
- d. radiation
- e. flooding/submergence
- f. fluid spray

Equipment qualification documents are reviewed with respect to the following:

- a. service conditions to which equipment is subjected,
- b. design basis events (LOCA, MELB, HELB) which equipment is to mitigate,
- c. operating time, or the time during which the equipment is required to perform a function so as to mitigate the consequences of the design basis event
- d. qualification methodology based on the Operating Codes defined in Appendix E of NUREG-0588
- e. aging considerations, and
- f. margins

The review is documented on the Environmental Qualification Report Evaluation Form (EQREF) and the Environmental Qualification Summary Sheet (EQSS), and is tabulated in the computerized Environmental Qualification Status Report (EQSR).

Equipment successfully tested for an environmental profile which meets or exceeds postulated service conditions satisfies the qualification conditions and the qualification report is approved.

If a qualification report does not provide sufficient evidence of qualification, then alternative qualification methods are evaluated, including:

- a. obtain additional qualification documentation,
- b. perform additional environmental testing or analysis,
- c. modify the equipment design or material selection,

- d. further analyze the equipment's environment and/or its function to refine the adverse service conditions that pertain to the actual location and use of the component,
- e. provide enclosure or shielding,
- f. relocate in a less severe environmental zone,
- g. include considerations of potential equipment degradation in the plant preventive maintenance program to provide a basis for extension of equipment qualified life,
- h. establish a limited qualified life and a schedule for future replacement, or
- i. select better qualified equipment as replacement.

Qualification programs for specific equipment, such as cables, valves, motors, and electrical penetrations, that are designed to conform with the requirements of daughter standards of IEEE-323, are acceptable for demonstrating compliance with the objectives of IEEE Std. 323. The daughter standards include IEEE Std. 383 for cables, IEEE Std. 382 for motor operated valves, IEEE Std. 334 for electric motors, and IEEE Std. 317 for electrical penetrations.

Dynamic qualification of equipment is performed in accordance with the requirements of IEEE Std. 344 and is addressed in separate documentation.

LILCO maintains primary responsibility for the Environmental Qualification Program for the Shoreham Nuclear Power Station. LILCO is also responsible for the performance of those organizations who have been assigned specific tasks, and imposes upon them the requirements of the LILCO Quality Assurance Program. The review of Balance of Plant (BOP) equipment has been assigned to the Stone & Webster Engineering Corp. (SWEC) and the review of Nuclear Steam Supply System (NSSS) equipment to EDS Nuclear Inc. Both these organizations have acceptable Quality Assurance Programs which meet the requirements of 10CFR50 Appendix B, and implementation of the respective programs specific to the assigned tasks is monitored by LILCO.

1.3 SHOREHAM POSITION

Shoreham Nuclear Power Station Class 1E electrical equipment is qualified as follows: | 2

- a. Equipment purchased through May 23, 1980 is evaluated and considered environmentally qualified if it satisfies IEEE Standard 323-1971 and NUREG-0588 Category II positions as a minimum.

- b. Equipment purchased after May 23, 1980 is evaluated and accepted to IEEE Standard 323-1974 and NUREG-0588 Category I positions, where possible. If such equipment is not available and cannot be made available, equipment is evaluated and considered environmentally qualified if it satisfies IEEE Standard 323-1971 and NUREG-0588, Category II positions as a minimum.

In some cases, the DOR Guidelines may be used to clarify the requirements of IEEE Standard 323 and NUREG-0588.

SECTION 2

DEFINITION OF SAFETY-RELATED ELECTRICAL EQUIPMENT

2.1 METHODOLOGY

The identification of equipment for environmental qualification requires the examination of the applicable project documents. These documents include flow diagrams, electrical one-line diagrams, logic diagrams, elementary diagrams, and instrument loop diagrams. Examination of these documents entails the following:

- a. Review of electrical one-line diagrams to identify electrical equipment which distributes safety-related power to safety-related electrical systems.
- b. Review of system flow diagrams, related system descriptions, and FSAR system function sections (including Chapter 15 - accident analysis and Appendix 3C - pipe failure outside primary containment) to identify the electrical equipment within each system, analyze and tabulate emergency events for each equipment item and the corresponding safety function required to mitigate the emergency event, define operating codes as referenced in Appendix E of NUREG-0588 and determine the amount of time required for performance of the operability requirement. | 2
- c. Review of elementary and loop diagrams for each Class 1E electrical equipment item on marked-up flow diagrams to identify miscellaneous safety-related equipment required to control or monitor the equipment.

Equipment identified in this manner is listed on the Environmental Qualification Status Report (EQSR), and is cross-referenced against the Project Equipment System (PES) computer listing to confirm the identification and location of the equipment, and to aid in the location of applicable procurement documents.

To provide additional assurance that all required electrical equipment is identified, the plant Emergency Operating Procedures will be reviewed against the computerized report (EQSR).

2.2 SPECIFICATIONS WITH EQUIPMENT REQUIRING ENVIRONMENTAL QUALIFICATION

Using the procedure outlined in Section 2.1 and discussed in detail in the following sections, a list of BOP safety-related Class IE electrical equipment located in a potentially harsh environment has been developed. The specifications listed below are applicable to this equipment.

SPECIFICATIONS FOR SAFETY-RELATED ELECTRICAL EQUIPMENT LOCATED IN A HARSH ENVIRONMENT

<u>Specification Number</u>	<u>Title</u>
SH1-39	4,160 V Metal Clad Switchgear
SH1-62G	Centrifugal Pumps
SH1-88AD	Carbon Steel MOVs
SH1-88V	Carbon Steel MOVs
SH1-102	Centrifugal Fans
SH1-105	Charcoal Filter Trains
SH1-111	Ventilation Butterfly Valves
SH1-115	480 V Motor Control Centers
SH1-124	Miscellaneous AC and DC Distribution Panelboards
SH1-127	5 KV Power Cable
SH1-128	600 V Power Cable
SH1-129	300 V and 600 V Fire-Resistant Control and Instrument Cable
SH1-130	Instrument Cable
SH1-131	Thermocouple Extension Wire
SH1-134	Reactor Containment Electrical Penetrations
SH1-159	Electrical Work

<u>Specification Number</u>	<u>Title</u>
SH1-168	DC Motor Control Centers
SH1-172	Primary Containment Isolation Valves
SH1-175	Drywell Floor Relief Valves
SH1-197	Motor Operated Butterfly Valves
SH1-203	Manually Operated Diaphragm Valves - Carbon Steel
SH1-214	Manually Operated Stainless Steel Valves
SH1-232	Special Check Valves
SH1-235	Loop Level Pumps
SH1-248	Miscellaneous Transformers
SH1-253	Motor Operated Steel Valves
SH1-270	Axial Flow Fans
SH1-276	Unit Coolers
SH1-281	Bronze Valves
SH1-289	Hydrogen Recombiner Units
SH1-310	Electric Motor Operated Control Valves
SH1-318	Air Operated Control Valves
SH1-319	Automatic Temperature Control Systems for HVAC
SH1-332	Radiation Monitors
SH1-344	Primary Containment Gas Analyzers
SH1-348	Pressure and Temperature Switches
SH1-406	Electronic Transmitters and RTDs
SH1-406A	RTDs

<u>Specification Number</u>	<u>Title</u>
SH1-407	Level Switches
SH1-423	Air Operated Butterfly Valves ASME III
SH1-438	Automatic Transfer Switches
SH1-439	480 V Motor Generator Set
SH1-455	Low Capacitance Fire-Resistant Instrument Cable
SH1-456	Reactor Containment Electrical Penetrations
SH1-457	Leakage Return Pump
SH1-473	Level Transmitters
SH1-475	Post Accident Radiation Monitoring
SH1-484	Control & Instrument Cable
SH1-485	Thermocouple Extension Wire
2 | S1554	Valcor Solenoid Valves

The equipment items within the NSSS scope of supply are included under Specification SH1-003.

2.3 MISCELLANEOUS COMPONENTS AND ACCESSORIES

The environmental qualification of miscellaneous electrical components and accessories is addressed in the same manner as the equipment which is identified from the review of project drawings. Examples of miscellaneous components include control stations, terminal lugs, splicing materials, and internal panel wire. These components are not identified with a specific equipment identification number but, instead, are documented on a separate list attached to the Environmental Qualification Status Report (EQSR) in Appendix F. Most of the miscellaneous electrical components and accessories have been procured under Specification SH1-159.

2.4 SYSTEMS REVIEWED

The systems reviewed to identify the equipment requiring environmental qualification are presented below. In parentheses alongside the systems are alternate names to describe the system or portions thereof.

<u>SYSTEM</u>	<u>SYSTEM CODE</u>
Nuclear Boiler (Includes Some Safeguards Activation)	1B21
Reactor Water Recirculation (Reactor Coolant)	1B31
Control Rod Drive Hydraulic Control	1C11
Standby Liquid Control	1C41
Neutron Monitoring	1C51
Reactor Plant Remote Shutdown	1C61
Reactor Protection	1C71
Process Radiation Monitoring	1D11
Area Radiation Monitoring	1D21
Residual Heat Removal (Includes Containment Spray)	1E11
Core Spray	1E21
MSIV Leakage Control	1E32
High Pressure Coolant Injection	1E41
Reactor Core Isolation Cooling	1E51
Radwaste	1G11
Reactor Water Cleanup	1G33
Fuel Pool Cooling and Cleanup	1G41
Main Control Room Panels	1H11
Local Panels and Racks	1H21
RBSVS & Control Room Chilled Water	1M50
Main Steam	1N11
Condensate and Feedwater	1N21
Miscellaneous Drains	1N23
Condensate Transfer and Storage	1P11
Demineralized & Makeup Water	1P21
Sample	1P33
Service Water	1P41
Reactor Building Closed Loop Cooling Water	1P42
Compressed Air	1P50
Metal Clad Switchgear	1R22
Unit Substations	1R23
Motor Control Centers	1R24
Power Cable & Wire	1R31
Control Cable & Wire	1R32
AC Control and Instrument Power	1R35
AC Uninterruptible Power	1R36
DC Instrument Power	1R41
Battery Power (125V D-C)	1R42
Diesel Emergency Power	1R43
Reactor Building Superstructure	1T22
Reactor Primary Containment	1T23
Primary Containment Inerting	1T24
Reactor Building Ventilation	1T41

Reactor Building Standby Ventilation (Standby Gas Treatment)	1T46
Primary Containment Cooling	1T47
Primary Containment Atmospheric Control (Combustible Gas Control)	1T48
Miscellaneous HVAC	1X41
Diesel Generator Ventilation	1X60
Control Room HVAC	1X61
Excess Flow Check Valves	1Z92
Post Accident Monitoring	1Z93
Post Accident Sampling	1Z96
(Emergency Condenser not applicable to Shoreham)	

2.5 CORRELATION BETWEEN FSAR TABLE 3.2.1-1 AND EQR SECTION 2.4

The safety-related systems listed in FSAR Table 3.2.1-1 were addressed. A detailed correlation between the systems listed in Section 2.4 of the Environmental Qualification Report (EQR) and FSAR Table 3.2.1-1 is as follows:

<u>Table 3.2.1-1 Item</u>	<u>Correlation With SWEC EQ Effort</u>
I. Reactor System	All equipment under this item is mechanical or structural - no electrical equipment to consider.
II. Nuclear Boiler System	Addressed in 1B21 System Review
III. Recirc. System	Addressed in 1B31 System Review
IV. CRD Hydraulic System	Addressed in 1C11 System Review
V. Standby Liquid Control System	Addressed in 1C41 System Review
VI. Neutron Monitoring System	Addressed in 1C51 System Review
VII. Reactor Protection System	Addressed in 1C71 System Review
VIII. Fixed Process, Airborne, and Effluent Radiation Monitor	Addressed in 1D11 System Review
IX. RHR System	Addressed in 1E11 System Review
X. Core Spray System	Addressed in 1E21 System Review
XI. HPCI System	Addressed in 1E41 System Review

Table 3.2.1-1 Item

Correlation With SWEC EQ Effort

XII.	RCIC System	
XIII.	Fuel Service Equip.	No equipment required for accident mitigation
XIV.	Reactor Vessel Service Equip.	No equipment required for accident mitigation
XV.	In-Vessel Service Equip.	No equipment required for accident in mitigation
XVI.	Refueling Equip.	No equipment required for accident mitigation
XVII.	Storage Equip.	No equipment required for accident mitigation
XVIII.	Radwaste System	Addressed in 1G11 System Review
XIX.	Reactor Water Cleanup System	Addressed in 1G33 System Review
XX.	Fuel Pool Cleanup Subsystem	Addressed in 1G41 System Review
XXI.	Fuel Pool Cooling Subsystem	Addressed in 1G41 System Review
XXII.	Control Room Panels	Addressed in 1H11 System Review
XXIII.	Local Panels	Addressed in 1H21 System Review
XXIV.	Offgas System	Not Required for accident mitigation - System is Q.A. Cat. II
XXV.	Service Water System	Addressed in 1P41 System Review
XXVI.	Compressed Air System	Addressed in 1P50 System Review
XXVII.	Onsite Power System	Addressed in 1R43, 1R22, 1R24, 1R35, 1T23, 1R42, 1R31, 1R41, 1R36, 1R32, System Reviews

2

Table 3.2.1-1 Item

Correlation With SWEC EQ Effort

XXVIII.	Prim. Cont. Atm. Control System	Addressed in 1T24, 1T48 System Reviews
XXIX.	Reactor Building Standby Ventilation System	Addressed in 1T46 and 1M50 System
XXX.	Primary Containment Purge System	Addressed in 1T41 System Review
XXXI.	Power Conversion System	Addressed in the 1N11 and 1N23 System Reviews
XXXII.	Condensate Storage and Transfer System	Addressed in the 1P11 System Review
XXXIII.	Permanent Emergency Support Facilities	Consists of non-Class IE items- no equip. from these included
XXXIV.	MSIV Leakage Control System	Addressed in the 1E32 System Review
XXXV.	Miscellaneous Components	Equip. in this category is included within other system reviews (e.g., ECCS loop level pumps addressed in 1E21, 1E11 system reviews)
XXXVI.	RB Closed Loop Cooling Water System	Addressed in the 1P42 System Review
XXXVII.	Equipment and Floor Drainage Systems	Addressed in the 1G11 System Review
XXXVIII.	Misc. Vent. Systems	Addressed in the 1X41 System Review
XXXIX.	Area Rad. Monitoring System	Addressed in the 1D21 System Review
XL.	Leak Detection System	Equip. for this System belongs to several other systems and is included in the review of those systems

<u>Table 3.2.1-1 Item</u>	<u>Correlation With SWEC EQ Effort</u>
XLII. Fire Protection	This is Q.A. Cat. II and not safety-related - no equipment included
XLIII. Civil Structures	No equip. in this category - all buildings
XLIV. Primary Containment Structure	No equip. included - all structural
XLV. Plant Safety Parameter System	Equip. included in this category is contained within other system reviews
XLVI. Post Accident Sample System	Q.A. Cat. II System - No equip. included
XLVII. Valve Position Indication	Included within each system review containing safety related valves (associated PNSs)
XLVIII. Accident Monitoring	Included within other system reviews where appropriate

2.6 SYSTEMS WITH EQUIPMENT HAVING CLASS IE FUNCTIONS

The following systems support each identified Class IE safety function through the operation of individual components or operation of the system as required.

Emergency Reactor Shutdown

Nuclear Boiler System (1B21)
 Reactor Water Recirculation System (1B31)
 Control Rod Drive System (1C11)
 Reactor Protection System (1C71)
 Process Radiation Monitoring System (1D11)
 Residual Heat Removal System (1E11)
 Reactor Primary Containment (1T23)
 Auxiliary Power Systems
 Battery and Distribution Systems

Containment Isolation

Nuclear Boiler System (1B21)
 Reactor Water Recirculation System (1B31)
 Control Rod Drive System (1C11)
 Neutron Monitoring System (1C51)

Reactor Protection System (1C71)
Process Radiation Monitoring System (1D11)
Residual Heat Removal System (1E11)
Core Spray System (1E21)
High Pressure Coolant Injection System (1E41)
Reactor Core Isolation Cooling System (1E51)
Radwaste System (1G11)
Reactor Water Cleanup System (1G33)
Fuel Pool Cooling and Cleanup System (1G41)
RBSVS & Control Room Chilled Water System (1M50)
Reactor Bldg. Closed Loop Cooling Water System (1P42)
Compressed Air System (1P50)
Diesel Emergency Power System (1R43)
Reactor Primary Containment (1T23)
Primary Containment Inerting System (1T24)
Reactor Bldg. Standby Ventilation System (1T46)
Primary Containment Atmospheric Control System (1T48)
Miscellaneous HVAC (1X41)
Diesel Generator Ventilation System (1X60)
Control Room HVAC (1X61)
Auxiliary Power Systems
Battery and Distribution Systems

Reactor Core Cooling

2

Nuclear Boiler System (1B21)
Reactor Water Recirculation System (1B31)
Residual Heat Removal System (1E11)
Core Spray System (1E21)
High Pressure Coolant Injection System (1E41)
RBSVS & Control Room Chilled Water System (1M50)
Demineralized and Make-Up Water System (1P21)
Service Water System (1P41)
Reactor Bldg. Closed Loop Cooling Water System (1P42)
Compressed Air System (1P50)
Diesel Emergency Power System (1R43)
Reactor Primary Containment (1T23)
Reactor Bldg. Standby Ventilation System (1T46)
Diesel Generator Ventilation System (1X60)
Miscellaneous HVAC (1X41)
Control Room HVAC (1X61)
Auxiliary Power Systems
Battery and Distribution Systems

Containment Heat Removal

Nuclear Boiler System (1B21)
Residual Heat Removal System (1E11)
RBSVS & Control Room Cooling Water System (1M50)
Service Water System (1P41)
Diesel Emergency Power System (1R43)
Reactor Primary Containment (1T23)
Reactor Bldg. Standby Ventilation System (1T46)

Miscellaneous HVAC (1X41)
Control Room HVAC (1X61)
Diesel Generator Ventilation System (1X60)
Post Accident Monitoring System (1Z93)
Auxiliary Power Systems
Battery and Distribution Systems

Reactor Heat Removal

Nuclear Boiler System (1B21)
Reactor Water Recirculation System (1B31)
Residual Heat Removal System (1E11)
Core Spray System (1E21)
RBSVS & Control Room Cooling Water System (1M50)
Service Water System (1P41)
Reactor Bldg. Closed Loop Cooling Water System
Compressed Air System (1P50)
Diesel Emergency Power System (1R43)
Reactor Primary Containment (1T23)
Reactor Bldg. Standby Ventilation System (1T46)
Miscellaneous HVAC (1X41)
Diesel Generator Ventilation System (1X60)
Control Room HVAC (1X61)
Post Accident Monitoring System (1Z93)
Auxiliary Power Systems
Battery and Distribution Systems

Prevention of Release of Radioactive
Material to the Environment

Nuclear Boiler System (1B21)
Process Radiation Monitoring System (1D11)
Area Radiation Monitoring System (1D21)
Residual Heat Removal System (1E11)
MSIV Leakage Control System (1E32)
High Pressure Coolant Injection System (1E41)
Reactor Core Isolation Cooling System (1E51)
Radwaste System (1G11)
Reactor Water Cleanup System (1G33)
Fuel Pool Cooling and Cleanup System (1G41)
RBSVS & Control Room Chilled Water System (1M50)
Main Steam System (1N11)
Miscellaneous Drains (1N23)
Sample System (1P33)
Service Water System (1P41)
Reactor Bldg. Closed Loop Cooling Water System (1P42)
Diesel Emergency Power System (1R43)
Reactor Primary Containment (1T23)
Primary Containment Inerting System (1T24)
Reactor Bldg. Standby Ventilation System (1T46)
Primary Containment Atmospheric Control System (1T48)
Miscellaneous HVAC (1X41)
Diesel Generator Ventilation System (1X60)

Control Room HVAC (1X61)
Auxiliary Power Systems
Battery Power and Distribution Systems

The Auxiliary Power and Battery Power and Distribution systems are comprised of the following. Not all of these systems are needed for each safety function.

- Metal-Clad Switchgear (1R22)
- Unit Substations (1R23)
- Motor Control Centers (1R24)
- Power Cable & Wire (1R31)
- Control Cable & Wire (1R32)
- AC Control and Instrument Power (1R35)
- DC Instrument Power (1R41)
- Battery Power (125V-DC) (1R42)

The following systems were not included in the Safety Function listing because they do not include any electrical equipment. They are comprised of structural materials or supporting racks and panels for electrical equipment.

- Main Control Room Panels (1H11)
- Local Panels and Racks (1H21)
- Reactor Bldg. Superstructure (1T22)

The following systems were not included in the Class IE Safety Function listing because they do not perform any safety function during accident mitigation. Some of the systems are not safety related, but may have components which are connected to safety power.

- Standby Liquid Control System (1C41)
- Remote Shutdown System (1C61)
- Condensate and Feedwater Systems (1N21)
- Condensate Transfer and Storage System (1P11)
- AC Uninterruptible Power (1R36)
- Reactor Bldg. Normal Ventilation System (1T41)
- Primary Containment Cooling System (1T47)
- Post Accident Sampling System (1Z96)
- Excess Flow Check Valves (1Z92)

SECTION 3

ENVIRONMENT APPLICABLE UNDER ACCIDENT CONDITIONS

3.1 METHODOLOGY

In order to determine what safety-related electrical equipment is located in a harsh environment, it is necessary to establish the environmental conditions experienced in the areas of the plant in which the equipment is located.

Environmental profiles are determined for defined spatial zones both inside and outside the primary containment. Radiation source terms are developed in accordance with the requirements of NUREG-0737. Temperature, pressure, and humidity data are based upon applicable sections of the FSAR including Appendix 3C (Pipe Failure Outside Primary Containment). The following environmental parameters are included in the analyses of equipment environmental qualification:

a. Normal Environment

1. Radiation - 40 year integrated dose
2. Temperature - expected range
3. Humidity - expected range
4. Pressure - expected range

b. Postulated Accident Environment

1. Radiation - radiation dose received from the accident environment for the time period of interest.
2. Temperature - temperature expressed as a function of time for the duration of the accident transient.
3. Humidity - highest relative humidity levels during the accident transient, conservatively assumed at 100 percent for both the primary and secondary containments of the Reactor Building.
4. Pressure - maximum levels postulated for the accident transient.

3.2 ENVIRONMENTAL ZONE MAPS

Environmental zone maps illustrating the harsh environmental spatial zones are shown in Appendix C. The harsh environmental

service conditions experienced by each zone are given in Appendix D.

3.3 SERVICE CONDITIONS

The environmental parameters for each zone are determined for the normal and postulated accident service conditions. These parameters are the specific qualification requirements for the equipment to be qualified. The normal and accident profiles (temperature, pressure, and radiation) for each zone are illustrated as a function of time in Appendix D.

3.3.1 Normal Service Conditions

2 | Normal service conditions are the environmental conditions in each zone which are maintained during normal plant operations. This includes all levels of power generation, start-up, hot standby, shutdown, and refueling. For equipment qualification, normal service conditions are assumed continuous over the 40 year life of the plant. Pressure, temperature, and humidity values are based on normally operating HVAC systems and are shown on Table D-1. Radiation values are based on normal radionuclide inventory and are cumulative during the 40 year plant life.

3.3.2 Postulated Accident Conditions

Accident conditions generate the most severe environmental parameters for the environmental qualification of equipment. Values of temperature, pressure, humidity, and radiation are postulated to occur at the end of the 40 year plant life. Specific environmental parameters are determined by investigating the postulated accident conditions discussed below:

3.3.2.1 Loss of Coolant Accident

- a. The method of analysis for pressure and temperature response for Loss of Coolant Accident (LOCA) within the primary containment is described in Section 6.2 of the FSAR.
- b. The pressure and temperature for the secondary containment are defined in Appendix D as taken from Section 6.2.3 of the FSAR. The pressure transient in the secondary containment due to a LOCA is also shown in Figure D-43 as taken from FSAR Figure 6.2.3-2.
- c. The Turbine and Control Buildings do not experience extremes of temperature and/or pressure due to LOCA within the Reactor Building.

3.3.2.2 Pipe Break Outside Containment

a. Short-Term Response to High Energy Line Breaks (HELB)

High energy line breaks have been selected and analyzed in accordance with the specific criteria outlined in Appendix 3C of the FSAR. Achieving cold shutdown during a HELB event is discussed in FSAR Appendix 3C together with the required systems and postulated conditions. The analysis described in Appendix E, Section E.2 provides further detail of particular HELBs and their effect upon additional areas of the plant through the use of more refined temperature zones.

b. Short-term Response to Moderate Energy Line Cracks (MELB)

The following moderate energy line failure is considered and represents the limiting design condition for temperature effects due to MELBs: Twenty-four inch RHR pipe crack in the Reactor Building, elevation 40 ft. Calculations are described in Appendix E, Section E3. This failure and other MELBs are listed in Appendix 3C of the FSAR and are analyzed with the applicable criteria of that section.

c. Long-Term Response

The long-term response analysis for all breaks is a determination of the elapsed time from the moment the break occurs to the time the building environment returns to the initial starting temperature (generally 104°F).

The Reactor Building secondary containment is considered one volume.

The amount of energy in BTU's discharged into the secondary containment by the break is determined based on a reference of 104°F.

Heat is removed from the building by one of two trains of RBSVS coolers and by air exchange with the atmosphere.

The elapsed time is calculated by dividing the total energy discharged by the sum of the RBSVS cooler and atmospheric air exchange heat removal rates.

No credit is taken for heat sinks and the entire secondary containment is assumed to cool down uniformly.

d. Summary of Conservatisms Used in the Analyses

1. Frictionless flow is assumed for blowdowns.
2. No credit is taken for air coolers during the short-term analyses of Section a.
3. No automatic closure signals for isolation valves occur until the entire zone rises to the setpoint temperature.
4. Metal heat sinks are neglected.
5. The Reactor Building remains isolated to mass and energy transfer out of the building until the sheet metal roof panels relieve during the short-term analyses.
6. No credit is taken for reactor building sump pumps.
7. No credit is taken for passive heat sinks in the long-term analyses.

3.3.2.3 Radiation

The accident radiation sources and integrated radiation doses are derived as discussed in Appendix E, Section E.4 in accordance with NUREG 0737, Section II. B.2.

3.3.2.4 Sprays

The only equipment subject to spray is that equipment within the primary containment during the post accident containment cooling mode of RHR (refer to FSAR Section 6.2). The design of this system causes a uniform mist within the containment, which is bounded by the 100 percent humidity/saturated steam conditions specified for the qualification of equipment. Refer to Appendix 3C of the FSAR for the detailed analysis of HELB and MELB fluid effects outside the primary containment.

The annular volume zones within the drywell and wetwell, which are subject to containment spray impingement considered significant, have been calculated as described below.

An analysis was performed to evaluate the effects of containment spray due to the drywell and wetwell spray nozzles. The impinging effect is considered to be significant only when the spray droplet velocity has a horizontal component. All the spray nozzles are angled either horizontally or diagonally upwards (45 degree angle) with reference to the headers. Thus, the upward vertical velocity is always less than the horizontal velocity. The spray zone boundary is defined as the location where the horizontal component becomes less than the downward

vertical component with some margin. The calculations to determine the zone volumes with significant horizontal spray velocity are based on the spray flow, patterns provided by SPRACO, the nozzle manufacturer, for the type of nozzles installed, the spraying angles and the pressure differentials of the nozzle heads. These zones were superimposed for the different headers and spraying angles to arrive at a conservative impingement volume.

2

The equipment exposed to spray with only a downward vertical velocity component will not be subject to the impingement effect due to the small drop particle sizes, typically of the order of 1 mm diameter, in a 100 percent assumed post accident humidity environment. Due to their very small mass, these droplets carry an insignificant kinetic energy and therefore, have no adverse impingement effect outside the volumes where their horizontal velocities are significant.

The area outside the spray impingement zone is assumed to be equivalent to 100 percent humidity due to the small size of the droplets and gravity as the only driving force. Based on these assumptions, qualification of equipment in the following areas requires consideration of the spray impingement effect:

Drywell: An annular volume from 10' above to 10' 11" below elevation 109' 9" (elevation 98' to 120') and radially 33' outward from the location of nozzles on elevation 109' 9".

Wetwell: An annular volume from elevation 41' to 54' (2' 1" above and 10' 2" below elevation 51' 9") and radially 17' 2" outward from the location of nozzles on elevation 51' 9".

3.3.2.5 Submergence

2

Equipment required for accident mitigation is not subject to submergence in the Shoreham design. A detailed evaluation of possible flooding effects outside the primary containment due to HELBs and MELBs is presented in Appendix 3C of the FSAR.

The following maximum transient water levels are applicable to the Shoreham primary containment:

Wetwell - Elevation 47 ft. above sea level for two seconds, based on pool swell analysis, for large break LOCA.

- Elevation 4 ft. above normal water level, based on pool swell analysis, for small break LOCA.

2

Drywell - 6 in. above drywell floor based on height of down-comer openings.

With one exception, equipment within these levels is not required for accident mitigation and any postulated failure of this

equipment will not affect accident mitigating equipment nor will it mislead the operator.

2 The suppression pool temperature RTD heads are located in the wetwell 4 ft. 2 in. above normal water level (elevation 26 ft. 6 in. above sea level) and 3 ft. 8 in. above the highest water level (27 ft. above sea level) allowed during normal operation. Thus they could be temporarily submerged during a pool swell transient. However, the submergence would be of very short duration and the NEMA 4 (watertight) enclosure is considered adequate to withstand the transient.

3.4 METHODOLOGY FOR AGING CONSIDERATIONS

3.4.1 Introduction

The intent of aging in the qualification process is to bring the tested equipment to the equivalent of its "end of life" condition prior to subjecting it to the conditions of the Design Basis Event (DBE). The time period corresponding to this "end of life" condition becomes the "qualified life" of the tested equipment when the equipment demonstrates operability when subjected to its required service conditions.

The aging mechanisms that equipment are exposed to during qualified life are: radiation, cycling, and heat.

3.4.2 Radiation

The determination of qualified life includes assurance that the equipment was radiation aged to an amount equivalent to its 40 year plus accident integrated radiation dose. The preferred method for this type of qualification is type-testing. However, in some cases, type-testing was insufficient to qualify the device for its required radiation dose. In these cases, an analysis of the materials used in the tested equipment has been performed to determine the sensitivity of these materials (based on previous testing experience) to its applicable radiation environment. The radiation tolerance of the most sensitive material was assumed to be the radiation tolerance of the entire tested equipment.

The present state-of-the-art does not allow for a quantitative evaluation of synergistic effects. However, in consideration of potential synergistic effects, guidelines used when performing radiation qualification by analysis are:

- 2 a. Equipment in the Secondary Containment required to operate in order to mitigate a LOCA will not be exposed to combined harsh environments. During a LOCA, the postulated degraded core will cause higher, radiation doses through recirculating fluids, but the harsh steam environment is confined to primary containment.

Therefore, this equipment would be exposed to a single environmental stress only and would not be subject to synergistic effects which might result from combined environmental stresses.

- b. Equipment in the Secondary Containment required to operate in order to mitigate a pipe break outside primary containment could be exposed to a high temperature steam environment, but core degradation, and the associated high radiation doses, are not postulated for this accident. The relatively low radiation doses postulated for this accident are at least an order of magnitude below the threshold radiation tolerance of common organic polymers. This margin accounts for any currently unknown synergistic effects which might be present.
- c. Radiation qualification by analysis of materials for functional threshold dose levels is not used as sole radiation qualification for equipment in the Primary Containment.
- d. Radiation qualification by material analysis is limited to equipment that does not contain sensitive electronic subcomponents such as transistors and integrated circuit solid state components.

3.4.3 Cycle Aging

For devices which have moving parts or function in some repeatable manner, the devices are cycle aged for the number of postulated operations that can be expected during the installed life. In the qualification test process, cycle aging is typically performed prior to initiation of the thermal and design basis accident tests.

3.4.4 Thermal Aging

Thermal aging is the deterioration of equipment components when subjected to elevated temperatures over a period of time. During qualification testing, this process is intended to produce the actual installed end-of-life condition of the equipment prior to application of the accident environment. In the case of thermal aging, analysis may be used to augment actual type testing.

One of the methods used in consideration of thermal aging is the determination that the materials in the equipment are not sensitive to thermal degradation. This determination may include either recognizing that the materials are metallic or utilizing the Arrhenius parameters for each material to determine an "expected life."

2 | Expected life can be defined as the amount of time a material can be expected to retain a certain property in a purely thermal environment without the imposition of other aging mechanisms. When this time is much greater than the 40 yr plant life, it can be concluded that thermal degradation is insignificant in relation to other harsh environmental effects and the DBE, and thus the component may be exempted from the artificial thermal pre-aging.

When the expected life does not greatly exceed the 40 year plant life, accelerated thermal aging may be included in the qualification test program. Arrhenius parameters are utilized to determine the time and temperature of the accelerated aging required to bring the equipment to an equivalent age of 40 years at normal service temperatures. When the accelerated aging parameters are less than those required for a 40-year equivalent, a determination is made of the actual equivalent. This equivalent age is the "qualified life" of the equipment, if it successfully completes other applicable aging tests and the accident simulation.

3.4.5 Arrhenius Methodology

Section 4.4 of NUREG 0588 and Paragraph 5.2.4 of the DOR guidelines defines Arrhenius techniques as an acceptable method for aging determinations. This methodology allows the relative thermal life of nonmetallic materials to be determined by the extrapolation of an Arrhenius plot of the natural log of life as a function of reciprocal absolute temperature for that particular material.

For many nonmetallic materials, it is known that the degradation process can be defined by a single temperature-dependent reaction that follows the Arrhenius equation:

$$k = A \exp \left(-\frac{E_a}{K_B T} \right) \quad (1)$$

where:

k = reaction rate

A = frequency factor

exp = exponent to base e

E_a = activation energy

K_B = Boltzmann's Constant

T = absolute temperature

It is further noted, that for many reactions, the activation energy can be considered to be constant over the applicable

temperature range. That is, that a single aging mechanism or reaction, is controlling the rate of thermal degradation.

Equation (1) can be transformed into a form which yields a time compression factor.

The equation is:

$$t_1/t_2 = \exp ((E_a/K_B) (1/T_1 - 1/T_2)) \quad (2)$$

where:

t_1 = accelerated aging time at temperature T_1

t_2 = normal service time at temperature T_2

exp = exponent to base e

E_a = activation energy (eV)

K_B = Boltzmann's Constant (8.617×10^{-5} eV/°K)

T_1 = accelerated aging temperature (°K)

T_2 = normal service temperature (°K)

It is this equation which is used to provide a qualified life of devices at T_2 (normal service temperatures) when the activation energy of the most temperature sensitive material in the device can be determined by material textbook references or actual type testing.

3.4.6 10°C Rule Methodology

The qualified life for certain equipment was determined by the 10°C rule, rather than Arrhenius techniques. The 10°C rule (each 10°C rise shortens life by one-half) was the state of the art for aging prior to the development of Arrhenius techniques. Where the 10°C rule was used as the qualification basis, the results are verified by obtaining activation energies from published data and calculating service life via the Arrhenius method as discussed above or by demonstrating that application of the 10°C rule yields a more conservative qualified life than the Arrhenius methodology for the equipment involved.

3.5 MARGINS

The analyses used to determine environmental parameters for normal and accident service conditions include various conservative assumptions as described previously. Therefore, the postulated values of pressure, temperature, humidity, and radiation for each environmental zone are in excess of the values that would be realistically expected for the conditions analyzed.

Equipment which is required to operate must be qualified to an environmental profile which envelopes the postulated profile and results in a supplemental margin. In addition, equipment is qualified for time periods in excess of that required to provide the equipment's safety function. The operability time requirement listed in the EQSR includes a margin of at least one hour or 10 percent, whichever is greater, in excess of the time duration required by the accident analyses.

SECTION 4

DETERMINATION OF QUALIFICATION STATUS

4.1 EQUIPMENT STATUS

The qualification status of safety-related electrical equipment located in harsh environments is listed in the attached computer listing (EQ Status Report) in Appendix F. Appendix G addresses the equipment with deficient qualification documentation, along with resolution plans and, if needed, justification for interim operation.

4.2 METHODOLOGY FOR EQUIPMENT QUALIFICATION

The environmental qualification documents for the equipment are typically obtained for engineering evaluation from equipment vendors, equipment manufacturers, and/or testing facilities. These documents, in the form of qualification procedures, reports, and supplementary information, are evaluated in accordance with NUREG-0588, IEEE Std. 323, and the associated daughter standards included in Section 6. Review of these documents includes assurance that they are technically adequate and conform to the environmental qualification requirements of the applicable emergency conditions, operability times, and service conditions. 2

Each equipment item is assigned an operability code in accordance with the categories discussed in Appendix E of NUREG-0588, and the qualification entails the following:

- a. Equipment assigned an operability code "A" must have acceptable documentation which demonstrates that the equipment performs its required safety function(s) in the environment dictated by the zone in which the equipment is located.
- b. Equipment assigned an operability code "B" does not have an active safety function. Essentially, "B" coded equipment is the equipment identified as connected to Category 1E power systems but not required to operate during the postulated accident condition. Therefore, this equipment is evaluated to ensure that the accident exposure does not result in any equipment failure which would alter the state of the 1E power system.
- c. Equipment assigned an operability code "C" does not have a safety function and does not fail in any manner that would affect the safe shutdown of the plant. This equipment is not included in this report unless determined to be operability code "A" or "B" for a time less than the 180 day post accident duration and

operability code "C" for the remaining duration of the accident.

When this equipment operability code is determined, the length of time (operability time) into an accident during which the equipment must function or must not fail is also ascertained. The designation of this operability time is based on:

- a. The system operating requirements for accident mitigation.
- b. The function of each required equipment item in the system during and after accident mitigation.

2 | Equipment is designated to be qualified for a maximum of 180 day post accident duration. Equipment identified as operability code "A" for less than 180 days is designated operability code "B" for the remainder of the accident duration. However, if, at some time during the accident duration, it is determined that no postulated failure will be detrimental to the safe shutdown of the plant, an operability time of less than 180 days may be designated.

2 | The 180 day post accident period was chosen as a conservative baseline for data gathering and evaluation. The NSSS Design Specification for BWR Equipment Environmental Interface Data indicates that the maximum environmental envelope for temperature, pressure and humidity is 100 days for the long term basis, which is consistent with FSAR Table 3.11.1-1. The environmental parameters generally return to within normal limits in a relative short period (e.g., 5 days for drywell temperature) following a postulated accident, except for the radiation dose which is cumulative and does not increase significantly beyond 180 days.

The methods of qualifying equipment are testing and analysis. Testing is the principal method of qualification used in this program. The evaluation of equipment testing includes the following considerations:

- a. Acceptance criteria are established prior to the evaluation of test reports.
- b. The environmental profiles for the applicable accident conditions and zones are examined for comparison to the environment simulated in the test report.
- c. Continuous or discrete monitoring results are reviewed where relevant.
- d. Margins are verified for the environmental parameters.

- e. Documentation is reviewed to ensure that adequate information with respect to the equipment performing its required safety functions during the postulated service conditions is presented in a format that is verifiable in an independent audit.

For cases where test documentation is unavailable or incomplete, the services of reputable independent engineering testing laboratories or engineering consulting firms are contracted. These testing facilities or engineering consultants are selected based on their cognizance of the applicable standards and their experience in environmental equipment qualification. Qualification documentation may then be upgraded and reevaluated based on additional test information, retesting, or analysis based on adequate data using acceptable engineering models.

4.3 ENVIRONMENTAL QUALIFICATION DOCUMENTS

As each qualification document is reviewed and assessed, a "Test Report Number" is assigned. This test report identification is prefixed with the letters "TR-" and suffixed with the digits of the equipment's procurement specification identification to facilitate future information retrieval. These digits of the specification identification are also used to identify the other forms of documentation used in the environmental qualification (EQ) review process. When one or more components or groups of components are addressed under one specification, additional digits are added to the identification code.

The actual review of the equipment qualification reports is documented on the Environmental Qualification Report Evaluation Form (EQREF), described more fully in Appendix A. This document identifies the equipment by system, vendor, manufacturer, and model number, while providing a review format that addresses the applicable zone service conditions as required per NUREG-0588. Upon completion of the qualification document review, final comments are recorded on the EQREF, including justification for EQ acceptance, recommendations to rectify qualification document deficiencies, and limitations or conditions required in order to preserve qualification, as applicable.

The results of the EQREF review are summarized on the Environmental Qualification Summary Sheet (EQSS), described in more detail in Appendix B. Information including equipment description, IEEE Standards referenced, test sequence, environmental zones, and test parameters as described in the qualification report(s) is entered on this document. The test parameters recorded on the EQSS are compared to the required zone parameters for adequacy. Any discrepancies are noted on the applicable EQREF. A separate EQSS is generated for each specification or group of devices. Documentation packages, which include the qualification reports, EQREF and EQSS, are ²

transmitted to LILCO and incorporated into the Shoreham permanent record file.

4.4 EQUIPMENT QUALIFICATION ACCEPTANCE CRITERIA

The information collected on the EQSS and EQSR provides the EQ status of each Class 1E electrical equipment. The equipment is considered qualified if the following requirements are met:

- a. Acceptable documentation to all applicable referenced requirements.
- b. Environmental tests and/or analyses are performed and meet all applicable referenced requirements for the postulated conditions to which the equipment is subjected.
- c. Acceptable performance characteristics in an environment as severe as the postulated zone environment are demonstrated.
- d. A qualified life is determined and supported by qualification documents.

Equipment that does not satisfy the above criteria is not considered fully qualified and is addressed in Appendix G. The resolution of EQ deficiencies may include one or more of the alternatives listed in Section 1.1.

4.5 EQUIPMENT LIST UPDATE

As additional environmental qualification (EQ) reports and/or procedures are obtained, the appropriate EQ review and evaluation documents are revised to reflect changes in the qualification status of each piece of equipment. Evaluation of these documents is performed as previously described in this text. If changes in the qualification information occur, the appropriate EQSS is revised with a revision number to indicate the revision. Each revised EQSS supersedes, in entirety, all previous EQSSs with the same number. New data are entered into the master list (EQSR) to indicate changes and additional qualification documentation is added to the Shoreham records file as the changes are implemented.

4.6 ENVIRONMENTAL QUALIFICATION STATUS REPORT (EQSR)

The EQSR is a computerized report which summarizes the qualification status of each equipment item. The current issue of the EQSR is included in Appendix F.

SECTION 5

SURVEILLANCE AND MAINTENANCE

The Shoreham surveillance and maintenance programs include documented program plans, procedures, and results to assure that the safety-related equipment is maintained in a state of readiness and operability so that it will perform its intended safety function upon demand.

The results of the Environmental Qualification Program are directly input to the Shoreham maintenance and spare parts programs to ensure timely device or parts replacement as needed due to identified qualified life limitations and to ensure timely performance of any other identified maintenance activities required to preserve the applicability of the qualification. 2

The Shoreham surveillance and maintenance program includes at this time information supplied by the equipment manufacturers and vendors regarding required equipment maintenance actions and their frequency. This program is easily expandable and will incorporate the pertinent information contained in the equipment environmental qualification document packages.

The equipment qualification packages will be reviewed by the technical support group and sub-packages of relevant information culled and distribution to station Maintenance and Instrumentation & Controls sections as appropriate. Upon receipt of these packages the responsible groups will arrange for any new information to become part of the computerized program for plant maintenance which will alert them to upcoming maintenance requirements on a timely basis.

Reporting of equipment failures will be performed by the LILCO Nuclear Operations Support Division (NOSD) using the NPRDS (Nuclear Plant Reliability Data System) program administered by INPO (Institute of Nuclear Power Operations). During 1981 plans were completed to institute the data collection and reporting effort. These plans are now being carried out in a manner consistent with the turnover of construction and startup records and scheduled beginning of plant operations. A procedure has been approved outlining the responsibilities for the accurate and uninterrupted flow of data from Shoreham Nuclear Power Station to the NPRDS. 2

The conceptual approach to using this data to improve plant reliability and safety envisions using the recent availability of remote accessing the NPRDS data base. LILCO has participated in the NPRDS Report Writer User Training and has obtained the logon and password capabilities. Specific data requirements may be identified by LILCO Office of Nuclear personnel including Shoreham Nuclear Power Station, Nuclear Engineering Department,

Nuclear Operations Support Department as well as other Company departments and INPO through its Nuclear Notepad, SEE-IN, and SOER programs. Additional data needs may be brought to LILCO's attention by vendors and the NRC via LER's and other correspondence.

The Shoreham Spare Parts Program was developed consistent with the industry position paper provided to the NRC under a letter dated July 2, 1981 from Mr. Stephen H. Howell, Chairman, AIF Committee on Power Plant Design, Construction and Operation to Mr. Harold R. Denton. A summary of the equipment qualification aspects of Shoreham spare parts procurement follows.

Definitions of terms relating to this discussion are:

Equipment - A manufactured product.

Device - A piece of equipment that has been qualified as a unit by test and/or analysis.

Component - Items which are assembled to form a device.

Assembly - Two or more components sharing a common mounting or support structure.

2 Module - Any assembly of interconnected components which constitutes an identifiable unit. A module can be removed and replaced as a unit. It has defineable performance characteristics which permit it to be tested as a unit.

Each unit equipment assembly which is qualified by test and/or analysis as a unit can be considered a "device" and each of the items making up the "device" can be considered "components". Some of the components may be arranged in the form of a module such that maintenance can be performed by replacing them with a new or repaired module.

For those Class IE equipment items upon which maintenance activities are performed by the replacement of complete devices, NUREG 0588 Category I qualified devices are procured provided they are available, conform to the original equipment's applicable requirements (e.g., they do not require a modification of the station safety systems such as changes in mounting, wiring, piping, etc.). create no human factors complications (e.g., they do not require changes in procedures, training, skill levels, assigned personnel, etc., or introduce a one-of-a-kind application), and are expected to exhibit equal or superior overall performance. Sound reasons for not procuring replacement devices to NUREG 0588 Category I therefore include:

1. Unavailability

2. Necessity of system modification
3. Necessity of complicating human/equipment interface
4. Inferior overall performance.

Alternatives are:

1. Replacement devices qualified to NUREG 0588 Category II
2. Best available (based on EQSR status)

At the module or component level for complex devices, the primary consideration is to maintain the design and functional integrity of the "qualified unit". The individual components or modules do not have a separate qualification status. If the components manufactured according to QA procedures, specifications and/or special reviewed procedures were used in the assembly of the equipment which was subsequently qualified, then in-kind replacement parts which meet the same requirements; i.e., "equal to or better than", assure the continued qualification status of the maintained equipment. The principle followed is not to jeopardize the integrity of the "unit".

The Shoreham Spare Parts Procurement Procedure will be amended to more specifically include equipment environmental qualification considerations.

ENVIRONMENTAL QUALIFICATION REPORT EVALUATION FORM
FOR SHOREHAM NUCLEAR POWER STATION - UNIT 1

NRC NUREG-0588 Category I* and II Positions

TR- _____

(Please type or print)

EQUIPMENT IDENTIFICATION

Equipment Type: _____
Vendor : _____
Specification No.: _____
Purchase (P.O.) No.: _____
Manufacturer: _____
Model No.: _____
Serial No.: _____

QUALIFICATION DOCUMENTATION

Title: _____
Author (Organization): _____
Identification No.: _____
Date: _____
Qualification Method: _____

REVIEWER'S CONCLUSION

Acceptable? YES NO

If YES, any limitation, exceptions, special conditions: _____

If NO, what specific deficiencies could be corrected in order to achieve
acceptability? _____

REVIEWED BY: _____ VERIFIED BY: _____
Signature Date Signature Date

(*) Applicable to NUREG Category 1 positions only.

TEST FACILITY

Name: _____

City: _____

State: _____

APPLICABLE ZONE NUMBERS

Rad. Zones: _____

Temp./Pres. Zones: _____

1. TEST CONDITIONS

See Environmental Qualification Summary Sheet No.: _____

- | | | | |
|---|-----|----|-----|
| 2. Does the model number of the component(s) tested coincide with the model number of the component(s) being reviewed? | YES | NO | |
| A. If not, is adequate justification provided showing that the component(s) tested adequately represent(s) component(s) being reviewed? | YES | NO | N/A |
| 3. Does the Test Program Outline include: | | | |
| A. Test Objectives | YES | NO | |
| B. Test Sample Description | YES | NO | |
| C. Number of units to be tested | YES | NO | |
| D. Mounting requirements | YES | NO | N/A |
| 1. If yes, was the equipment being tested mounted in a manner that simulates its expected installation when in actual use? | YES | NO | N/A |
| 2. If no, has justification been provided showing that equipment performance is not altered by the manner or position in which it is mounted? | YES | NO | N/A |
| E. Aging Simulation Procedure | YES | NO | |
| F. Parameters to be measured | YES | NO | |
| 1. Accuracy | YES | NO | N/A |
| 2. Response time | YES | NO | N/A |
| G. The range, sequence, and combination of environments to simulate DBA conditions? | YES | NO | N/A |
| H. Acceptance Criteria | YES | NO | |
| 1. Are the acceptance criteria adequate to verify the ability of the equipment to perform its required safety function? | YES | NO | N/A |
| 4. Are the tests methods in accordance with the following: | | | |
| A. Does the test demonstrate that the equipment satisfies the acceptance criteria? (This should be demonstrated for all phases of testing) | YES | NO | |
| B. Do the parameters in the qualification documentation at least meet accident requirements? | YES | NO | |
| 1. If not, are deviations justified? | YES | NO | N/A |

- | | | | |
|--|-----|----|-----|
| C. Have adequate margins been allowed in accordance with NUREG-0588, Section 3 (Cat. I or II)? | YES | NO | |
| (Circle appropriate Category) | | | |
| D. If the qualification uses analysis, are the basis, supporting data, and method for analysis included? | YES | NO | N/A |
| *E. Is test sequence justified as per IEEE 323-1974 Section 6.3.2 and NUREG-0588 Category I position? | YES | NO | |
| F. Is the test sequence justified as per IEEE 323-1971 and NUREG-0588 Category II position? | YES | NO | |
| G. Were performance characteristics verified before, during, and after testing? | YES | NO | |
| H. Were temperature readings obtained by thermocouple location on, or as near as practical to the surface of the component? | YES | NO | |
| 1. If not, is adequate justification provided showing that the component was exposed to the specified temperature environment? | YES | NO | N/A |
| 5. Does the test report address thermal aging? | YES | NO | |
| A. Was a qualified life and/or replacement schedule established? | YES | NO | |
| *B. Was test sample thermally aged by an acceptable method? | YES | NO | |
| *C. Did thermal aging simulate design life at normal conditions (temperature)? | YES | NO | |
| *D. Was test sample operated to simulate expected mechanical wear over design life? (electromechanical equipment only) | YES | NO | N/A |
| *E. Was test sample irradiated to the normal service life dosage before seismic and DBA testing? | YES | NO | |
| *F. Was test sample irradiated to the combined normal service life dosage plus DBA dosage before and during DBA testing? | YES | NO | |
| 6. Was equipment inspected after type testing? | YES | NO | |
| A. Are the results of the inspection recorded? | YES | NO | N/A |
| 7. Were any failures identified during environmental qualifications? | YES | NO | |
| A. Are failures justified? | YES | NO | N/A |
| 8. Is the test facility (set-up) described? | YES | NO | N/A |
| 9. Is a description of the instrumentation provided? | YES | NO | |
| 10. Are test conclusions consistent with test objectives and supported by test results? | YES | NO | |

- | | | | | |
|-----|---|---------|----|-----|
| 11. | A. Operability time demonstrated | <u></u> | | |
| | B. Accuracy demonstrated | <u></u> | | |
| | C. Response time demonstrated | <u></u> | | |
| | | | | |
| 12. | Does the report have an approval signature? | YES | NO | N/A |
| | | | | |
| 13. | Is this report acceptable? | YES | NO | |

COMMENTS:

RECOMMENDATIONS

REQUIRED SERVICE CONDITIONS
SHOREHAM NUCLEAR POWER STATION - UNIT 1

Equipment ID(s): _____

Equipment Type: _____ EQSS Ref: _____
Applicable Zone: Temp/Pres. _____
Rad. _____

NORMAL SERVICE CONDITIONS:LIMITING ZONE NO.

Time (duration)	_____	_____
Pressure psig	_____	_____
Temperature, °F (range)	_____	_____
Relative Humidity, %	_____	_____
Radiation, rads (40 yr. normal integrated dose), gamma	_____	_____

EMERGENCY (DBE) SERVICE CONDITIONS:

Operating Time (duration)	_____	_____
Pressure psig	_____	_____
	_____	_____
	_____	_____
Temperature, °F	_____	_____
	_____	_____
	_____	_____
Humidity, %	_____	_____
Radiation, rads, gamma (40 yr. integrated dose plus accident dose for the above operating time)	_____	_____

NOTES:

1. This form may be filled for each individual equipment or for each specification. However, the current equipment specification service conditions must agree with this form.
2. Refer to EQSR for the applicable Bldgs., Elev., Zones and operating times.
3. Refer to Appendix E of Shoreham Environmental Qualification Report and FSAR Table 3.11.2-1 for service conditions.
4. "The Operating Time" indicates the longest post accident operating time.
5. If space for Equipment ID's is insufficient, list ID's on an attachment and reference the attachment above.

APPENDIX B

ENVIRONMENTAL QUALIFICATION SUMMARY SHEET (EQSS)

The EQSS is a one page summary (a blank copy of which is included after this description) of the qualification document(s) to record the test or analysis results.

The data entered on the EQSS are, for the most part, self-explanatory. Each EQSS is numbered by specification number, succeeded by a number to sequentially identify each component or group of components. When an EQSS is revised, a revision number is added beginning with "1". 2

Data entries include procurement document references and test report identifications with applicable IEEE standards and the qualified life of the equipment.

The TEST SEQUENCE entry details the specific steps performed during the environmental qualification test in the sequence that they were performed.

The TEST ENVIRONMENT data tabulates the temperature, pressure and humidity test parameters, and their duration. In addition, the reviewer must ascertain whether the operability time and the equipment accuracy performance are acceptable. 2

Other entries include the APPLICABLE ENVIRONMENT ZONES in which the equipment must be qualified, and RADIATION AGING, THERMAL AGING, and mechanical CYCLE AGING data from the test report.

Completed EQSS copies are indexed and included following the blank copy for those qualification documents which have been evaluated. Each EQSS is referenced in the Equipment Qualification Status Report (EQSR). The EQSR also gives the qualification status for the equipment items.

INDEX
ENVIRONMENTAL QUALIFICATION STATUS SUMMARY
(EQSS)

	<u>EQSS NO.</u>	<u>EQUIPMENT TITLE</u>	<u>VENDOR</u>	<u>DATE REVIEWED</u>
	003-01	Limiter Valve Actuators SMB2, SMB3	GE-NED	4/22/81 Rev. 1
	039-01	4160V Switchgear	GE	5/6/82
	062G	Centrifugal Pumps	Goulds Pumps	3/8/82 2/21/82
2	088-01	Limit Switch	Namco Controls	2/12/82
	102-01	Centrifugal Fans	Buffalo Forge	4/20/82
	124-01A	120VAC Distribution Panel	Systems Controls	3/10/82 Rev. 1
	124-01B	120VAC Distribution Panel	Systems Controls	3/10/82 Rev. 1
2	127-01	5KV Power Cable	Kerite	1/4/82 Rev. 1
2	128-01	600V Power Cable	Okonite	11/20/81 Rev. A
2	129-01	Instrument Cable	Rockbestos	11/27/81 Rev. 1
	129-02	Instrument Cable	Rockbestos	12/31/81
	130-01	Instrument Cable	Raychem	1/28/82 Rev. B
	134-01	Electrical Penetration Series 200 Low Voltage	GE	5/17/82 Rev. 2
2	134-02	Electrical Penetration Series 100 Medium Voltage	GE	5/17/82 Rev. 1
	159-01	Splicing Tapes T35, T95	Okonite	4/5/82
	159-02	Lugs & Splices 52900 thru 53900	AMP	1/26/82 Rev. A

<u>EQSS NO.</u>	<u>EQUIPMENT TITLE</u>	<u>VENDOR</u>	<u>DATE REVIEWED</u>	
159-03	Switchboard Wire SIS 157279	GE	3/25/82	2
159-04	Switchboard Wire A83-0-6	Rockbestos	3/15/82	
159-05	Raychem WCSF-N Splice & Termination	Raychem	2/4/82 Rev. 1	
159-06	Cable Splices and Terminations	Kerite Co.	3/3/82	
197-01	Motor Operated Valve Actuators, Limitorque	Henry Pratt ITT Grinnell Contramatics	Included in 88V-03	
214-01	Motor Operated Valve Actuators, Limitorque	Velan	Included in 88V-01	2
214-02	Motor Operated Valve Actuators, Limitorque	Velan	Included in 88V-03	
232-01	Solenoid Valve ASCO NP8320	Velan	5/10/82 Rev. 1	
235-01	Loop Level Pumps Westinghouse Motors	Goulds Pumps	3/17/82	
248-01	Miscellaneous Transformer	Magnetics	12/01/81 Rev. 1	
253-01	Motor Operated Valve Actuators, Limitorque	Velan	Included in 88V-01	
253-02	Motor Operated Valve Actuators, Limitorque	Velan	Included in 88V-02	
253-03	Motor Operated Valve Actuators, Limitorque	Velan	Included in 88V-03	2
270-01	Axial Flow Fans Westinghouse Motors	Buffalo Forge	4/21/82	
276-01	Fan Motor 143TCZ Westinghouse	Buffalo Forge	3/22/82 Rev. 1	
276-02	Unit Cooler Fans Westinghouse Motors	Buffalo Forge	4/21/82	

	<u>EQSS NO.</u>	<u>EQUIPMENT TITLE</u>	<u>VENDOR</u>	<u>DATE REVIEWED</u>
	289-02	Limitorque MOVs	Atomics International (Rockwell)	Included in 88V-01
2	289-03	Hydrogen Recombiner Blower Motor	Reliance Electric Co.	5/8/82 Rev. 1
	310-01	Electric Motor Operated Control Valves Harold Beck & Sons	Fisher Controls	5/10/82 Rev. 1
	318-01	Solenoid Valve, ASCO NP-8320	Copes Vulcan	8/18/81
	318-02	Solenoid Valve, ASCO HVA-206	Copes Vulcan	8/18/81
	319-01	Veltron 800, Centerline 32046, Dwyer 1627, Powers 331-2792, Raymond MASR-9/49	MCC Powers	9/21/81
2	319-02	ITT General NH-91	MCC Powers	2/10/82 Rev. A
2	319-03	Solenoid Valve, ASCO WJKHX-8320	MCC Powers	9/1/81
2	344-01	Gas Analyzer	Comsip	12/3/81 Rev. 1
	344-01A	Gas Analyzer	Comsip	12/3/81
	406-01	Pressure Transmitter, 1153 Series B	Rosemount	5/8/82 Rev. 1
	406-02	Pressure Transmitter, 1152 Series E	Rosemount	5/8/82 Rev. 1
2	406-03	RTD, 88-149 et al.	Rosemount	5/8/82 Rev. 1
	407-01	Level Switch 291-MPG- X-M14DC	Magnetrol	1/9/82
	423-01	Solenoid Valve ASCO NP8320	Fisher Controls	8/18/81

<u>EQSS NO.</u>	<u>EQUIPMENT TITLE</u>	<u>VENDOR</u>	<u>DATE REVIEWED</u>	
439-01	480V MG Set Panel	Louis Allis	1/6/82	2
439-01A	480V MG set Panel	Louis Allis	6/25/81	
439-01B	480V MG set Panel	Louis Allis	1/6/82 Rev. 1	
439-01C	480V MG set Panel	Louis Allis	1/6/82 Rev. 1	2
439-01D	480V MG set Panel	Louis Allis	1/6/82 Rev. 1	
439-01E	480V MG set Panel	Louis Allis	6/25/81	
439-02	480V MG set Panel	Louis Allis	1/5/82 Rev. 1	
455-01	Instrument Cable	Brand Rex	4/5/81	
456-01	Electrical Penetration	Conax	2/22/82 Rev. 1	
456-02	Electrical Penetrations, Adapter Module	Conax	2/22/82 Rev. 1	
456-02A	Electrical Penetration Assembly	Conax	2/22/82	
457-01	Leakage Level Pump Westinghouse Motors	Goulds Pumps	3/23/82	2
S1554-2-01	Solenoid Valve, Valcor V526	Valcor	5/10/82 Rev. 1	
88AD-01	Motor Operated Valve Actuator, Limitorque	Anchor Darling	Included in 88V-01	
88AD-02	Motor Operated Valve Actuator, Limitorque	Anchor Darling	Included in 88V-03	
88V-01	Motor Operated Valve Actuator, Limitorque	Velan, et al.	4/22/82 Rev. 1	

	<u>EQSS NO.</u>	<u>EQUIPMENT TITLE</u>	<u>VENDOR</u>	<u>DATE REVIEWED</u>
	88V-02	Motor Operated Valve Actuator, Limitorque	Velan	4/22/82 Rev. 1
	88V-03	Motor Operated Valve Actuator, Limitorque	Velan, et al.	4/22/82 Rev. 1
	88V-04	Motor Operated Valve Actuator, Limitorque	Velan	4/22/82 Rev. 1
2	3018	Barksdale BIT Pressure Switch	GE-NED	5/13/82 Rev. 3
	3021	Barksdale D2H Pressure Switch	GE-NED	5/13/82 Rev. 3
	3025	Barksdale P1H Pressure Switch	GE-NED	5/13/82 Rev. 1
2	3027	ITT Barton 288A and 289A Differential Pressure Indicating Switches	GE-NED	1/11/82
2	3032	Static-O-Ring 5N and 6N Series Pressure Switches	GE-NED	5/13/82 Rev. 2
2	3037	Yarway 4418C Level Indicator	GE-NED	Deleted
2	3040	Fenwal Temperature Switch	GE-NED	Deleted
2	3048	Rosemount 1151 Pressure Transmitter	GE-NED	5/13/82 Rev. 1
	3096	ASCO HTX-8320A20 Solenoid Valve	GE-NED	12/28/81
	3110	Pyco/California Alloy NECI Temperature Element	GE-NED	5/13/82 Rev. 1
2	3111	General Electric ECCS Motors	GE-NED	5/13/82 Rev. 1
2	3143	Magnetol 3.5-751X-MPG-M14HY Level Switch	GE-NED	12/31/81 Rev. 1

<u>EQSS NO.</u>	<u>EQUIPMENT TITLE</u>	<u>VENDOR</u>	<u>DATE REVIEWED</u>
3146	Conax 1832-159-01 Explosive Valve	GE-NED	1/11/82
3902	General Electric 47D518673 Electric Heater	GE-NED	12/31/81 Rev. 1 | 2
3903	General Electric 2CH6-041-1U Blower	GE-NED	5/13/82 Rev. 1 | 2
3904	Target Rock 1/2 SMS-A-01 Solenoid Valve	GE-NED	12/31/81
3906	PYCO 102-3171 Temperature Element	GE-NED	5/13/82 Rev. 1 | 2
3909	ASCO NP8316E36E Solenoid Valve	GE-NED	5/13/82 Rev. 1 |
3915	Rosemount 1152 Pressure Transmitter	GE-NED	1/6/82 2

ENVIRONMENTAL QUALIFICATION SUMMARY NO. _____
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE _____

SPEC. NO. _____ P.O. _____ VENDOR _____

TEST ITEM DESC. _____

MAKE _____ MODEL _____

APPLICABLE STANDARDS _____ TEST REPORT NO. _____

IEEE _____ TEST METHOD _____

IEEE _____ DOCUMENTATION ACCEPTABILITY _____

IEEE _____

NUREG 0588 CAT. _____ QUALIFIED LIFE _____

TEST SEQUENCE (R: _____)

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: _____)

TIME _____

TEMP. °F _____

PRES. PSIG _____

OP. TIME DEMO _____ ACC/PERF DEMO _____

APPLICABLE
ENV. ZONES

-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

RADIATION AGING (R: _____)

DOSE RATE _____ RAD/HR

DOSE PRIOR TO
ENV. TEST _____ RADS

DOSE DURING
ENV. TEST _____ RADS

TOTAL DOSE _____ RADS

THERMAL AGING (R: _____)

AGED TO SIMULATED
LIFE OF _____ YRS.

BASED ON AMBIENT
TEMP OF _____ °F

AGING TEMP./
DURATION _____ / _____

REL. HUMIDITY _____ %

CYCLE AGING (R: _____)

CYCLES REQUIRED _____

CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

NOT AGED-JUSTIFIED
BY ANALYSIS TO _____ YRS.

REVIEWER: _____

DATE: _____

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 003-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1 Rev 1

SPEC. TITLE NUCLEAR STEAM SUPPLY SYSTEM
SPEC. NO. SHI-003 P.O. 310010 VENDOR General Electric - NED
TEST ITEM DESC. MOTOR OPERATED VALVES
MAKE LIMITORQUE MODEL SMB-0-15 Reliance, Class H, AC
VENDOR TEST REPORT NO. 600198 + B0058, App. B - 600376A
APPLICABLE STANDARDS TEST REPORT NO. _____
IEEE -323-1971 TEST METHOD SEQUENTIAL TESTING
IEEE -382-1982 DOCUMENTATION ACCEPTABILITY
IEEE _____ NOT ACCEPTABLE
NUREG 0588 CAT. II QUALIFIED LIFE NOT DETERMINED

TEST SEQUENCE (R: pg 3-7; 600198)

1. PRELIMINARY HEAT TEST TEST ON ACTUATOR
2. PRELIMINARY LIVE STEAM 5. 150 CYCLE TEST
TEST ON ACTUATOR 6. POST ACCIDENT STEAM
3. HEAT AGING + CHEMICAL ENVIRONMENT
4. SHOCK AND VIBRATION 1 TEST

TEST ENVIRONMENT (R: p11 + App I F-C2232-01)

APPLICABLE
ENV. ZONES

TIME	0-1hr	1-3hrs	3-5hrs	5-24hrs	24hr-7dy
TEMP. °F	329	313.5	287	264	249
PRES. PSIG	90	70	40	20	15
R.H. <u>100</u> %					
OP. TIME DEMO <u>7 days</u>	ACC/PERF DEMO _____				

RAD D

T/P 22

RADIATION AGING (R: 600376A, pg 4)
NOT INCLUDING BRAKES

DOSE RATE _____ RAD/HR

DOSE PRIOR TO
ENV. TEST 204×10^6 RADS

DOSE DURING
ENV. TEST _____ RADS

TOTAL DOSE 204×10^6 RADS

CYCLE AGING (R: pg 6; 600198)

CYCLES REQUIRED 500 [IEEE-382-1982]

CYCLES PERFORMED 150
(Electro-Mechanical Equip. only)

THERMAL AGING (R: pg 5; 600198)

AGED TO SIMULATED
LIFE OF NOT DETERMINED YRS.

BASED ON AMBIENT
TEMP OF _____ °F

AGING TEMP./
DURATION 180° / 100 hrs

REL. HUMIDITY NOT GIVEN %

NOT AGED-JUSTIFIED
BY ANALYSIS TO _____ YRS.

REVIEWER: Eric W. Smith

DATE: 4/22/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 039-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Reactor Recirculating Pump Trip Control Breakers
SPEC. NO. 039 P.O. 310057 VENDOR General Electric
TEST ITEM DESC. 4160 V Switchgear - RPT Breakers (Fuse blocks)
MAKE General Electric MODEL M26
VENDOR TEST REPORT NO. REQN. 300-92572
APPLICABLE STANDARDS TEST REPORT NO. 039-01
IEEE 383-1974 TEST METHOD Test sequential
IEEE _____ DOCUMENTATION ACCEPTABILITY
IEEE _____ Acceptable for Cat. I
NUREG 0588 CAT. I QUALIFIED LIFE 40 years

TEST SEQUENCE (R: Appendix M)

- | | |
|-------------------------|-----------|
| 1. <u>Thermal Aging</u> | 6. _____ |
| 2. <u>Irradiation</u> | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: _____)

TIME _____

TEMP. °F _____

PRES. PSIG _____

R.H. _____

OP. TIME DEMO _____ ACC/PERF DEMO _____

APPLICABLE
ENV. ZONES

RAD L

T/P 02

RADIATION AGING (R: Appendix M)

DOSE RATE _____ RAD/HR

DOSE PRIOR TO
ENV. TEST 1.2×10^7 RADS

DOSE DURING
ENV. TEST _____ RADS

TOTAL DOSE 1.2×10^7 RADS

CYCLE AGING (R: N/A)

CYCLES REQUIRED _____

CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

THERMAL AGING (R: Appendix M)

AGED TO SIMULATED
LIFE OF 40 YRS.

BASED ON AMBIENT
TEMP OF _____ °F

AGING TEMP./
DURATION 125°C, 140 Days

REL. HUMIDITY N/A

NOT AGED-JUSTIFIED
BY ANALYSIS TO N/A YRS.

REVIEWER: M. Grinshteyn

DATE: 5/6/82

SPEC. TITLE Centrifugal Pump
SPEC. NO. 626 P.O. 310582 VENDOR Gould Pump
TEST ITEM DESC. Motor - 20HP.
MAKE Reliance Electric Company MODEL 20-HP-286T
VENDOR TEST REPORT NO. Limitorque Project #600456 Reliance #NUC-9
APPLICABLE STANDARDS TEST REPORT NO. 626-01
IEEE 323-1974 TEST METHOD Sequential Test Analysis
IEEE 344-1975 DOCUMENTATION ACCEPTABILITY acceptable
IEEE 334-1974
NUREG 0588 CAT. II QUALIFIED LIFE 40 years

TEST SEQUENCE (R: page 3-11 (Limitorque #600456))

1. Thermal aging.
2. Mechanical aging.
3. Radiation aging.
4. Seismic testing.
5. Radiation exposure.
6. LOCA test.
7. Visual inspection.
8. Post LOCA load cycling test.
9. Final inspection.
10. _____

TEST ENVIRONMENT (R: page 10. (Limitorque #600456))

TIME	33 min	24 min	92 Hours	624 Hours
TEMP. °F	295	310	250	200
PRES. PSIG	70	70	30	10
R.H.	100 (spray)			
OP. TIME DEMO	30 Days			
ACC/PERF DEMO				

APPLICABLE
ENV. ZONES

RAD 5

T/P 18

RADIATION AGING (R: pg. 6 Limitorque #600456)

DOSE RATE 1×10^6 RAD/HR
DOSE PRIOR TO ENV. TEST 2.04×10^8 RADS
DOSE DURING ENV. TEST — RADS
TOTAL DOSE 2.04×10^8 RADS

CYCLE AGING (R: page 11)

CYCLES REQUIRED N/A
CYCLES PERFORMED 1208
(Electro-Mechanical Equip. only)

THERMAL AGING (R: page 3, Limitorque #600456)

AGED TO SIMULATED LIFE OF 6.04 YRS.

BASED ON AMBIENT TEMP OF 221* °F

AGING TEMP./ DURATION 355°F / 100 Hours

REL. HUMIDITY N/A

NOT AGED-JUSTIFIED BY ANALYSIS TO 40 years YRS.

*(40°C Zone + 65°C heat rise) = 105°C = 221°F

REVIEWER: M. Grinshteyn

DATE: 3-8-82

SPEC. TITLE Centrifugal Pump
SPEC. NO. 62G P.O. 340582 VENDOR Gould pump
TEST ITEM DESC. Motor - 100HP
MAKE Reliance Electric company MODEL 100-HP-405TS
VENDOR TEST REPORT NO. Limitorque Project #600456 + RELIANCE #NUR-9
APPLICABLE STANDARDS TEST REPORT NO. 62G-01
IEEE 323-1974 TEST METHOD Sequential Test Analysis
IEEE 344-1975 DOCUMENTATION ACCEPTABILITY Not acceptable
IEEE 334-1974 until additional analysis is provided.
NUREG 0588 CAT. QUALIFIED LIFE

TEST SEQUENCE (R: page 3 ÷ 11) (Limitorque #600456)

1. Thermal aging.
2. Mechanical aging
3. Radiation aging
4. Seismic testing
5. Radiation exposure.
6. LOCA test.
7. Visual inspection.
8. Post LOCA load cycling test.
9. Final inspection.
10. _____

TEST ENVIRONMENT (R: page 10 Limitorque #600456)

TIME	33min	24min	92Hours	624Hours
TEMP. °F	295	310	250	200
PRES. PSIG	70	70	30	10
R.H.	100(spray)			
OP. TIME DEMO	30 days			
ACC/PERF DEMO				

APPLICABLE ENV. ZONES

RAD H
T/P 18

RADIATION AGING (R: pg 6, Limitorque #600456)

DOSE RATE 1×10^6 RAD/HR
DOSE PRIOR TO ENV. TEST 2.04×10^8 RADS
DOSE DURING ENV. TEST - RADS
TOTAL DOSE 2.04×10^8 RADS

CYCLE AGING (R: page 11)

CYCLES REQUIRED N/A
CYCLES PERFORMED 1208
(Electro-Mechanical Equip. only)

THERMAL AGING (R: pg 3, Limitorque #600456)

AGED TO SIMULATED LIFE OF 2.98 YRS.
BASED ON AMBIENT TEMP OF 221* °F

AGING TEMP./ DURATION 355°F, 100 Hours

REL. HUMIDITY N/A %

NOT AGED-JUSTIFIED BY ANALYSIS TO N/A YRS.

* $40^{\circ}\text{C zone} + 65^{\circ}\text{C heat rise} = 105^{\circ}\text{C} = 221^{\circ}\text{F}$

REVIEWER: M. Grinshteyn

DATE: 2/21/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 088-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Limit Switch
SPEC. NO. 088 P.O. 347565 VENDOR Namco Controls
TEST ITEM DESC. Limit Switch
MAKE Namco Controls MODEL EA 180
VENDOR TEST REPORT NO. QTR 105
APPLICABLE STANDARDS
IEEE 323-1974 TEST REPORT NO. 088-01
IEEE 382-1972 TEST METHOD Sequential Test, Analysis
IEEE 344-1975 DOCUMENTATION ACCEPTABILITY Acceptable
NUREG 0588 CAT. I for Cat. I
QUALIFIED LIFE 40 years (Recom. 2)

TEST SEQUENCE (R: Page 10-5 ÷ 10-10)

1. Inspection
2. Initial Functional Test
3. Thermal Aging
4. Mechanical wear aging
5. Irradiation
6. Seismic testing
7. DBE test
8. Performance test after
9. each test.
10. Final Inspection.

TEST ENVIRONMENT (R: page 10-8 ÷ 10-14, Fig. 3)

TIME	<u>6 HRS</u>	<u>3.5 HRS</u>	<u>45 HRS</u>	<u>26 days</u>
TEMP. °F	<u>340</u>	<u>320</u>	<u>250</u>	<u>200</u>
PRES. PSIG	<u>100</u>	<u>80</u>	<u>60</u>	<u>10</u>
R.H. <u>100 (spray)</u>				
OP. TIME DEMO <u>30 Days</u>				
ACC/PERF DEMO <u>N/A</u>				

APPLICABLE
ENV. ZONES

RAD D, E, F, G
T/POL: 03, 07, 22

RADIATION AGING (R: Sect. 6.5, page 10-7)

DOSE RATE 9.1×10^5 RAD/HR
DOSE PRIOR TO ENV. TEST 2.04×10^8 RADS
DOSE DURING ENV. TEST none RADS
TOTAL DOSE 2.04×10^8 RADS

CYCLE AGING (R: sect. 6.4, page 10-6)

CYCLES REQUIRED N/A
CYCLES PERFORMED 100, 200
(Electro-Mechanical Equip. only)

THERMAL AGING (R: sect. 6.3 p. 10-6, Fig. 8 p. 42)

AGED TO SIMULATED 2.2 years (primary side)
LIFE OF 18 years (secondary side) YRS.
BASED ON AMBIENT 150°F (primary side)
TEMP OF 104°F (secondary side) °F
AGING TEMP./ DURATION 248°F, 400 Hours
REL. HUMIDITY 100 %
NOT AGED-JUSTIFIED BY ANALYSIS TO N/A YRS.

REVIEWER: William R. Shuler

DATE: 2/12/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 102-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE CENTRIFUGAL FANS
SPEC. NO. SHI-102 P.O. 310516 VENDOR BUFFALO FORGE CO.
TEST ITEM DESC. MOTORETTES
MAKE WESTINGHOUSE MODEL 143 TCZ
VENDOR TEST REPORT NO. WESTINGHOUSE NO MM-9112 (PREV. NCAP-9112)
APPLICABLE STANDARDS TEST REPORT NO. TR-102-01
IEEE STD 323-1974 TEST METHOD SEQUENTIAL-AFBMA STD. 9-1972
IEEE STD 334-1974 DOCUMENTATION ACCEPTABILITY ACCEPTABLE
IEEE _____
NUREG 0588 CAT. _____ QUALIFIED LIFE 40 YEARS.

TEST SEQUENCE (R: PAGES 6, 7, 8 OF REPORT MM-9112)

1. THERMAL AGING. 6. _____
2. GAMMA RADIATION EXPOSURE. 7. _____
3. MECH. STRESS EXPOSURE. 8. _____
4. MOISTURE EXPOSURE. 9. _____
5. HIGH POTENTIAL TEST. 10. _____

TEST ENVIRONMENT (R: PAGE 7 OF REPORT MM-9112)

TIME 7533 HRS (313.8 DAYS).
TEMP. °F 210°C (410°F).
PRES. PSIG ATMOSPHERIC
R.H. 100 %
OP. TIME DEMO 313.8 DAYS ACC/PERF DEMO N/A.

APPLICABLE
ENV. ZONES

RAD K

T/P 15

RADIATION AGING (R: APP. B-PG. 1, 2, 3)
MM-9112

DOSE RATE 0.4 MEGA RAD/HR
DOSE PRIOR TO
ENV. TEST 278.7 MEGA RADS
DOSE DURING
ENV. TEST _____ RADS
TOTAL DOSE 278.7 MEGA RADS

CYCLE AGING (R: PG. 4, PAR. 2.6.6;)
PG. 9, PAR. 2.10.6.3 & 2.10.7(b)
MM-9112

CYCLES REQUIRED _____
CYCLES PERFORMED 14
(Electro-Mechanical Equip. only)

THERMAL AGING (R: PG. 9, PAR. (a)(c) IF)
MM-9112

AGED TO SIMULATED
LIFE OF OVER 150 YRS.

BASED ON AMBIENT
TEMP OF (130°C) 266 °F

AGING TEMP./
DURATION 210°C (410°F) / 7533 HRS

REL. HUMIDITY 100 %

NOT AGED-JUSTIFIED
BY ANALYSIS TO N/A. YRS.

REVIEWER: William J. Saffin

DATE: 4/20/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 124-01A Rev 1
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Miscellaneous AC and DC Distribution Boards
SPEC. NO. 124 P.O. 310713 VENDOR Systems Control
TEST ITEM DESC. Magnetic Molded Case Circuit Breakers
MAKE Westinghouse MODEL QBH/QCH
VENDOR TEST REPORT NO. Acton 16295, Rev 2, and Attachment A
APPLICABLE STANDARDS TEST REPORT NO. 124-01
IEEE 323-1974 TEST METHOD Sequential Test/Analysis
IEEE 344-1974 DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____
NUREG 0588 CAT. II QUALIFIED LIFE 40 years

TEST SEQUENCE (R: Attachment A pages 24V to 24 DD)

- | | |
|--------------------------------------|--|
| 1. <u>AC Multi-Volt Drop Test</u> | 6. <u>Thermal Aging</u> * |
| 2. <u>Operational Cycles Aging</u> * | 7. <u>AC Milli-Volt Drop Test</u> |
| 3. <u>Dielectric Test</u> | 8. <u>Vibration Test</u> * |
| 4. <u>Vibration Test</u> * | 9. <u>Temperature Checks</u> |
| 5. <u>AC Milli-Volt Drop Test</u> | 10. <u>(* Calibration check performed)</u> |

TEST ENVIRONMENT (R: N/A No DBA test performed)

APPLICABLE
ENV. ZONES

TIME

TEMP. °F

PRES. PSIG

R.H. N/A

OP. TIME DEMO 180 Days ACC/PERF DEMO N/A

RAD N

T/P 21

RADIATION AGING (R: Wyle Analysis)

17464-4302 Sec. 4.0

DOSE RATE By Analysis RAD/HR

DOSE PRIOR TO

ENV. TEST N/A RADS

DOSE DURING

ENV. TEST N/A RADS

TOTAL DOSE 2x10⁶ RADS

THERMAL AGING (R: Attach. A pg 24 Y)

AGED TO SIMULATED

LIFE OF Not Determined YRS.

BASED ON AMBIENT

TEMP OF Not Determined °F

AGING TEMP./

DURATION 302°F / 2400 HRS

REL. HUMIDITY Not Addressed

CYCLE AGING (R: Attach. A, pg 24 W)

CYCLES REQUIRED

CYCLES PERFORMED 6,000
(Electro-Mechanical Equip. only)

NOT AGED-JUSTIFIED

BY ANALYSIS TO * 310 YRS.

* Wyle Analysis 17464-4302 Sec. 3.0

REVIEWER: Ron M Snyder

DATE: 3/10/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 124-01B Rev 1
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Miscellaneous AC and DC Distribution Boards
SPEC. NO. 124 P.O. 310713 VENDOR Systems Control
TEST ITEM DESC. Ground Bus Insulator and Bus Support / Insul Barrier
MAKE Penn Custom Moldings MODEL Plenco - 466
VENDOR TEST REPORT NO. Acton 16295, Rev 2
APPLICABLE STANDARDS TEST REPORT NO. 124-01
IEEE 323-1974 TEST METHOD Analysis
IEEE 344-1975 DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____
NUREG 0588 CAT. II QUALIFIED LIFE 40 years

TEST SEQUENCE (R: N/A)

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: <u>N/A</u>)	APPLICABLE ENV. ZONES
TIME _____	RAD <u>N</u>
TEMP. °F _____	T/P <u>21</u>
PRES. PSIG _____	
R.H. <u>N/A</u>	
OP. TIME DEMO <u>180 Days</u> ACC/PERF DEMO <u>N/A</u>	

RADIATION AGING (R: <u>Sec 4.2.2</u>)	THERMAL AGING (R: <u>Sec 4.2.1</u>)
DOSE RATE <u>N/A, by analysis</u> RAD/HR	AGED TO SIMULATED LIFE OF <u>N/A</u> YRS.
DOSE PRIOR TO ENV. TEST <u>N/A</u> RADS	BASED ON AMBIENT TEMP OF <u>104</u> °F
DOSE DURING ENV. TEST <u>N/A</u> RADS	AGING TEMP./ DURATION <u>N/A</u> / <u>N/A</u>
TOTAL DOSE <u>2x10⁷</u> RADS	

CYCLE AGING (R: <u>N/A</u>)	REL. HUMIDITY <u>Not Addressed</u>
CYCLES REQUIRED _____	NOT AGED-JUSTIFIED BY ANALYSIS TO <u>225</u> YRS.
CYCLES PERFORMED _____ (Electro-Mechanical Equip. only)	

REVIEWER: Ron M. Snyder

DATE: 3/10/82

SPEC. TITLE 5 KV Power Cable
SPEC. NO. 127 P.O. 310561 VENDOR Kerite Company
TEST ITEM DESC. Single Conductor, 6 AWG, 5KV, Power Cable
MAKE Kerite Company MODEL HTK(N-98) Insulation, FR(HC-711) jacket
VENDOR TEST REPORT NO. None issue date May 14, 1981
APPLICABLE STANDARDS TEST REPORT NO. 127-01
IEEE 383-1974 TEST METHOD Sequential Test Analysis
IEEE 323-1974 DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____
NUREG 0588 CAT. I QUALIFIED LIFE 40 years

TEST SEQUENCE (R: Section A, page 1, para 4, + Section B, page 13, para 5+6)

- | | |
|-----------------------------------|--|
| 1. <u>Thermal Aging</u> | 6. <u>Insulation resistance checks</u> |
| 2. <u>Radiation Aging</u> | 7. <u>High Voltage AC test</u> |
| 3. <u>Simulated LOCA (6 day)</u> | 8. _____ |
| 4. <u>Inspection, Hi-pot test</u> | 9. _____ |
| 5. <u>Simulated LOCA (94 day)</u> | 10. _____ |

TEST ENVIRONMENT (R: Section B, page 14, figure 3)
* Op. time demo extended by Wyle Analysis 17464-3502 Sec 6.0

TIME	4 HRS	7 HRS	86 HRS	2304 HRS
TEMP. °F	340	320	250	200
PRES. PSIG	95.5	60	Atmos	Atmos
R.H. <u>100 (Spray)</u>				
OP. TIME DEMO <u>>180 Days</u>				

ACC/PERF DEMO N/A

APPLICABLE
ENV. ZONES

RAD ALL

T/P ALL

RADIATION AGING (R: Sec B App A)

DOSE RATE 1 x 10⁶ RAD/HR
DOSE PRIOR TO ENV. TEST 2 x 10⁸ RADS
DOSE DURING ENV. TEST None RADS
TOTAL DOSE 2 x 10⁸ RADS

CYCLE AGING (R: _____)

CYCLES REQUIRED Not Required

CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

THERMAL AGING (R: Sec A, page 1, para 4)

AGED TO SIMULATED LIFE OF 40 YRS.

BASED ON AMBIENT TEMP OF * 194 °F

AGING TEMP./ DURATION 302°F / 100 HRS

REL. HUMIDITY Uncontrolled

NOT AGED-JUSTIFIED BY ANALYSIS TO N/A YRS.

* Aging based on 194°F (90°C) conductor temp with 181.4°F (83°C) surface temp.

REVIEWER: Ron M Snyder

DATE: 1/4/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 128-01 Rev A
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE 600 Volt Power Cable
SPEC. NO. 128 P.O. 310557 VENDOR Okonite Company
TEST ITEM DESC. 600 Volt, #12, 7XTC, .030" Okonite (EPR) insulation
MAKE Okonite Company MODEL N/A
VENDOR TEST REPORT NO. NQRN-1
APPLICABLE STANDARDS TEST REPORT NO. 128-01
IEEE 383-1974 TEST METHOD Sequential Test/Analysis/Historical Data
IEEE 323-1974 DOCUMENTATION ACCEPTABILITY
IEEE Acceptable for category II positions of NUREG 0588
NUREG 0588 CAT. II QUALIFIED LIFE 40 years

TEST SEQUENCE (R: Section 1.4.1.5)
1. Electrical Test 6. Voltage Withstand Test (80 V/mil AC)
2. Thermal Aging 7. 100 Day LOCA Test
3. Irradiation 8. Voltage Withstand Test (30 V/mil AC)
4. Electrical Test 9. Electrical Test
5. 30 Day LOCA test 10. Dielectric Strength Test

TEST ENVIRONMENT (R: Section 1.4.1.3, App 5, Wyle Analysis)
17464-1802 section 6.0
TIME 3 HRS 2 HRS 3 HRS 3 HRS 4 HRS 81 HRS 26 DYS 100 DYS
TEMP. °F 345 190 345 335 315 265 212 212
PRES. PSIG 114 NOT STATED 114 101 74 26 0 0
R.H. 100 (SPRAY)
OF. TIME DEMO 180 DAYS ACC/PERF DEMO N/A
APPLICABLE ENV. ZONES
RAD ALL
T/P ALL

RADIATION AGING (R: Appendix 1) THERMAL AGING (R: Section 1.4.1.3 + App 2)
DOSE RATE .67 to .75 RAD/HR AGED TO SIMULATED
LIFE OF 40 YRS.
DOSE PRIOR TO ENV. TEST 2.01 x 10⁸ RADS BASED ON AMBIENT
TEMP OF 167 °F
DOSE DURING ENV. TEST None RADS AGING TEMP./
DURATION 302 °F / 504 HRS
TOTAL DOSE 2.01 x 10⁸ RADS REL. HUMIDITY Not Addressed

CYCLE AGING (R:)
CYCLES REQUIRED Not Required
CYCLES PERFORMED
(Electro-Mechanical Equip. only) NOT AGED-JUSTIFIED
BY ANALYSIS TO YRS.
* Analysis and historical data is used to establish 40 year qualified life

REVIEWER: Ron M. Snyder DATE: 11/20/81

SPEC. TITLE 300 V + 600V Fire Resistant Control and Instrumentation Cable
SPEC. NO. 129 P.O. 310553 VENDOR Rockbestos Company
TEST ITEM DESC. See Attachment 1
MAKE See Attachment 1 MODEL See Attachment 1
VENDOR TEST REPORT NO. Firewall III, Chemically Cross Linked, July 7, 1977, Rev Dec 8, 1980
APPLICABLE STANDARDS TEST REPORT NO. 129-01
IEEE 383-1974 TEST METHOD Sequential Test
IEEE DOCUMENTATION ACCEPTABILITY Acceptable,
IEEE NUREG 0588 Category II positions
NUREG 0588 CAT. II QUALIFIED LIFE 40 years

TEST SEQUENCE (R: pages 5 thru 7)

- | | |
|----------------------------------|----------------------------------|
| 1. <u>Thermal Aging</u> | 6. <u>Voltage Withstand Test</u> |
| 2. <u>Radiation Aging</u> | 7. <u>365 Day Post LOCA Test</u> |
| 3. <u>Voltage Withstand Test</u> | 8. <u>Voltage Withstand Test</u> |
| 4. <u>Radiation Aging</u> | 9. _____ |
| 5. <u>30 Day LOCA Test</u> | 10. _____ |

TEST ENVIRONMENT (R: pages 11 and 7)

TIME	3 HRS	2 HRS	3 HRS	3 HRS	4 HRS	81 HRS	26 DYS	1 YR
TEMP. °F	346	140	346	335	315	265	212	200
PRES. PSIG	113	—	113	93	69	28	0	—
R.H.	<u>100 (SPRAY)</u>							
OP. TIME DEMO	<u>395 Days</u>				ACC/PERF DEMO	<u>N/A</u>		

APPLICABLE ENV. ZONES

RAD ALL

T/P ALL

RADIATION AGING (R: Sec III, pg 5,
Sec V, pg 6)

DOSE RATE 1×10^6 RAD/HR
DOSE PRIOR TO ENV. TEST 2×10^8 RADS
DOSE DURING ENV. TEST None RADS
TOTAL DOSE 2×10^8 RADS

CYCLE AGING (R: _____)

CYCLES REQUIRED Not Required
CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

THERMAL AGING (R: Sec II pg 5)

AGED TO SIMULATED LIFE OF 40 YRS.
BASED ON AMBIENT TEMP OF 194 °F
AGING TEMP./DURATION 302°F / 1300 HRS
REL. HUMIDITY Uncontrolled

NOT AGED-JUSTIFIED BY ANALYSIS TO N/A YRS.

REVIEWER: Ron M Snyder

DATE: 11/27/81

SPEC. TITLE 300+600V Fire Resistant Control and Instrumentation Cable
SPEC. NO. 129 P.O. 310553 VENDOR Rockbestos Company
TEST ITEM DESC. See Attachment 2
MAKE See Attachment 2 MODEL See Attachment 2
VENDOR TEST REPORT NO. Firewall III, Irradiation Cross-Linked Insulation, Rev Dec 8, 1980
APPLICABLE STANDARDS TEST REPORT NO. 129-01
IEEE 383-1974 TEST METHOD Sequential Test
IEEE _____ DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____ NUREG 0588 Category II positions
NUREG 0588 CAT. II QUALIFIED LIFE 40 years

TEST SEQUENCE (R: pages 16 thru 18)

- | | |
|----------------------------------|----------------------------------|
| 1. <u>Thermal Aging</u> | 6. <u>Voltage Withstand Test</u> |
| 2. <u>Radiation Aging</u> | 7. <u>365 Day Post LOCA Test</u> |
| 3. <u>Voltage Withstand Test</u> | 8. <u>Voltage Withstand Test</u> |
| 4. <u>Radiation Aging</u> | 9. _____ |
| 5. <u>30 Day LOCA Test</u> | 10. _____ |

TEST ENVIRONMENT (R: Page 22 and Page 18)

APPLICABLE
ENV. ZONES

TIME	3 HRS	2 HRS	3 HRS	3 HRS	4 HRS	81 HRS	26 DYS	1 YR
TEMP. °F	346	140	346	335	315	265	212	200
PRES. PSIG	113	—	113	93	69	28	0	—
R.H.	<u>100 (SPRAY)</u>							
OP. TIME DEMO	<u>395 DAYS</u>				ACC/PERF DEMO	<u>N/A</u>		

RAD ALL

T/P ALL

RADIATION AGING (R: Sec III pg 16
Sec II pg 17)

DOSE RATE 1×10^6 RAD/HR
DOSE PRIOR TO ENV. TEST 2×10^8 RADS
DOSE DURING ENV. TEST None RADS
TOTAL DOSE 2×10^8 RADS

THERMAL AGING (R: Sec II pg 16)

AGED TO SIMULATED LIFE OF 40 YRS.
BASED ON AMBIENT TEMP OF 194 °F
AGING TEMP./DURATION 302°F / 1300 HRS

CYCLE AGING (R: _____)

CYCLES REQUIRED Not Required
CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

REL. HUMIDITY Uncontrolled

NOT AGED-JUSTIFIED BY ANALYSIS TO N/A YRS.

REVIEWER: Ron M. Snyder

DATE: 11/27/81

TEST SAMPLE DESCRIPTIONS

Instrumentation Cable

Single conductor #16 AWG, 300 volt, 20 mils of flame retardant chemically cross-linked polyolefin insulation identified as Rockbestos Firewall III.

Conductor - 7/.0192" Coated Copper

*Control Cable

Single conductor #12 AWG, 600 volt, 30 mils of flame retardant chemically cross-linked polyolefin insulation identified as Rockbestos Firewall III.

Conductor - 7/.0305" Coated Copper

Power Cable

Single conductor #6 AWG, 600 volt, 45 mils of flame retardant chemically cross-linked polyolefin insulation identified as Rockbestos Firewall III.

Conductor - 7/.0612" Coated Copper

*Also qualifies Firewall SIS (NEC Type SIS).

TEST SAMPLE DESCRIPTION

Single conductor #12 AWG, 600 volt, 30 mils of flame retardant, irradiation cross-linked polyolefin insulation identified as Rockbestos Firewall III.

Conductor - 7/.0305" Coated Copper

SPEC. TITLE 300V+600V Fire Resistant Control and Instrumentation Cable
SPEC. NO. 129 P.O. 310553 VENDOR Rockbestos Company
TEST ITEM DESC. Adverse Service Coaxial Cable
MAKE Rockbestos Company MODEL RSS 6-102 and RSS 6-113
VENDOR TEST REPORT NO. Qualification of Firewall III Coaxial Constructions
APPLICABLE STANDARDS TEST REPORT NO. 129-02
IEEE 383-1974 TEST METHOD Sequential Test
IEEE _____ DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____ NUREG 0588 Category II positions
NUREG 0588 CAT. II QUALIFIED LIFE 40 years

TEST SEQUENCE (R: Pages 1, 2, 3)

- | | |
|---------------------------------------|--|
| 1. <u>Thermal Aging</u> | 6. <u>Insulation Resistance Checks</u> |
| 2. <u>Radiation Aging</u> | 7. <u>365 Day Post LOCA Simulation</u> |
| 3. <u>30 Day LOCA Test</u> | 8. <u>Insulation Resistance Check</u> |
| 4. <u>Insulation Resistance Check</u> | 9. <u>Dielectric Test</u> |
| 5. <u>Dielectric Test</u> | 10. _____ |

TEST ENVIRONMENT (R: Page 7)

TIME	<u>3 HRS</u>	<u>3 HRS</u>	<u>3 HRS</u>	<u>4 HRS</u>	<u>105 HRS</u>	<u>391 DYS</u>
TEMP. °F	<u>340</u>	<u>340</u>	<u>320</u>	<u>300</u>	<u>250</u>	<u>200</u>
PRES. PSIG	<u>104</u>	<u>104</u>	<u>75</u>	<u>52</u>	<u>15</u>	<u>0</u>
R.H. <u>100 (SPRAY)</u>						
OP. TIME DEMO <u>395 Days</u>	ACC/PERF DEMO <u>N/A</u>					

APPLICABLE
ENV. ZONES

RAD ALL

T/P ALL

RADIATION AGING (R: Page 2 + 8)

DOSE RATE 5×10^5 RAD/HR
DOSE PRIOR TO ENV. TEST 2×10^8 RADS
DOSE DURING ENV. TEST None RADS
TOTAL DOSE 2×10^5 RADS

CYCLE AGING (R: _____)

CYCLES REQUIRED Not Required

CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

THERMAL AGING (R: Page 2 Sec II)

AGED TO SIMULATED LIFE OF 40 YRS.

BASED ON AMBIENT TEMP OF 167 °F

AGING TEMP./ DURATION 302°F / 168 HRS

REL. HUMIDITY Not Addressed

NOT AGED-JUSTIFIED BY ANALYSIS TO N/A YRS.

REVIEWER: Ran Malyshev

DATE: 12/31/81

SPEC. TITLE Instrument Cable
SPEC. NO. 130 P.O. 310587 VENDOR Raychem
TEST ITEM DESC. See Attachments
MAKE Raychem MODEL Flametrol
VENDOR TEST REPORT NO. Raychem-Flametrol, Qualification to IEEE 383-1974, 01/75
APPLICABLE STANDARDS TEST REPORT NO. 130-01
IEEE 383-1974 TEST METHOD Sequential Test/Analysis
IEEE 323-1974 DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____
NUREG 0588 CAT. II (CAT I in RBS) QUALIFIED LIFE 40 years

TEST SEQUENCE (R: App XI pg 6, App XXV pg 1 and 2)

- | | |
|--|-----------------------------|
| 1. <u>Combined Radiation + Thermal Aging</u> | 6. <u>Voltage Withstand</u> |
| 2. <u>Insulation Resistance Checks</u> | 7. _____ |
| 3. <u>30 Day LOCA exposure</u> | 8. _____ |
| 4. <u>Bend + High Potential Test</u> | 9. _____ |
| 5. <u>LOCA Continuation (306 Days)</u> | 10. _____ |

TEST ENVIRONMENT (R: App XI pg 6, App XIII, App XXV)

APPLICABLE
ENV. ZONES

TIME	<u>10 HRS</u>	<u>82 HRS</u>	<u>26 DYS</u>	<u>121 DYS</u>	<u>185 DYS</u>
TEMP. °F	<u>357°</u>	<u>275°</u>	<u>212°</u>	<u>200°</u>	<u>155°</u>
PRES. PSIG	<u>70</u>	<u>31</u>	<u>10</u>	<u>10</u>	_____
R.H. (<u>SPRAY</u>)	<u>100</u>	_____	_____	_____	_____
OP. TIME DEMO	<u>336 DAYS</u>	ACC/PERF DEMO	<u>N/A</u>	_____	_____

RAD ALL Reactor Building
T/P ALL Reactor Building

RADIATION AGING (R: App XI sec 3.5.3.6, App B of App XI)

THERMAL AGING (R: App XI sec 3.5, App XII, Wyle Anal. 17464-1102)

DOSE RATE Not Stated RAD/HR
DOSE PRIOR TO ENV. TEST 5×10^7 RADS
DOSE DURING ENV. TEST 1.5×10^8 RADS
TOTAL DOSE 2×10^8 RADS

AGED TO SIMULATED LIFE OF (> 40 yrs in RBS) 31 YRS.

BASED ON AMBIENT TEMP OF 194° °F

AGING TEMP./ DURATION 302° / 32 Days

CYCLE AGING (R: _____)

REL. HUMIDITY Not Addressed

CYCLES REQUIRED Not Required

NOT AGED-JUSTIFIED BY ANALYSIS TO 40 YRS.

CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

REVIEWER: Ron M. Snyder

DATE: 1-28-82

SPEC. TITLE Reactor Containment Electrical Penetrations
SPEC. NO. 134 P.O. 310578 VENDOR General Electric
TEST ITEM DESC. Electrical Containment Penetration
MAKE General Electric MODEL Series 200, Low Voltage
VENDOR TEST REPORT NO. 994-76-018
APPLICABLE STANDARDS TEST REPORT NO. 134-01
IEEE 317-1972 TEST METHOD Sequential Test
IEEE DOCUMENTATION ACCEPTABILITY
IEEE Acceptable
NUREG 0588 CAT. II QUALIFIED LIFE 40 YRS

TEST SEQUENCE (R: PAGE 3)

- | | |
|--------------------------|-------------------------------|
| 1. <u>THERMAL CYCLE</u> | 6. <u>Long Term Post LOCA</u> |
| 2. <u>GAMMA Exposure</u> | 7. _____ |
| 3. <u>OVERCURRENT</u> | 8. _____ |
| 4. <u>LOCA TEST</u> | 9. _____ |
| 5. <u>Seismic Test</u> | 10. _____ |

TEST ENVIRONMENT (R: <u>Page 32</u>)				APPLICABLE ENV. ZONES
TIME	<u>4.5 hrs</u>	<u>3.5 hrs</u>	<u>17.5 hrs</u>	<u>12 DAYS 6.5 hrs</u> RAD <u>0</u>
TEMP. °F	<u>340</u>	<u>328</u>	<u>275</u>	<u>210</u>
PRES. PSIG	<u>103</u>	<u>80</u>	<u>26</u>	<u>20</u>
R.H.	_____			T/P <u>22</u>
OP. TIME DEMO	_____			ACC/PERF DEMO _____

RADIATION AGING (R: <u>Page 9</u>)		THERMAL AGING (R: <u>EPOXY 74-502-3 CHD</u>)	
DOSE RATE <u>NOT STATED</u> RAD/HR		<u>ORING ATTACH A+B</u>	
DOSE PRIOR TO ENV. TEST <u>1x10⁸</u> RADS		AGED TO SIMULATED LIFE OF <u>N/A</u> YRS.	
DOSE DURING ENV. TEST <u>NONE</u> RADS		BASED ON AMBIENT TEMP OF <u>160 °F</u>	
TOTAL DOSE <u>1x10⁸</u> RADS		AGING TEMP./ DURATION <u>N/A</u> / <u>N/A</u>	
CYCLE AGING (R: <u>NOT REQUIRED</u>)		REL. HUMIDITY <u>100 %</u>	
CYCLES REQUIRED _____		NOT AGED-JUSTIFIED BY ANALYSIS TO <u>ORING 5 YRS</u>	
CYCLES PERFORMED _____ (Electro-Mechanical Equip. only)		<u>EPOXY 40 YRS.</u>	

REVIEWER: SK

DATE: 5/11/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 134-02 REV-1
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE REACTOR CONTAINMENT ELECTRICAL PENETRATIONS
SPEC. NO. 134 P.O. 310578 VENDOR GENERAL ELECTRIC
TEST ITEM DESC. ELECTRICAL CONTAINMENT PENETRATIONS
MAKE GENERAL ELECTRIC MODEL 100 Series, 5KV Medium Voltage
VENDOR TEST REPORT NO. 74-502-2
APPLICABLE STANDARDS TEST REPORT NO. 134-02
IEEE 317-1972 TEST METHOD Sequential Test
IEEE DOCUMENTATION ACCEPTABILITY Acceptable
IEEE
NUREG 0588 CAT. II QUALIFIED LIFE 40 YRS

TEST SEQUENCE (R: PAGE 1-2)

1. GAMMA EXPOSURE
2. ELECTRICAL TESTING
3. LOCA
4. POST LOCA TEST
5. THERMAL CYCLE (PERFORMED INDEPENDENTLY)
6. _____
7. _____
8. _____
9. _____

TEST ENVIRONMENT (R: PAGE 2-3)

TIME	4 HRS	6 HRS	240 HRS
TEMP. °F	340	320	260
PRES. PSIG	103	81	20
R.H. (SPRAY)	100 %		
OP. TIME DEMO	10 DAYS	ACC/PERF DEMO	N/A

APPLICABLE
ENV. ZONES

RAD D

T/P 22

RADIATION AGING (R: APP B)

DOSE RATE 3.7×10^5 RAD/HR
DOSE PRIOR TO
ENV. TEST 1×10^8 RADS
DOSE DURING
ENV. TEST NONE RADS
TOTAL DOSE 1×10^8 RADS

CYCLE AGING (R: APP A Thermal Cycle)

CYCLES REQUIRED 100
CYCLES PERFORMED 120
(Electro-Mechanical Equip. only)

THERMAL AGING (R: EPoxy - TEST 74-502-3 CHVD)

AGED TO SIMULATED
LIFE OF N/A YRS.

BASED ON AMBIENT
TEMP OF 160 °F

AGING TEMP./
DURATION N/A / N/A

REL. HUMIDITY 100 %

NOT AGED-JUSTIFIED
BY ANALYSIS TO 40 YRS.

REVIEWER: [Signature]

DATE: 05/12/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 159-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Electrical Installation
SPEC. NO. SHI-159 P.O. Various VENDOR Various
TEST ITEM DESC. Okoquard Insulated Cables and Splicing Tapes
MAKE The Oxonite Co. MODEL T-95, No. 35 Splicing Tapes
VENDOR TEST REPORT NO. NORN-3
APPLICABLE STANDARDS
IEEE 383-1974 TEST REPORT NO. 159-01
IEEE 323-1974 TEST METHOD Sequential Test
IEEE DOCUMENTATION ACCEPTABILITY
Not Applicable to 600 V
cables used shoreham
NUREG 0588 CAT. — QUALIFIED LIFE —

TEST SEQUENCE (R: page 3)

1. Sample selection + pre-test
2. Prepare splices
3. Thermal Aging
4. Irradiation
5. Pre-LoCa check
6. LoCa profile
7. Post LoCa withstand
8. Add 100 day Environment
9. Final check
10. Dielectric Strength Test

TEST ENVIRONMENT (R: Appendix 4)

TIME	0-3 HRS	5-8 HRS	8-11 HRS	11-15 HRS	15 HRS-40 days	40-130 days
TEMP. °F	345	345	335	315	265	212
PRES. PSIG	114	114	101	74	26	0-2
R.H.	<u>100 (spray)</u>					
OP. TIME DEMO	<u>130 days</u>					
ACC/PERF DEMO	<u>N/A</u>					

APPLICABLE ENV. ZONES
RAD ALL
T/P ALL

RADIATION AGING (R: Appendix 3)

DOSE RATE 0.67 ÷ 0.75 RAD/HR

DOSE PRIOR TO ENV. TEST 2.01 x 10⁸ RADS

DOSE DURING ENV. TEST N/A RADS

TOTAL DOSE 2.01 x 10⁸ RADS

CYCLE AGING (R: N/A)

CYCLES REQUIRED

CYCLES PERFORMED (Electro-Mechanical Equip. only)

THERMAL AGING (R: page 3 and App. 2)

AGED TO SIMULATED LIFE OF 40 YRS.

BASED ON AMBIENT TEMP OF 192 °F

AGING TEMP./ DURATION 302°F, 3 weeks

REL. HUMIDITY N/A

NOT AGED-JUSTIFIED BY ANALYSIS TO YRS.

REVIEWER: M. Grinshteyn DATE: 4/5/1982

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 159-02 REV A
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE ELECTRICAL INSTALLATION
SPEC. NO. SHI-159 P.O. VARIOUS VENDOR VARIOUS
TEST ITEM DESC. LUGS & SPLICES
MAKE AMP MODEL 534-- , 539-- , 529--
VENDOR TEST REPORT NO. 110-11516
APPLICABLE STANDARDS TEST REPORT NO. 159-02
IEEE 323 - 1974 TEST METHOD SEQUENTIAL TEST/ANALYSIS
IEEE 383 - 1974 DOCUMENTATION ACCEPTABILITY ACCEPTABLE
IEEE P572 / D6A FOR SECONDARY CONTAIN.
NUREG 0588 CAT. 1 QUALIFIED LIFE 40 YRS

TEST SEQUENCE (R: Pg 4 of 14)

- | | |
|--------------------------------|----------------------------|
| 1. <u>EXAMINE PRODUCT</u> | 6. <u>SPRAY</u> |
| 2. <u>TEMP RISE</u> | 7. <u>TENSILE STRENGTH</u> |
| 3. <u>HEAT AGE</u> | 8. _____ |
| 4. <u>DIELECTRIC WITHSTAND</u> | 9. _____ |
| 5. <u>RAD. EXPOSURE</u> | 10. _____ |

TEST ENVIRONMENT (R: Pg 5 of 14)

APPLICABLE
ENV. ZONES

TIME	0 TO 7 MIN	7 TO 9 MIN	9 TO 11 MIN	11 TO 17.5 MIN	19.5 MIN TO 2.3 HRS	9.8 HRS TO 52.2 HRS	54.3 HRS TO 254 HRS
TEMP. °F	370	370	350	350	302	2108	240
PRES. PSIG	60	60	60	60	55	26	13-14
R.H.	100%						
OP. TIME DEMO	16 DAYS ACC/PERF DEMO N/A						

RAD ALL
T/P ALL

RADIATION AGING (R: Pg 5 of 14)

DOSE RATE 0.75 MEGA RAD/HR
DOSE PRIOR TO ENV. TEST 2.06×10^8 RADS
DOSE DURING ENV. TEST NONE RADS
TOTAL DOSE 2.06×10^8 RADS

CYCLE AGING (R: Not REQD)

CYCLES REQUIRED N/A
CYCLES PERFORMED N/A
(Electro-Mechanical Equip. only)

THERMAL AGING (R: Pg 5 of 14)

AGED TO SIMULATED LIFE OF 40 (38.75 FOR ST) YRS. **

BASED ON AMBIENT TEMP OF 89°C (INCLUDES TEMP RISE) °F

AGING TEMP./ DURATION 150°C / 7 DAYS *

REL. HUMIDITY UNCONTROLLED %

NOT AGED-JUSTIFIED BY ANALYSIS TO N/A YRS.

* ADDITIONAL COMPONENTS AGED FURTHER
** SEE SUPPORTING ANALYSIS DATED 1/26/82

REVIEWER: William R Shuster

REV A. 1/26/82
DATE: 8-4-81

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 159-03
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Electrical Installation
SPEC. NO. 159 P.O. Various VENDOR Various
TEST ITEM DESC. General Electric Switchboard Wire
MAKE General Electric MODEL Vulkene Supreme SI-5729
VENDOR TEST REPORT NO. F-C4497-2 and GE PD-80
APPLICABLE STANDARDS TEST REPORT NO. 159-03
IEEE 323-1974 TEST METHOD Test Sequential
IEEE 383-1974 DOCUMENTATION ACCEPTABILITY
IEEE Acceptable for CAT. I
NUREG 0588 CAT. T QUALIFIED LIFE 40 years

TEST SEQUENCE (R: p. 3-1-3-3; 4-1 of Report F-C4497-2)

1. Thermal Aging
2. Gamma Radiation Exposure
3. Steam/chemical spray Exposure
4. Mandrel Bend Test
5. High-Potential Test
6. _____
7. _____
8. _____
9. _____
10. _____

TEST ENVIRONMENT (R: Page C-5 of Report F-C4497-2)

APPLICABLE
ENV. ZONES

TIME	0.25 0.35HRS	0.25 3.5HRS	0.25 3HRS	3HRS -6.5HRS	6.5HRS -9.5HRS	9.5HRS -12.5HRS	12.5HRS -16.5HRS	16.5HRS 20.5HRS
TEMP. °F	348	346	140	345	335	315	265	
PRES. PSIG	124	124	0	122	95	69	28	
R.H. <u>100(spray)</u>								
OP. TIME DEMO <u>110 Days</u>								

RAD All

T/P All

RADIATION AGING (R: page 3-1)

DOSE RATE 0.54×10^6 RAD/HR
DOSE PRIOR TO ENV. TEST 2.2×10^8 RADS
DOSE DURING ENV. TEST — RADS
TOTAL DOSE 2.2×10^8 RADS

CYCLE AGING (R: N/A)

CYCLES REQUIRED _____
CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

THERMAL AGING (R: page 4 of PD-80)

AGED TO SIMULATED LIFE OF 40 YRS.

BASED ON AMBIENT TEMP OF 194 °F

AGING TEMP./ DURATION 330°F, 125HRS

REL. HUMIDITY N/A %

NOT AGED-JUSTIFIED BY ANALYSIS TO N/A YRS.

REVIEWER: M. Grinshcheyn

DATE: 3/25/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 159-04
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Electrical Installation
SPEC. NO. 159 P.O. Various VENDOR Various
TEST ITEM DESC. Switchboard wire
MAKE Rockbestos MODEL Cat. No. A83-0--6
VENDOR TEST REPORT NO. Qualification of Firewall III class IE Electric Cables
APPLICABLE STANDARDS TEST REPORT NO. 159-04
IEEE 383-1974 TEST METHOD Sequential Test
IEEE 323-1974 DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____
NUREG 0588 CAT. I QUALIFIED LIFE 40 years

TEST SEQUENCE (R: page 2-4)

1. Coiling
2. Thermal Aging *
3. Irradiation *
4. LOCA **
5. Voltage Withstand Test
6. 100 Day Post Loca ***
7. Voltage Withstand ***
8. *-Not Performed on Sample "C"
9. ** -Not Performed on Sample "A"
10. *** Performed only on Sample "B"

TEST ENVIRONMENT (R: <u>LOCA Profile on pg. 8, page 4</u>)							APPLICABLE ENV. ZONES
B and C samples							
TIME	3HRS	3HRS	3HRS	4HRS	8HRS	26 Days	RAD <u>ALL</u>
TEMP. °F	346	346	335	315	265	212	
PRES. PSIG	113	113	93	69	28	0	T/P <u>ALL</u>
R.H.	<u>100 (spray)</u>						
OP. TIME DEMO	<u>130 Days</u>						
ACC/PERF DEMO	<u>N/A</u>						

RADIATION AGING (R: page 2, 3 and 9)
.65 x 10⁶ - Normal
DOSE RATE .8 x 10⁶ - Accident RAD/HR
DOSE PRIOR TO 2 x 10⁸ - B sample
ENV. TEST 1.5 x 10⁸ - C sample RADS
DOSE DURING
ENV. TEST N/A RADS
TOTAL DOSE 2 x 10⁸ RADS

CYCLE AGING (R: _____)
CYCLES REQUIRED N/A
CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

THERMAL AGING (R: p. 2)
AGED TO SIMULATED LIFE OF 40 YRS.
BASED ON AMBIENT TEMP OF 194 °F
AGING TEMP./ DURATION 302°F / 1300 HRS
REL. HUMIDITY N/A
NOT AGED-JUSTIFIED BY ANALYSIS TO N/A YRS.

REVIEWER: M. Grinshteyn

DATE: 3/15/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 159-05
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE ELECTRICAL INSTALLATION

SPEC. NO. SHI-159 P.O. 310541 VENDOR RAYCHEM

TEST ITEM DESC. HEAT SHRINKABLE INSULATING SLEEVES

MAKE RAYCHEM MODEL WCSE-N

VENDOR TEST REPORT NO. EDR-5011

APPLICABLE STANDARDS

TEST REPORT NO. 5011

IEEE - 323-1974

TEST METHOD SEQUENTIAL TESTING

IEEE - 383-1974

DOCUMENTATION ACCEPTABILITY

IEEE

NO - SEE COMMENTS - EOREF

159-05

NUREG 0588 CAT. I

QUALIFIED LIFE

TEST SEQUENCE (R: pg 2-3)

1. FUNCTIONAL TEST
2. AGING SIMULATION
3. NUCLEAR RADIATION
4. LOCA SIMULATION
5. POST-LOCA SIMULATION TEST
6. _____
7. _____
8. _____
9. _____
10. _____

TEST ENVIRONMENT (R: _____)

APPLICABLE
ENV. ZONES

TIME	0-3hr	3-5hr	5-8hr	8-11hr	11-15hr	15hr-4hr	4-30day
TEMP. °F	340°F	340-440	340	320	300	250	200
PRES. PSIG	103	-	103	75	52	15	0
R.H.	100%						
OP. TIME DEMO	30 day						

RAD ALL

T/P ALL

RADIATION AGING (R: pg 2)

THERMAL AGING (R: pg 2)

DOSE RATE .381 x 10⁶ RAD/HR

AGED TO SIMULATED
LIFE OF NOT DETERMINED YRS.

DOSE PRIOR TO
ENV. TEST 163.3 x 10⁶ RADS

BASED ON AMBIENT
TEMP OF NOT DETERMINED °F

DOSE DURING
ENV. TEST _____ RADS

AGING TEMP./
DURATION 168 hrs / 150°C

TOTAL DOSE 163.3 x 10⁶ RADS

REL. HUMIDITY NOT GIVEN %

CYCLE AGING (R: —)

CYCLES REQUIRED NOT REQ.

NOT AGED-JUSTIFIED
BY ANALYSIS TO _____ YRS.

CYCLES PERFORMED NOT REQ
(Electro-Mechanical Equip. only)

REVIEWER: Jim W. Smith

DATE: 2/4/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 159-06
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Electrical Installation
SPEC. NO. SHI-159 P.O. Various VENDOR The Kerite company.
TEST ITEM DESC. Cable Splices and Terminations.
MAKE The Kerite company MODEL S-5MT-NUC, IT/OT-5MT-NUC.
VENDOR TEST REPORT NO. Isomedix Report I-R.975-01
APPLICABLE STANDARDS TEST REPORT NO. 159-86
IEEE 323-1974 TEST METHOD Sequential Test, Analysis.
IEEE 383-1974 DOCUMENTATION ACCEPTABILITY Acceptable
IEEE for NUREG 0588 Category II.
NUREG 0588 CAT. II QUALIFIED LIFE 15 years (for EPR material)

TEST SEQUENCE (R: page 1, parag. 4a; page 13, parag. 5 and 6.

1. Thermal Aging
2. Radiation Aging
3. Simulated LOCA (6 day)
4. Inspection, Hi-Pot test
5. Simulated LOCA (contin. 94 day)
6. Insulation resistance checks
7. High Voltage AC Test.
8. _____
9. _____
10. _____

TEST ENVIRONMENT (R: page 14, Figure 3)

TIME	<u>4 HRS</u>	<u>10 HRS</u>	<u>86 HRS</u>	<u>2304 HRS</u>
TEMP. °F	<u>340</u>	<u>320</u>	<u>250</u>	<u>200</u>
PRES. PSIG	<u>95.5</u>	<u>60</u>	<u>12</u>	<u>Atmos.</u>
R.H.	<u>100 (spray)</u>			
OP. TIME DEMO	<u>100 days</u> ACC/PERF DEMO <u>N/A</u>			

APPLICABLE
ENV. ZONES

RAD All

T/P All

RADIATION AGING (R: Appendix A.

DOSE RATE 1×10^6 RAD/HR
DOSE PRIOR TO ENV. TEST 2×10^3 RADS
DOSE DURING ENV. TEST None RADS
TOTAL DOSE 2×10^8 RADS

CYCLE AGING (R: _____)

CYCLES REQUIRED Not Required
CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

THERMAL AGING (R: page 1, parag. 4a

AGED TO SIMULATED LIFE OF N/A YRS.

BASED ON AMBIENT TEMP OF 194* °F

AGING TEMP./ DURATION 302°F, 100 HRS

REL. HUMIDITY Uncontrolled

NOT AGED-JUSTIFIED 15 years (NUREG 0588 Cat II)
BY ANALYSIS TO 297 years (NUREG 0588 Cat I)

*Aging Based on 194°F maximum conductor temperature.

REVIEWER: M. Grinshteyn

DATE: 3/3/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 232-01 Revision 1"
SHOREHAM NUCLEAR POWER STATION-UNIT 1

Date: 5/10/82

SPEC. TITLE Special Check Valves

SPEC. NO. 232 P.O. 310595 VENDOR Velan

TEST ITEM DESC. Solenoid Valve

MAKE ASCO

MODEL NP8320A184E

VENDOR TEST REPORT NO. AGS-21678/TR Rev A, Wyle report 17464-1202

APPLICABLE STANDARDS

TEST REPORT NO. 232-01, Rev. 1

IEEE 323-1974

TEST METHOD Sequential Test/Analysis

IEEE

DOCUMENTATION ACCEPTABILITY Acceptable

IEEE

NUREG 0588 CAT. I

QUALIFIED LIFE 40 years - coil & elastomer change every 4 years

TEST SEQUENCE (R: Pages 3-1, 3-2)

- | | |
|---|------------------------------|
| 1. <u>* Baseline/Functional</u> | 6. <u>Accident Radiation</u> |
| 2. <u>Thermal Aging</u> | 7. <u>LOCA Simulation</u> |
| 3. <u>Radiation</u> | 8. _____ |
| 4. <u>Wear Aging</u> | 9. _____ |
| 5. <u>Seismic Simulation/Vibration End.</u> | 10. _____ |
- * Before and After each Type Test phase

TEST ENVIRONMENT (R: Pages 4-4, 4-5 and Fig 2 page 4-21)

APPLICABLE ENV. ZONES

TIME	3 HRS	3 HRS	3 HRS	85 HRS	26 DYS
TEMP. °F	346	346	320	250	200
PRES. PSIG	110	110	75	15	10
R.H. (SPRAY)	100				

RAD B, D, G, H, T

T/P 01, 02, 18, 22

OP. TIME DEMO 180 DYS * ACC/PERF DEMO N/A

* Analysis for 180 DAY OF TIME IN WYLE REPORT 17464-1202

RADIATION AGING (R: Pages 4-2, 4-4 and Appendix B)

THERMAL AGING (R: Pages 4-1, 9-3, 9-4)

DOSE RATE .5/10⁶ and .8/10⁶ RAD/HR

AGED TO SIMULATED Zone 22 only 499
LIFE OF * 55 YRS.

DOSE PRIOR TO ENV. TEST 2.013 x 10⁸ RADS

BASED ON AMBIENT Zone 22 only 150
TEMP OF * 104 °F

DOSE DURING ENV. TEST None RADS

AGING TEMP./ DURATION 268 °F / 12 Days

TOTAL DOSE 2.013 x 10⁸ RADS

REL. HUMIDITY Uncontrolled

CYCLE AGING (R: Page 4-3)

NOT AGED-JUSTIFIED BY ANALYSIS TO N/A YRS.

CYCLES REQUIRED 40,000

* See Wyle Lab. Thermal Aging Analysis, Wyle Report 17464-1202 page 2

CYCLES PERFORMED 40,000
(Electro-Mechanical Equip. only)

REVIEWER: Ron M Snyder

DATE: 8/18/81

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 235-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Loop Level Pumps
SPEC. NO. 235 P.O. 310545 VENDOR Goulds Pumps Inc.
TEST ITEM DESC. Westinghouse motors
MAKE Westinghouse MODEL Frame 213T
VENDOR TEST REPORT NO. Westinghouse Qualification Document No. MHB12
APPLICABLE STANDARDS TEST REPORT NO. 235-01
IEEE 323-1974 TEST METHOD Sequential Test
IEEE 334-1974 DOCUMENTATION ACCEPTABILITY
IEEE Acceptable for NUREG 0588
NUREG 0588 CAT. T Cat. I.
QUALIFIED LIFE 40 years

TEST SEQUENCE (R: page 4, 5, 7, 8.)

1. Inspection of motorettes
2. Aging simulation
3. Voltage tests
4. Irradiation
5. Moisture Exposure
6. Vibration (Mechanical stress exposure)
7.
8.
9.
10.

TEST ENVIRONMENT (R: page 7)

TIME 7533 Hours (313.8 Days)
TEMP. °F 210°C (410°F)
PRES. PSIG
R.H. 100 (spray)
OP. TIME DEMO 313.8 Days ACC/PERF DEMO N/A

APPLICABLE
ENV. ZONES

RAD G

T/P 01

RADIATION AGING (R: Appendix B)

DOSE RATE 0.4×10^6 RAD/HR
DOSE PRIOR TO
ENV. TEST 2.8×10^8 RADS
DOSE DURING
ENV. TEST — RADS
TOTAL DOSE 2.8×10^8 RADS

CYCLE AGING (R: N/A)

CYCLES REQUIRED —

CYCLES PERFORMED —
(Electro-Mechanical Equip. only)

THERMAL AGING (R: page 7, 9)

AGED TO SIMULATED
LIFE OF over 150 YRS.

BASED ON AMBIENT
TEMP OF (130°C) 268 °F

AGING TEMP. (210°C) 410°F, 7533 Hours
DURATION

REL. HUMIDITY 100 %

NOT AGED-JUSTIFIED
BY ANALYSIS TO N/A YRS.

REVIEWER: M. Grinshteyn

DATE 3/17/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 248-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1

REV 1

SPEC. TITLE MISCELLANEOUS TRANSFORMERS
SPEC. NO. SHI-248 P.O. 310739 VENDOR MAGNETICS
TEST ITEM DESC. 480 - 120/240V AC TRANSFORMERS
MAKE MAGNETICS MODEL L-12514
VENDOR TEST REPORT NO. - NONE -
APPLICABLE STANDARDS TEST REPORT NO. NONE
IEEE 323-971 TEST METHOD ANALYSIS
IEEE _____ DOCUMENTATION ACCEPTABILITY
IEEE _____ QUALIFIED TO NUREG 0588, CAT II BY
NUREG 0588 CAT. II WYLE ANALYSIS 17464-1302
QUALIFIED LIFE 40 YEARS

TEST SEQUENCE (R: NO ENVIRONMENTAL TESTING PERFORMED)

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: _____)

APPLICABLE
ENV. ZONES

TIME _____

RAD _____

TEMP. °F _____

PRES. PSIG _____

T/P _____

R.H. _____

OP. TIME DEMO _____ ACC/PERF DEMO _____

RADIATION AGING (R: N/A)

DOSE RATE _____ RAD/HR

DOSE PRIOR TO
ENV. TEST _____ RADS

DOSE DURING
ENV. TEST _____ RADS

TOTAL DOSE _____ RADS

CYCLE AGING (R: N/A)

CYCLES REQUIRED _____

CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

THERMAL AGING (R: WYLE ANALYSIS 17464-1302)

AGED TO SIMULATED
LIFE OF N/A YRS.

BASED ON AMBIENT
TEMP CF 104° °F

AGING TEMP./
DURATION - / -

REL. HUMIDITY - %

NOT AGED-JUSTIFIED
BY ANALYSIS TO 40 YRS.

REVIEWER: WR Shesha

DATE: 12-1-81

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 270-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE AXIAL FLOW FANS
SPEC. NO. SHI-270 P.O. 310550 VENDOR BUFFALO FORGE CO.
TEST ITEM DESC. MOTORETTES
MAKE WESTINGHOUSE MODEL 143 TCZ
VENDOR TEST REPORT NO. WESTINGHOUSE N° MM-9112 (PREV. WCAP-9112).
APPLICABLE STANDARDS _____ TEST REPORT NO. TR-270-01
IEEE STD 323-1974 TEST METHOD SEQUENTIAL-AFBMA STD. 9-1972
IEEE STD 334-1974 DOCUMENTATION ACCEPTABILITY ACCEPTABLE
IEEE _____
NUREG 0588 CAT. _____ QUALIFIED LIFE 40 YEARS.

TEST SEQUENCE (R: PAGES 6,7,8 OF REPORT MM-9112.)

1. THERMAL AGING 6. _____
2. GAMMA RADIATION EXPOSURE 7. _____
3. MECH. STRESS EXPOSURE. 8. _____
4. MOISTURE EXPOSURE 9. _____
5. HIGH POTENTIAL TEST 10. _____

TEST ENVIRONMENT (R: MM-9112, PAGE 7.)

TIME 7533 HRS. (313.8 DAYS).
TEMP. °F 410°F (210°C).
PRES. PSIG ATMOSPHERIC
R.H. 100%
OP. TIME DEMO 313.8 DAYS ACC/PERF DEMO N/A

APPLICABLE
ENV. ZONES

RAD K

T/P 15

RADIATION AGING (R: MM-9112, APP. B
Pgs. 1, 2, 3.)

DOSE RATE 0.4×10^6 RAD/HR
DOSE PRIOR TO
ENV. TEST 278.7×10^6 RADS
DOSE DURING
ENV. TEST _____ RADS
TOTAL DOSE 278.7×10^6 RADS

CYCLE AGING (R: MM-9112, Pg. 4, Par. 2.6(b)
Pg. 9, Par. 2.10.6.3 & 2.10.7(b))

CYCLES REQUIRED _____
CYCLES PERFORMED 14
(Electro-Mechanical Equip. only)

THERMAL AGING (R: MM-9112 Pg. 9, Par. (a)(c))

AGED TO SIMULATED
LIFE OF OVER 150 YRS.

BASED ON AMBIENT
TEMP OF (130°C) 266 °F

AGING TEMP./
DURATION 210°C (410°F) / 7533 HRS.

REL. HUMIDITY 100 %

NOT AGED-JUSTIFIED
BY ANALYSIS TO N/A YRS.

REVIEWER: Winnie Jaffie

DATE: 4/21/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 276-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1 REV 1

SPEC. TITLE UNIT COOLERS
SPEC. NO. SHI-276 P.O. 310556 VENDOR BUFFALO FORGE
TEST ITEM DESC. MOTOR & MOTORETTE
MAKE WESTINGHOUSE MODEL 43TCZ
VENDOR TEST REPORT NO. DO-146F REV T
APPLICABLE STANDARDS TEST REPORT NO. TR-276-01
IEEE STD 323-1974 TEST METHOD SEQUENTIAL
IEEE STD 334-1974 DOCUMENTATION ACCEPTABILITY ACCEPTABLE
IEEE STD 344-1975 & 117-1974
NUREG 0588 CAT. I QUALIFIED LIFE 40 YEARS W/ BEARING
& LUBE MAINTENANCE

TEST SEQUENCE (R: Page 5)

1. SEISMIC (CALC)
2. FACTORY TESTS
3. THERMAL AGING
4. IRRADIATION
5. MECHANICAL AGING
6. DBE TEST
7. ELECTRICAL INSULATION TEST.
8. FINAL INSPECTION
9. _____
10. _____

TEST ENVIRONMENT (R: Appendix 8, Page 4)

TIME 30 DAYS
TEMP. °F 227°F
PRES. PSIG 3.3
R.H. 100 %
OP. TIME DEMO 30 DAYS ACC/PERF DEMO N/A

APPLICABLE
ENV. ZONES

RAD L
T/P 02

RADIATION AGING (R: Page 3)

DOSE RATE _____ RAD/HR
DOSE PRIOR TO
ENV. TEST _____ RADS
DOSE DURING
ENV. TEST _____ RADS
TOTAL DOSE 1×10^8 RADS

CYCLE AGING (R: _____)

CYCLES REQUIRED NIR
CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

THERMAL AGING (R: Page 5)

AGED TO SIMULATED
LIFE OF 40 YRS.
BASED ON AMBIENT
TEMP OF 266 °F
AGING TEMP./
DURATION 410° F / 1370 HRS

REL. HUMIDITY NOT ADDRESSED %

NOT AGED-JUSTIFIED
BY ANALYSIS TO _____ YRS.

REVIEWER: William R. Sholes

DATE: 3/22/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 276-02
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE UNIT COOLER FANS
SPEC. NO. SH-276 P.O. 310556 VENDOR BUFFALO FORGE CO.
TEST ITEM DESC. WESTINGHOUSE MOTORS.
MAKE WESTINGHOUSE MODEL 143 TCZ
VENDOR TEST REPORT NO. WESTINGHOUSE REPORT MM-9112 (PREV. WCAP-9112)
APPLICABLE STANDARDS TEST REPORT NO. 276-01
IEEE 323-1974 TEST METHOD SEQUENTIAL-AFBMA STD. 9-M72
IEEE 334-1974 DOCUMENTATION ACCEPTABILITY ACCEPTABLE
IEEE _____
NUREG 0588 CAT. _____ QUALIFIED LIFE 40 YEARS.

TEST SEQUENCE (R: MM-9112, PAGES 6, 7, 8)

1. THERMAL AGING
2. GAMMA RADIATION EXPOSURE
3. MECH. STRESS EXPOSURE
4. MOISTURE EXPOSURE
5. HIGH POTENTIAL TEST
6. _____
7. _____
8. _____
9. _____
10. _____

TEST ENVIRONMENT (R: MM-9112, Pg. 7.)

TIME 7533 HOURS (313.8 DAYS)
TEMP. °F 410°F (210°C)
PRES. PSIG ATMOSPHERIC
R.H. 100 %
OP. TIME DEMO 313.8 DAYS ACC/PERF DEMO N/A

APPLICABLE
ENV. ZONES

RAD G

T/P 01

RADIATION AGING (R: (N) MM-9112 APP. B)

DOSE RATE 0.4 x 10⁸ ^{PAGES 1, 2, 3} RAD/HR

DOSE PRIOR TO
ENV. TEST 2.78 x 10⁸ RADS

DOSE DURING
ENV. TEST _____ RADS

TOTAL DOSE 2.78 x 10⁸ RADS

CYCLE AGING (R: MM-9112, Pg. 4, PAR. 1)

CYCLES REQUIRED 2.6 G, Pg. 9 PAR. 2.10.6.3
2.10.7(b)

CYCLES PERFORMED 14
(Electro-Mechanical Equip. only)

THERMAL AGING (R: MM-9112 Pg. 9 PAR. 2.10.7(a)(c))

AGED TO SIMULATED
LIFE OF 150 YRS.

BASED ON AMBIENT
TEMP OF 266°F (130°C) °F

AGING TEMP./
DURATION 410°F (210°C) / 7533 HRS.

REL. HUMIDITY 100 %

NOT AGED-JUSTIFIED
BY ANALYSIS TO N/A YRS.

REVIEWER: Miriam J. J. J.

DATE: 4/21/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 289-03
SHOREHAM NUCLEAR POWER STATION-UNIT 1

REV. 1" 5/8/82

SPEC. TITLE Hydrogen Recombiner
SPEC. NO. 289 P.O. 310624 VENDOR Reliance Electric Company
TEST ITEM DESC. Recombiner Blower motors
MAKE Reliance Electric Company MODEL 324T
VENDOR TEST REPORT NO. LIMITORQUE # 600456; RELIANCE NUK-9
APPLICABLE STANDARDS TEST REPORT NO. 289-03, Rev. 1.
IEEE 323-1974 TEST METHOD Sequential Qualification Test
IEEE 334-1974 DOCUMENTATION ACCEPTABILITY :
IEEE 344-1975 Acceptable
NUREG 0588 CAT. I QUALIFIED LIFE 40 years

TEST SEQUENCE (R: page 3 through 11, Limitorque #600456)
1. Thermal Aging 6. LOCA Test
2. Mechanical Aging 7. Visual Inspection
3. Radiation Aging 8. Post LOCA Load Cycling Test
4. Seismic Testing 9. Final Inspection
5. Radiation Exposure 10. _____

TEST ENVIRONMENT (R: FIGURE 6, Pg 14, LIMITORQUE #600456)
FIGURE #7, #8 STRIPCHART RECORDS
APPLICABLE ENV. ZONES
TIME 0-33 MIN 33 MIN to 3.7 HR 3.7 HR to 4.1 HR 4.1 HR to 5.1 HR 5.1 HR to 96 HR to 30 DAY RAD J
TEMP. °F 295° DECAY to 120° 310° DECAY to 250 250 192
PRES. PSIG 78 DECAY to 0 81 - 30 10 T/P 15, 16
R.H. 100 % steam/chemical spray
OP. TIME DEMO 30 Days ACC/PERF DEMO N/A

RADIATION AGING Limitorque #600456, Page 6
DOSE RATE 1×10^6 RAD/HR
DOSE PRIOR TO ENV. TEST 2.04×10^8 RADS
DOSE DURING ENV. TEST N/A RADS
TOTAL DOSE 2.04×10^8 RADS
THERMAL AGING (R: Limitorque 600456, pg 3 (NUC-9 Page 5, 6, 7))
AGED TO SIMULATED LIFE OF Greater than 40 YRS.
BASED ON AMBIENT TEMP OF 104 °F
AGING TEMP./ DURATION 355°F, 100 Hours
REL. HUMIDITY Not controlled
NOT AGED-JUSTIFIED BY ANALYSIS TO N/A

CYCLE AGING (R: I, page 11)
CYCLES REQUIRED -
CYCLES PERFORMED 1208
(Electro-Mechanical Equip. only)

REVIEWER: M. Grinshteyn

REV 5/8/1982
DATE: 1-6-82

SPEC. TITLE Electric Motor Operated Control Valves
SPEC. NO. 310 P.O. 310736 VENDOR Fisher Controls
TEST ITEM DESC. Electric Motor Operated Valve Actuator
MAKE Harold Beck and Sons MODEL 14-101-023645 (ES)
VENDOR TEST REPORT NO. Not Assigned
APPLICABLE STANDARDS TEST REPORT NO. 310-01, Rev. 1
IEEE 382-1972 TEST METHOD Sequential Test
IEEE 323-1974 DOCUMENTATION ACCEPTABILITY Not Acceptable
IEEE _____
NUREG 0588 CAT. N/A QUALIFIED LIFE Not Established

TEST SEQUENCE (R: Page R-7)

- | | |
|----------------------------|-----------|
| 1. <u>Mechanical Aging</u> | 6. _____ |
| 2. <u>Radiation Aging</u> | 7. _____ |
| 3. <u>Functional Test</u> | 8. _____ |
| 4. <u>Seismic Test</u> | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: Not Performed)

TIME _____
TEMP. °F _____
PRES. PSIG _____
R.H. Not Addressed
OP. TIME DEMO None ACC/PERF DEMO N/A

APPLICABLE
ENV. ZONES

RAD G, H, K, N
T/P 1, 2, 15, 16,
18, 20

RADIATION AGING (R: Attach 1 to Wyle Report 17464-1402)

DOSE RATE 1x10⁶ RAD/HR
DOSE PRIOR TO ENV. TEST N/A RADS
DOSE DURING ENV. TEST N/A RADS
* 1x10⁷ for ESR Board
TOTAL DOSE 2.2x10⁸ for remainder RADS

THERMAL AGING (R: Wyle Report 17464-1402 Section 3.0)

AGED TO SIMULATED LIFE OF N/A YRS.
BASED ON AMBIENT TEMP OF 185 °F
AGING TEMP./ DURATION 0 / 0
REL. HUMIDITY Not Addressed

CYCLE AGING (R: Page R-7)

CYCLES REQUIRED 500
CYCLES PERFORMED 16,588
(Electro-Mechanical Equip. only)

NOT AGED-JUSTIFIED BY ANALYSIS TO 740 YRS.
* Thermal Aging data not available on all materials

REVIEWER: Ron M. Snyder

DATE: 1/4/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 318-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Air Operated Control Valves
SPEC. NO. 318 P.O. 310735 VENDOR Capes Vulcan
TEST ITEM DESC. Solenoid Valve
MAKE ASCO MODEL NP8320A184E
VENDOR TEST REPORT NO. AQS-21678/TR Rev A, Wyle report 17464-1202
APPLICABLE STANDARDS TEST REPORT NO. 232-01
IEEE 323-1974 TEST METHOD Sequential Test/Analysis
IEEE DOCUMENTATION ACCEPTABILITY Acceptable
IEEE
NUREG 0588 CAT. I QUALIFIED LIFE 40 years - coil & elastomer change every 4 years

TEST SEQUENCE (R: Pages 3-1, 3-2)

- | | |
|---|------------------------------|
| 1. <u>Baseline/Functional</u> | 6. <u>Accident Radiation</u> |
| 2. <u>Thermal Aging</u> | 7. <u>LOCA Simulation</u> |
| 3. <u>Radiation</u> | 8. _____ |
| 4. <u>Wear Aging</u> | 9. _____ |
| 5. <u>Seismic Simulation/Vibration End.</u> | 10. _____ |
- * Before and After each Type Test phase

TEST ENVIRONMENT (R: Pages 4-4, 4-5 and Fig 2 page 4-21)

TIME	3 HRS	3 HRS	3 HRS	85 HRS	26 DYS
TEMP. °F	346	346	320	250	200
PRES. PSIG	110	110	75	15	10
R.H. (SPRAY)	100				
OP. TIME DEMO	180 DYS * ACC/PERF DEMO N/A				
* Analysis for 180 DAY OP. TIME IN WYLE REPORT 17464-1202					

APPLICABLE ENV. ZONES

RAD G, H, K

T/P 1, 3, 7, 15, 18

RADIATION AGING (R: Pages 4-2, 4-4 and Appendix B)

DOSE RATE $.51 \times 10^6$ and $.8 \times 10^6$ RAD/HR
DOSE PRIOR TO ENV. TEST 2.013×10^8 RADS
DOSE DURING ENV. TEST None RADS
TOTAL DOSE 2.013×10^8 RADS

CYCLE AGING (R: Page 4-3)

CYCLES REQUIRED 40,000
CYCLES PERFORMED 40,000
(Electro-Mechanical Equip. only)

THERMAL AGING (R: Pages 4-1, 9-3, 9-4)

AGED TO SIMULATED LIFE OF 55 YRS.

BASED ON AMBIENT TEMP OF 104 °F

AGING TEMP./ DURATION 268 °F / 12 Days

REL. HUMIDITY Uncontrolled

NOT AGED-JUSTIFIED BY ANALYSIS TO N/A YRS.

* See Wyle Lab. Thermal Aging Analysis, Wyle Report 17464-1202 page 2

REVIEWER: Ron M. Smyth

DATE: 8/18/81

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 318-02
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Air Operated Control Valves
SPEC. NO. 318 P.O. 310735 VENDOR Copps Kalkan
TEST ITEM DESC. Solenoid Valve
MAKE ASCO MODEL HVA 206-380-3RF
VENDOR TEST REPORT NO. AQS-21678/TR Rev A, Wyle Reports 17464-06 + 17464-0602
APPLICABLE STANDARDS TEST REPORT NO. 232-01
IEEE 323-1974 TEST METHOD Sequential Test/Analysis
IEEE DOCUMENTATION ACCEPTABILITY Acceptable
IEEE
NUREG 0588 CAT. I QUALIFIED LIFE 40 years-coil elastomer
change every 4 years

TEST SEQUENCE (R: Pages 3-1, 3-2)

- | | |
|---|------------------------------|
| 1. <u>*Baseline / Functional</u> | 6. <u>Accident Radiation</u> |
| 2. <u>Thermal Aging</u> | 7. <u>LOCA Simulation</u> |
| 3. <u>Radiation</u> | 8. _____ |
| 4. <u>Wear Aging</u> | 9. _____ |
| 5. <u>Seismic Simulation/Vibration End.</u> | 10. _____ |
- * Before and after each Type Test phase

TEST ENVIRONMENT (R: Pages 4-4, 4-5, and Fig 2 page 4-21)

TIME	3 HRS	3 HRS	3 HRS	85 HRS	26 DYS
TEMP. °F	346	346	320	250	200
PRES. PSIG	110	110	75	15	10
R.H.	100 (SPRAY)				
OP. TIME DEMO	180 DYS * ACC/PERF DEMO N/A				

* Analysis for 180 Day Op time in Wyle Report 17464-0602

APPLICABLE
ENV. ZONES

RAD G
T/P 2, 6, 12

RADIATION AGING (R: Pages 4-2, 4-4 and Appendix D)

DOSE RATE .51 x 10⁶ and .8 x 10⁶ RAD/HR
DOSE PRIOR TO ENV. TEST 2.013 x 10⁸ RADS
DOSE DURING ENV. TEST None RADS
TOTAL DOSE 2.013 x 10⁸ RADS

THERMAL AGING (R: Pages 4-1, 9-3, 9-4)

AGED TO SIMULATED LIFE OF * 55 YRS.
BASED ON AMBIENT TEMP OF * 104 °F
AGING TEMP./ DURATION 268°F / 12 Days
REL. HUMIDITY Uncontrolled
NOT AGED-JUSTIFIED BY ANALYSIS TO N/A YRS.
* See Wyle Lab Thermal Aging Analysis, Wyle report 17464-0602 page 2

CYCLE AGING (R: Page 4-3)

CYCLES REQUIRED 40,000
CYCLES PERFORMED 40,000
(Electro-Mechanical Equip. only)

REVIEWER: Ron M Snyder

DATE: 8/18/81

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 319-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE AUTOMATIC TEMPERATURE CONTROL SYSTEMS FOR HVAC
SPEC. NO. SHI-319 P.O. 310738 VENDOR MCC POWERS
TEST ITEM DESC. SEE ATTACHMENT #1
MAKE SEE ATTACHMENT #1 MODEL SEE ATTACHMENT #1
VENDOR TEST REPORT NO. WYLE # 44540-1
APPLICABLE STANDARDS TEST REPORT NO. TR-319-01
IEEE 323-1971, 1974 TEST METHOD TYPE TEST
IEEE _____ DOCUMENTATION ACCEPTABILITY SEE
IEEE _____ ATTACHMENT #2
NUREG 0588 CAT. II QUALIFIED LIFE SEE ATTACHMENT #2

TEST SEQUENCE (R: Pg No. LLC, LV, V, VI)

1. INITIAL FUNCTION TEST
2. SERVICE CONDITION SIMULATION+AGING
3. POST AGING OPERATIONAL CHECK
4. RADIATION EXPOSURE
5. POST RADIATION OPERATIONAL CHECK
6. SEISMIC TEST
7. POST SEISMIC OPERATIONAL CHECK
8. SIMULATED POST ACCIDENT CONDITIONS
9. FINAL FUNCTIONAL TEST
10. _____

TEST ENVIRONMENT (R: SECTION VIII-1)

TIME	1HR	1DAY	9DAYS	1HR	20DAYS
TEMP. °F	170	122	122	200	122
PRES. PSIG	1	0	0	1	0
R.H. %	100	90	60	100	60
OP. TIME DEMO	722 HRS				

APPLICABLE
ENV. ZONES

RAD H, K

T/P 15/18

RADIATION AGING (R: SECT IV-1)

DOSE RATE 1000 RAD/HR
DOSE PRIOR TO ENV. TEST 1×10^7 RADS
DOSE DURING ENV. TEST _____ RADS
TOTAL DOSE 1×10^7 RADS

CYCLE AGING (R: SECTION 11-16, 17)

CYCLES REQUIRED NOT ADDRESSED
CYCLES PERFORMED SEE ATTACHMENT #1
(Electro-Mechanical Equip. only)

THERMAL AGING (R: SECTION 11-1)

AGED TO SIMULATED
LIFE OF 5YRS THERMAL, 3YRS OPER-TWICE
10 YEARS TOTAL
BASED ON AMBIENT
TEMP OF 75°F (SECTION XI-6) °F
AGING TEMP./
DURATION 180°F / 1344 HRS
REL. HUMIDITY 50 TO 90

~~NOT AGED~~ JUSTIFIED
BY ANALYSIS TO SEE ATTACHMENT #2

REVIEWER: William R. Shodor

DATE: 9/21/81

Attachment 1. to SH1-319-01, EQSS No. 319-01

Test Item, Cycles performed.	Manufacturer	Model No.
1. Differential Pressure Switch; 7400 Times cycled.	Dwyer Instruments Inc	1627-1
2. Veltron Transmitter, 7400 Times cycled.	Air monitor Corporation.	800/P232-1212
3. Electric Actuator; Cycling incomplete.	Raymond Control System, Inc.	MASR-9/49.
4. Air Cylinder Actuator 7400 Times cycled	Centerline, Inc.	32046-6
5. Power Stroke Motor 7400 Times cycled.	MCC Powers	331-2792

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 319-02, Revision A
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Auto Temp. Control System for HVAC
SPEC. NO. SHI-319 P.O. 310738 VENDOR MCC POWERS
TEST ITEM DESC. Damper Actuator
MAKE ITT General Controls MODEL NH 91
VENDOR TEST REPORT NO. 377-80.010-A, Revision 0.
APPLICABLE STANDARDS
IEEE 323 - 1974 TEST REPORT NO. 319-02, Revision A.
IEEE 344 - 1975 TEST METHOD Sequential test, Analysis
IEEE DOCUMENTATION ACCEPTABILITY Must be
used in conjunction with Wyle reports
No. 17464-3201, 3202
NUREG 0588 CAT. I QUALIFIED LIFE 1.76 years (Refer 3 of
EGREF)

TEST SEQUENCE (R: 1, p. 2-5)
1. Initial Inspection and Functional Tests. 6. Final Inspection and Functional
2. Service condition simulation 7. Tests.
3. Irradiation Tests 8.
4. Seismic Vibration Tests 9.
5. Simulated LOCA Conditions 10.
Tests.

TEST ENVIRONMENT (R: 1, p. 5.)
TIME 30 Days 100 Days
TEMP. °F 122°F 150°F
PRES. PSIG Not Addressed
R.H. 90 - 95 %
OP. TIME DEMO 100 Days* ACC/PERF DEMO 10°C
*comment 1 of EGREF (page 4)
APPLICABLE ENV. ZONES
RAD H
T/P 20

RADIATION AGING (R: 1, p. 3)
DOSE RATE $\approx 1.6 \times 10^4$ RAD/HR
DOSE PRIOR TO ENV. TEST 4×10^5 RADS
DOSE DURING ENV. TEST N/A RADS
TOTAL DOSE 4×10^5 RADS
THERMAL AGING (R: 1, p. 3, 15)
AGED TO SIMULATED LIFE OF 10** YRS.
BASED ON AMBIENT TEMP OF 75** °F
AGING TEMP./DURATION 185°F** 100 Days**
REL. HUMIDITY 50 %
NOT AGED-JUSTIFIED BY ANALYSIS TO _____ YRS.
** comment 2 of EGREF (page 4)

CYCLE AGING (R: 1, p. 3)
CYCLES REQUIRED N/A
CYCLES PERFORMED 87,360
(Electro-Mechanical Equip. only)

REVIEWER: M. Grinshteyn DATE: 2-10-82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 319-03
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE AUTO TEMP CONTROL SYSTEM FOR HVAC

SPEC. NO. SHI-319 P.O. 310738 VENDOR MCC POWERS

TEST ITEM DESC. SOLENOID VALVE

MAKE ASCO

MODEL WJKHX8320 A 89E

VENDOR TEST REPORT NO. AGS-21678/TR REVA, WYLE REPORT 464-1202

APPLICABLE STANDARDS

TEST REPORT NO. 23

IEEE 323-1974

TEST METHOD SEQUENTIAL TEST/ANALYSIS

IEEE

DOCUMENTATION ACCEPTABILITY ACCEPTABLE

IEEE

NUREG 0588 CNT. I

QUALIFIED LIFE 40 YEARS COIL + ELASTOMER
CHANGE EVERY 4 YRS

TEST SEQUENCE (R: Pages 3-1, 3-2)

- | | |
|--|------------------------------|
| 1. * <u>BASELINE/FUNCTIONAL</u> | 6. <u>ACCIDENT RADIATION</u> |
| 2. <u>THERMAL AGING</u> | 7. <u>LOCA SIMULATION</u> |
| 3. <u>RADIATION</u> | 8. _____ |
| 4. <u>WEAR AGING</u> | 9. _____ |
| 5. <u>SEISMIC SIMULATION/VIBRATION</u> | 10. _____ |
- * BEFORE AND AFTER EACH TYPE TEST PHASE

TEST ENVIRONMENT (R: Pages 4-4, 4-5, FIG 2-Page 4-21)

APPLICABLE
ENV. ZONES

TIME	3 HRS	3 HRS	3 HRS	85 HRS	26 DYS
TEMP. °F	346	346	320	250	200
PRES. PSIG	110	110	75	15	10
R.H.	100 (SPRAY)				
OP. TIME DEMO	70 MIN ACC/PERF DEMO N/A				

RAD H, K

T/P 15, 18

RADIATION AGING (R: Pages 4-2, 4-4 & APP D)

DOSE RATE $.51 \times 10^6$ & $.8 \times 10^6$ RAD/HR

DOSE PRIOR TO
ENV. TEST 2.013×10^8 RADS

DOSE DURING
ENV. TEST NONE RADS

TOTAL DOSE 2.013×10^8 RADS

CYCLE AGING (R: Pg 4-3)

CYCLES REQUIRED 40,000

CYCLES PERFORMED 40,000
(Electro-Mechanical Equip. only)

THERMAL AGING (R: Pg 4-1, 9-3, 9-4)

AGED TO SIMULATED
LIFE OF * 55 YRS.

BASED ON AMBIENT
TEMP OF * 150 °F

AGING TEMP./
DURATION 268, 12 days

REL. HUMIDITY Uncontrolled

NOT AGED-JUSTIFIED
BY ANALYSIS TO N/A YRS.

* SEE WYLE LAB THERMAL
AGING ANALYSIS #17464-1202

REVIEWER: W. Shuler

DATE: 9-1-81

SPEC. TITLE Primary Containment Gas Analyzer
SPEC. NO. 344 P.O. 310737 VENDOR Comsip Inc.
TEST ITEM DESC. Hydrogen Analyzer System
MAKE Comsip Delphi MODEL K-IV and K-III
VENDOR TEST REPORT NO. Project 1035-1 Rev. 1, Sept 1981
APPLICABLE STANDARDS TEST REPORT NO. 344-01
IEEE 323-1974 TEST METHOD Sequential Test/Analysis
IEEE DOCUMENTATION ACCEPTABILITY Acceptable,
IEEE provided deficiencies list on page 1
of EOREF 344-01 are justified
NUREG 0588 CAT. I QUALIFIED LIFE See Attachment 1

TEST SEQUENCE (R: Page 2 section 4.1.1)

1. Inspection and Operational Test
2. Thermal Aging
3. Mechanical Cycling
4. Irradiation
5. Seismic Vibration
6. Simulated Post Accident Condition
7. Final Inspection and Operational Test
8. _____
9. *(Functional Test were performed
10. after each test)

TEST ENVIRONMENT (R: Table F-I Page 69, Attach 2 sec 4*)

	LOCA ENV.		Sample Gas Env.		
TIME	100 DYS		9.75 HRS	106 HRS	96 DYS
TEMP. °F	150°		300°	210°	167°
PRES. PSIG	0		70	40	5
R.H.	90 ± 5				
OP. TIME DEMO	180 DYS *		ACC/PERF DEMO	1% Full Scale	
* Analysis for 180 Day Op. time provided in Comsip letter July 20, 1981					

APPLICABLE ENV. ZONES

RAD J

T/P 15, 16

RADIATION AGING (R: Table D-III pg 37)

DOSE RATE $<1 \times 10^6$ (pg 6) RAD/HR
DOSE PRIOR TO ENV. TEST 1×10^6 RADS
DOSE DURING ENV. TEST None RADS
TOTAL DOSE 1×10^6 RADS

CYCLE AGING (R: Table D-II pg 33)

CYCLES REQUIRED Undetermined
CYCLES PERFORMED See Attach 2
(Electro-Mechanical Equip. only)

THERMAL AGING (R: Table D-I pg 29)

AGED TO SIMULATED LIFE OF See Attach 1 YRS.
BASED ON AMBIENT TEMP OF See Attach 1 °F
AGING TEMP./ DURATION See Attach 1
REL. HUMIDITY Not addressed %
NOT AGED-JUSTIFIED BY ANALYSIS TO N/A YRS.

REVIEWER: Ron M Snyder

DATE: 12/3/81

TABLE D-I Thermal Aging

Item	Description	Design Life t_b , Years	Design Temperature T_b , °C	Aging Time t_a , Days	Aging Temperature T_a , °C
1	Entry Exit Valve Hoke Model 4251G6Y Serial No. 2190	10	149	100	201
2	Moisture Separator Armstrong Model 11-AV Serial No. 1793	10	149	100	201
3	Gas Manifold Serial No. 3	10	149	100	201
4	Air Cooled Heat Ex- changer Serial No. 4	10	149	100	201
5	Flowmeter Brooks Model 1350 Tube No. 196A Serial No. 2189	10	38	100	90
6	Flowmeter Brooks Model 1350 Tube No. 5-65A Serial No. 2189	10	38	100	90
7	Pressure Indicator Marshalltown Model 52D Serial No. 0195	10	38	100	90
8	Sample Pump Serial No. 1882	5	38	100	80
9	H ₂ Analyzer Serial No. 371	5	149	100	191
10	Analyzer Electronics	5	38	100	80

TABLE D-I Thermal Aging (continued)

Page 2 of 4

Item	Description	Design Life t_b , Years	Design Temperature T_b , °C	Aging Time t_a , Days	Aging Temperature T_a , °C
11	Flow Orifice Serial No. 3356	10	149	100	201
12 A&B	Differential Pressure Switch Static O-Ring Model No. 15R3-K2-VYIC	5	38	100	80
13	Down Stream Regulator Conoflow Model H21XT-XXX R1 Serial No. 3204-15	5	149	100	191
14	Down Stream Regulator Conoflow Model H21XT-XXX R2 Serial No. 3204-16	5	149	100	191
15	Down Stream Regulator Conoflow Model H21XT-XXX R3 Serial No. 1791	5	149	100	191
16A&B	Down Stream Regulator Conoflow Model H21XT-XXX RB Serial No. 2191	5	149	100	191
17	Calibration & Reagent Valve ASCO Catalog No. THT8262C7E Serial No. 93415D	10	38	100	90
18A,B, C	Check Valve Circle Seal Model Serial No. 2187	10	38	100	90
19	Temperature Switch Fenwall Model 22800-0 Serial No. 7901	10	38	100	90
20	Temperature Bulb Fenwall Model 22800-0 Serial No. 21918	10	149	100	201

TABLE D-I Thermal Aging (continued)

Page 3 of 4

Item	Description	Design Life t_b , Years	Design Temperature T_b , °C	Aging Time t_a , Days	Aging Temperature T_a , °C
21	Lights GE Model Et-16 Serial No. 0165A7844P5	5	38	100	80
22	Relay Potter Brumfield Model KRP11AG Serial No. 174414	10	38	100	90
23	Relay Potter Brumfield Model KRP14AG Serial No. 173308	10	38	100	90
24	Relay GE Model CR2810A 14AJ Serial No. 22D135	10	38	100	90
25	Magnetic Motor Starter GE Model CR206BO Serial No. 15D21G2	10	38	100	90
26	Switch GE Model CR294OU201 Serial No. 26	10	38	100	90
27	Terminal Strip GE Model EB5 Serial No. 27	10	38	100	90
28	Circuit Breaker ITE Pushmatic Model Serial No. 614 P1515	10	38	100	90
29	Fittings Hoke Gyrolok Model 6CM6-316	10	38	100	90
30A,B C,D	Calrod Strip Heater GE Model 2A907A102 Serial No. SS2041	10	149	100	201

TABLE D-I Thermal Aging (continued)

Page 4 of 4-

Item	Description	Design Life t_b , Years	Design Temperature T_b , °C	Aging Time t_a , Days	Aging Temperature T_a , °C
31	Sample Pump Motor Reliance ID No. IYF882640A20 NE	N/A	N/A	N/A	N/A
32	Current Transmitter AGM Model CD-4000 Serial No. 38-320	5	38	100	80
33	Trip Switch AGM Model CD-4004-1 Serial No. 38-213	5	38	100	80
34	Matheson Flowmeter Tube No. 600	10	38	100	90
35	Matheson Flowmeter Tube No. 601	10	38	100	90
36	Brooks Flowmeter Model 1350 Tube #646	10	38	100	90
37A	Allied Barrier Block Terminal Block Model 750R1503	10	38	100	90
37B	Allied Barrier Block Terminal Block Model 750R1503	10	149	100	201

Note: Aging times and temperatures established based on 10°C rule for known baseline design temperatures and assumed life.

TABLE D-II Mechanical Aging

Item	Description	Design Life t_b Years	Mechanical Cycles	Cycle Rate RPM
1	Extry Exit Valve Hoke Model 4251G6Y Serial No. 2190	10	3000	10
2	Moisture Separator Armstrong Model 11-AV Serial No. 1793	10	3000	10
3	Gas Manifold Serial No. 3	10	3000	10
4	Air Cooled Heat Ex- changer Serial No. 4	10	3000	10
5	Flowmeter Brooks Model 1350 Tube No. 465 Serial No. 2189	10	3000	10
6	Flowmeter Brooks Model 1350 Tube No. 5-65A Serial No. 2189	10	3000	10
7	Pressure Indicator Marshalltown Model 52D Serial No. 0195	10	3000	10
8	Sample Pump Serial No. 1882	5	3000	10
9	H ₂ Analyzer Serial No. 371	5	3000	10
10	Signal Conditioner	5	3000	10

TABLE D-II Mechanical Aging (continued)

Page 2 of 4

Item	Description	Design Life t_b Years	Mechanical Cycles	Cycle Rate RPM
11	Flow Orifice Serial No. 3356	10	3000	10
12	Differential Pressure Switch Static O-Ring Model No. 15R3-K2-VYIC Serial No. 78-4-1097	5	3000	10
13	Down Stream Regulator Conflow Model H21XT-XXX R1 Serial No. 3204-15	5	3000	10
14	Down Stream Regulator Conoflow Model H21XT-XXX R2 Serial No. 3204-16	5	3000	10
15	Down Stream Regulator Conoflow Model H21XT-XXX R3 Serial No. 1791	5	3000	10
16	Down Stream Regulator Conoflow Model H21XT-XXX R4 Serial No. 2191	5	3000	10
17	Calibration & Reagent Valve ASCO Catalog No. THT8262C7E Serial No. 93415D	10	3000	10
18	Check Valve Circle Seal Model Serial No. 2187	10	3000	10
19	Temperature Switch Fenwall Model 22800-0 Serial No. 7901	10	3.5×10^5	$10^{(1)}$
20	Temperature Bulb Fenwall Model 22800-0 Serial No. 21918	10	3.5×10^5	10

TABLE D-II Mechanical Aging (continued)

Page 3 of 4

Item	Description	Design Life t_b Years	Mechanical Cycles	Cycle Rate RPM
21	Lights GE Model Et-16 Serial No. 0165A7844P5	5	3000	10
22	Relay Potter Brumfield Model KRP11AG Serial No. 174414	10	3000	10 ⁽²⁾
23	Relay Potter Brumfield Model KRP14AG Serial No. 173308	10	3000	10 ⁽³⁾
24	Relay GE Model CR2810A 14AJ Serial No. 22D135	10	3000	10 ⁽⁴⁾
25	Magnetic Motor Starter GE Model CR206B0 Serial No. 15D21G2	10	3000	10 ⁽⁵⁾
26	Switch GE Model CR2940U201 Serial No. 26	10	3000	10 ⁽⁶⁾
27	Terminal Strip GE Model EB5 Serial No. 27	10	3000	10
28	Circuit Breaker ITE Pushmatic Model Serial No. 614 P1515	10	3000	10 ⁽⁷⁾
29	Fittings Hoke Gyrolok Model 6CM6-316	10	N/A	N/A
30	Calrod Strip Heater GE Model 2A907A102 Serial No. SS2041	10	N/A	N/A

TABLE D-II Mechanical Aging (continued)

Page 4 of 4

Item	Description	Design Life t_b Years	Mechanical Cycles	Cycle Rate RPM
31	Sample Pump Motor Reliance ID No. 1YF882640A20	N/A	N/A	N/A
32	Current Transmitter AGM Model CD-4000 Serial No. 38-320	5	3000	10
33	Trip Switch AGM Model CD-4004-1 Serial No. 38-213	5	3000	10
34	Matheson Flowmeter Tube No. 600	10	3000	10
35	Matheson Flowmeter Tube No. 601	10	3000	10

Note: (1) To be cycled under normal load
(2) To be cycled under normal load
(3) To be cycled under normal load
(4) To be cycled under normal load
(5) To be cycled under normal load
(6) To be cycled under normal load
(7) To be cycled under normal load

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 344-01A
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Primary Containment Gas Analyzer
SPEC. NO. 344-01 P.O. 310737 VENDOR Comsip Inc.
TEST ITEM DESC. Matorette
MAKE Reliance MODEL RN and RH insulation
VENDOR TEST REPORT NO. NUC-9
APPLICABLE STANDARDS TEST REPORT NO. 344-01A
IEEE 323-1974 TEST METHOD Type Test/Analysis
IEEE 334-1974 DOCUMENTATION ACCEPTABILITY _____
IEEE _____
NUREG 0588 CAT. _____ QUALIFIED LIFE 40 years

TEST SEQUENCE (R: Section 1, pages 5 and 6)

- | | |
|--------------------------------|-----------|
| 1. <u>Temperature Exposure</u> | 6. _____ |
| 2. <u>Mechanical Vibration</u> | 7. _____ |
| 3. <u>Moisture Exposure</u> | 8. _____ |
| 4. <u>Voltage Checks</u> | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: LOCA Test not required)

APPLICABLE
ENV. ZONES

TIME

RAD J

TEMP. °F

PRES. PSIG

T/P 15, 16

R.H. N/A

OP. TIME DEMO 180 Days ACC/PERF DEMO N/A

RADIATION AGING (R: Section 1, pg 14)

THERMAL AGING (R: Section 2, Fig 2)

DOSE RATE 1×10^6 RAD/HR

AGED TO SIMULATED
LIFE OF N/A YRS.

DOSE PRIOR TO
ENV. TEST N/A RADS

BASED ON AMBIENT
TEMP OF 104 °F

DOSE DURING
ENV. TEST N/A RADS

AGING TEMP./
DURATION N/A / N/A

TOTAL DOSE 2.04×10^8 RADS

REL. HUMIDITY 100 %

CYCLE AGING (R: Section 1, pg 14)

NOT AGED-JUSTIFIED
BY ANALYSIS TO 3.38×10^6 YRS.

CYCLES REQUIRED _____

CYCLES PERFORMED 1208
(Electro-Mechanical Equip. only)

* This number obtained by substituting
40°C (104°F) in the life equation provided
by Reliance in Section 2, figure 2

REVIEWER: Ron M Snyder

DATE: 12/3/87

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 406-01 Revision 1
SHOREHAM NUCLEAR POWER STATION-UNIT 1 5/8/82.

SPEC. TITLE ELECTRONIC TRANSMITTERS AND RTD's

SPEC. NO. SHI-406 P.O. 310773 VENDOR ROSEMOUNT

TEST ITEM DESC. PRESSURE TRANSMITTER

MAKE ROSEMOUNT

MODEL 1133 SERIES B

VENDOR TEST REPORT NO. 108025, 108026 (2 VOLUMES, 4 APPENDICES)

APPLICABLE STANDARDS

TEST REPORT NO. 406-01 Revision 1

IEEE 323-1974

TEST METHOD SEQUENTIAL TEST

IEEE 344-1975

DOCUMENTATION ACCEPTABILITY ACCEPTABLE

IEEE

NUREG 0588 CAT. I

QUALIFIED LIFE 3.9 YEARS @ 104°F

TEST SEQUENCE (R: Appendix II of 108026 (ROSEMOUNT Procedure #1802))

- | | |
|--|---|
| 1. <u>Acceptance Test Verification</u> | 6. <u>Radiation Aging & Abnormal</u> |
| 2. <u>Design Verification Test</u> | 7. <u>Seismic Aging</u> |
| 3. <u>Accelerated Aging Thermal</u> | 8. <u>Seismic Abnormal</u> |
| 4. <u>Accelerated Aging Functional</u> | 9. <u>Steam / Temperature Test</u> |
| 5. <u>Baseline Check</u> | 10. <u>Post Accident Operation & Base Check</u> |

TEST ENVIRONMENT (R: VOLUME I of 108026)

APPLICABLE
ENV. ZONES

TIME

25.5 min

8 Hrs 17.5 min

57 Hrs

RAD

G, J

TEMP. °F

318

318

265

PRES. PSIG

72

73

24

T/P

2

R.H. 100%

10, 12, 15

OP. TIME DEMO 65 HRS 33 min ACC/PERF DEMO

8%

RADIATION AGING (R: Pg 56, VOLUME I)

THERMAL AGING (R: Pg 39, Report 108026)

DOSE RATE 2×10^6 to 1×10^6 RAD/HR

AGED TO SIMULATED

LIFE OF 2 YRS.

DOSE PRIOR TO
ENV. TEST 2.62×10^7 to 2.88×10^7 RADS

BASED ON AMBIENT

TEMP OF 120 °F

DOSE DURING
ENV. TEST 0 RADS

AGING TEMP./

DURATION 203°F, 1,110 HRS

TOTAL DOSE 2.62×10^7 to 2.88×10^7 RADS

REL. HUMIDITY NOT ADDRESSED

CYCLE AGING (R: Pg 32, Appendix II)
INPUT PRESSURE

CYCLES REQUIRED -

NOT AGED-JUSTIFIED

BY ANALYSIS TO - YRS.

CYCLES PERFORMED 8030
(Electro-Mechanical Equip. only)

REVIEWER: William R. Smith

DATE: 9-9-81

SPEC. TITLE Electronic Transmitters and Resistance Temperature
SPEC. NO. 406 P.O. 310773 VENDOR Rosemount, Inc. Detectors.
TEST ITEM DESC. Pressure Transmitter.

MAKE Rosemount, Inc. MODEL 1152 output code "E"
VENDOR TEST REPORT NO. 38019 Revision A; 8805; 98022C; 117415 Rev. B; 127516.

APPLICABLE STANDARDS TEST REPORT NO. 406-02 Rev. 1

IEEE 323-1971 TEST METHOD Separate Tests/Analysis

IEEE 344-1975 DOCUMENTATION ACCEPTABILITY

IEEE Acceptable for NUREG-0588, Cat. II.

NUREG 0588 CAT. II QUALIFIED LIFE 2 years 10 month - to operate 1 Day
1 year 11 month - to operate 180 day an accident

TEST SEQUENCE (R: page 3 of 117415 Rev. B; Radiation on RMT 98022C.)

1. Thermal Aging
2. Radiation Exposure
3. Seismic Vibration
4. Steam-pressure Environment
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

TEST ENVIRONMENT (R: page 9 of 117415 Rev. B.)

TIME	10min	1Hour	7Hours	42Hours
TEMP. °F	350	316	303	230
PRES. PSIG	60	70	55.4	6
R.H. 100 (spray)				
OP. TIME DEMO	50Hours 10min CC/PERF DEMO 0.75% ACC after testing.			

APPLICABLE ENV. ZONES

RAD G; L

T/P 1; 2; 10, 9

RADIATION AGING (R: page 7 of 98022C)

DOSE RATE (0.2 to 1.9 x 10⁶) RAD/HR
DOSE PRIOR TO ENV. TEST 6.9 x 10⁶ RADS
DOSE DURING ENV. TEST N/A RADS
TOTAL DOSE 6.9 x 10⁶ RADS

THERMAL AGING (R: page 3 of RMT 117415)

AGED TO SIMULATED LIFE OF N/A YRS.

BASED ON AMBIENT TEMP OF N/A °F

AGING TEMP. 100-0-200- DURATION - 100°F / 8HRS + 8HRS *

REL. HUMIDITY N/A %

NOT AGED-JUSTIFIED 2 years 10 months. BY ANALYSIS TO (Wyle Report 17464092) RS.

* Two complete thermal aging test was performed. Each test - 8HRS.

CYCLE AGING (R: N/A)

CYCLES REQUIRED _____

CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

REVIEWER: M. Grinshteyn

DATE: 3/17/82

SPEC. TITLE RTD Assemblies
SPEC. NO. 406 P.O. 310773 VENDOR Rosemount Inc.
TEST ITEM DESC. Resistance Temperature Detector
MAKE Rosemount Inc. MODEL 88-149-1; 88-149-2; 89-86-4/88-14-1;
VENDOR TEST REPORT NO. 2767 Rev. B. 89-86-4/88-14-3; 89-138-2/88-14-3
APPLICABLE STANDARDS TEST REPORT NO. 406-03
IEEE 323-1971 TEST METHOD Sequential Test
IEEE 323-1974 DOCUMENTATION ACCEPTABILITY
IEEE 344-1971 Acceptable for NUREG 0588
NUREG 0588 CAT. II Cat. II.
QUALIFIED LIFE less 1 year (primary side)
4.78 years (secondary side)

TEST SEQUENCE (R: page 5-13)
1. Initial Inspection and Calibration 6. Note: Ice point and boiling point
2. Gamma radiation 7. calibration checks and insulation
3. Seismic vibration 8. resistance measurements
4. Steam chemical exposure 9. made following each test
5. Final inspection and calibration 10. simulation

TEST ENVIRONMENT (R: page 11)
TIME 7min 17min 8Hours 50Hours 51Hours
TEMP. °F 340 340 303 228 Ambient
PRES. PSIA 12.5 125 70 20 Ambient
R.H. 100 (spray)
OP. TIME DEMO 50Hours ACC/PERF DEMO ±0.04°C
*By wire analysis extended for 180 Days

APPLICABLE ENV. ZONES
RAD G, H, J, K, E
T/P 1, 2, 15, 16, 18, 20, 19, 23

RADIATION AGING (R: page 8, Append. B)
DOSE RATE 1x10⁶ RAD/HR
DOSE PRIOR TO ENV. TEST 2x10⁸ RADS
DOSE DURING ENV. TEST N/A RADS
TOTAL DOSE 2x10⁸ RADS

THERMAL AGING (R: _____)
AGED TO SIMULATED LIFE OF N/A YRS.
BASED ON AMBIENT TEMP OF N/A °F
AGING TEMP./DURATION N/A / N/A
REL. HUMIDITY N/A %

CYCLE AGING (R: _____)
CYCLES REQUIRED N/A
CYCLES PERFORMED N/A
(Electro-Mechanical Equip. only)

NOT AGED-JUSTIFIED BY ANALYSIS TO less 1 year (primary side)
4.78 years (secondary side)

REVIEWER: M. Grinshteyn DATE 2-25-82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 407-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Level Switch
SPEC. NO. 407 P.O. 10042 VENDOR Magnetrol International
TEST ITEM DESC. Level Switch
MAKE Magnetrol Internat MODEL 291-MPG-X-M14DC
VENDOR TEST REPORT NO. Type Test Program on Liquid Level controls (Wyle Labor)
APPLICABLE STANDARDS TEST REPORT NO. 407-01
IEEE 323-1974 TEST METHOD Sequential Test, Analysis
IEEE 344-1975 DOCUMENTATION ACCEPTABILITY Must be used
IEEE in conjunction with Wyle reports
NUREG 0588 CAT. I No. 17464-0101, 0102
QUALIFIED LIFE 7.6 years (Ref. 3)

TEST SEQUENCE (R: I, p. 2)

1. Nuclear Radiation Damage
2. Regression Analyses
3. Baseline Functional and Hydrostatic
4. Nuclear Radiation Aging
5. Elevated Temperature/Humidity/
6. 75 Hz Plant Induced Vibration Test
7. Seismic Qualification
8. Functional Test Following
9. Seismic
10.

TEST ENVIRONMENT (R:)

TIME No accident test was performed.
TEMP. °F
PRES. PSIG
R.H.
OP. TIME DEMO ACC/PERF DEMO

APPLICABLE
ENV. ZONES

RAD G; H

T/P 03; 10; 18

RADIATION AGING (R: I, p. 140)

DOSE RATE 5.8×10^2 RAD/HR
DOSE PRIOR TO
ENV. TEST 4.4×10^4 RADS
DOSE DURING
ENV. TEST N/A RADS
TOTAL DOSE 4.4×10^4 RADS

CYCLE AGING (R: I, p. 147)

CYCLES REQUIRED N/A
CYCLES PERFORMED 10,040
(Electro-Mechanical Equip. only)

THERMAL AGING (R: I, p. 146; 3, p. 3)

AGED TO SIMULATED
LIFE OF N/A YRS.

BASED ON AMBIENT
TEMP OF N/A °F

AGING TEMP./
DURATION 300°F, 149 Hours
11 hours for accident

*REL. HUMIDITY 95 to 100 %

NOT AGED-JUSTIFIED
BY ANALYSIS TO 7.6 YRS.

*The humidity was performed for
a total of 480 hours at 95-100% RH
and 100°F after thermal aging test.

REVIEWER: M. Grinshteyn.

DATE: 1-9-82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 423-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Air Operated Butterfly Valves
SPEC. NO. 423 P.O. 310772 VENDOR Fisher Controls
TEST ITEM DESC. Solenoid Valve
MAKE ASCO MODEL NP8320A184E
VENDOR TEST REPORT NO. AGS-21678/TR Rev A, Wyle report 17464-1202
APPLICABLE STANDARDS _____ TEST REPORT NO. 232-01
IEEE 323-1974 TEST METHOD Sequential Test/Analysis
IEEE _____ DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____
NUREG 0588 CAT. I QUALIFIED LIFE 40 years - coil + elastomer change every 4 years

TEST SEQUENCE (R: Pages 3-1, 3-2)

- | | |
|---|------------------------------|
| 1. <u>* Baseline/Functional</u> | 6. <u>Accident Radiation</u> |
| 2. <u>Thermal Aging</u> | 7. <u>LOCA Simulation</u> |
| 3. <u>Radiation</u> | 8. _____ |
| 4. <u>Wear Aging</u> | 9. _____ |
| 5. <u>Seismic Simulation/Vibration Ends</u> | 10. _____ |
- * Before and After each Type Test phase

TEST ENVIRONMENT (R: Pages 4-4, 4-5 and Fig 2 page 4-21)

TIME	3 HRS	3 HRS	3 HRS	85 HRS	26 DYS
TEMP. °F	346	346	320	250	200
PRES. PSIG	110	110	75	15	10
R.H.	100 (SPRAY)				
OP. TIME DEMO	180 DYS *		ACC/PERF DEMO	N/A	

* Analysis for 180 DAY OP. TIME IN WYLE REPORT 17464-1202

APPLICABLE ENV. ZONES

RAD G
T/P 1

RADIATION AGING (R: Pages 4-2, 4-4 and Appendix B)

DOSE RATE .51x10⁶ and .8x10⁶ RAD/HR
DOSE PRIOR TO ENV. TEST 2.013x10⁸ RADS
DOSE DURING ENV. TEST None RADS
TOTAL DOSE 2.013x10⁸ RADS

CYCLE AGING (R: Page 4-3)

CYCLES REQUIRED 40,000
CYCLES PERFORMED 40,000
(Electro-Mechanical Equip. only)

THERMAL AGING (R: Pages 4-1, 9-3, 9-4)

AGED TO SIMULATED LIFE OF 55 YRS.
BASED ON AMBIENT TEMP OF 104 °F
AGING TEMP./ DURATION 268 °F / 12 Days
REL. HUMIDITY Uncontrolled

NOT AGED-JUSTIFIED BY ANALYSIS TO N/A YRS.

* See Wyle Lab. Thermal Aging Analysis, Wyle Report 17464-1202 page 2

REVIEWER: Ron M. Snyder

DATE: 8/18/81

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 439-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE 480 V Motor Generator Set

SPEC. NO. 439 P.O. 310950 VENDOR Louis Allis

TEST ITEM DESC. See Attached EQS nos. 439-01A, B, C, D, and E

MAKE _____

MODEL _____

VENDOR TEST REPORT NO. Louis Allis 9-129576

APPLICABLE STANDARDS _____

TEST REPORT NO. 439-01

IEEE _____

TEST METHOD _____

IEEE _____

DOCUMENTATION ACCEPTABILITY Acceptable
when supplemented by Wyle Lab
report 17464-3902

IEEE _____

NUREG 0588 CAT. _____

QUALIFIED LIFE _____

TEST SEQUENCE (R: _____)

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: _____)

APPLICABLE
ENV. ZONES

TIME _____

TEMP. °F _____

PRES. PSIG _____

R.H. _____

OP. TIME DEMO _____ ACC/PERF DEMO _____

RAD N

T/P 21

RADIATION AGING (R: _____)

THERMAL AGING (R: _____)

DOSE RATE _____ RAD/HR

AGED TO SIMULATED
LIFE OF _____ YRS.

DOSE PRIOR TO
ENV. TEST _____ RADS

BASED ON AMBIENT
TEMP OF _____ °F

DOSE DURING
ENV. TEST _____ RADS

AGING TEMP./
DURATION _____

TOTAL DOSE _____ RADS

REL. HUMIDITY _____

CYCLE AGING (R: _____)

CYCLES REQUIRED _____

NOT AGED-JUSTIFIED
BY ANALYSIS TO _____ YRS.

CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

REVIEWER: Ron M. Snyder

DATE: 1/6/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 439-01A
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE 480V Motor Generator Sets
SPEC. NO. 439 P.O. 310950 VENDOR Louis Allis
TEST ITEM DESC. Winding Insulation Systems
MAKE See Attachment 1 MODEL See Attachment 1
VENDOR TEST REPORT NO. Louis Allis 9-129576
APPLICABLE STANDARDS TEST REPORT NO. 439-01
IEEE 323-1974 TEST METHOD Test/Analysis
IEEE 117-1974 DOCUMENTATION ACCEPTABILITY Acceptable
IEEE 334-1974
NUREG 0588 CAT. I QUALIFIED LIFE 40 years

TEST SEQUENCE (R: N/A All test were performed independently)

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: N/A, DBA test not required)

APPLICABLE
ENV. ZONES

TIME _____

RAD N

TEMP. °F _____

PRES. PSIG _____

T/P 21

R.H. N/A

OP. TIME DEMO 180 Days ACC/PERF DEMO N/A

RADIATION AGING (R: Section H)

THERMAL AGING (R: Section H)

DOSE RATE 4.9×10^5 RAD/HR

AGED TO SIMULATED
LIFE OF N/A YRS.

DOSE PRIOR TO
ENV. TEST N/A RADS

BASED ON AMBIENT
TEMP OF * 109 °F

DOSE DURING
ENV. TEST N/A RADS

AGING TEMP./
DURATION N/A / N/A

TOTAL DOSE 1.1×10^9 RADS

REL. HUMIDITY 100 %

CYCLE AGING (R: Not Required)

NOT AGED-JUSTIFIED
BY ANALYSIS TO 40 YRS.

CYCLES REQUIRED _____

* See note 1 on pages 1 thru 6 of
attachment 1

CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

REVIEWER: Ron M Snyder

DATE: 6-25-81

ENGINEERING REPORT

Attachment 1 for EQS-439-01A

page 1 of 7

DATE OF TEST ---

MANUFACTURER'S
ORDER NO.

9-129576

PURCHASER

Long Island Lighting Co.

PURCHASER'S
ORDER NO.

310950

P4-9061 INSULATION SYSTEM
ALTERNATOR ARMATURE

Magnet Wire	- Single Glass Heavy Polyimide Film
Slot Cell	- Silicone, Glass-Mica-Glass
Top Wedge	- Aramid U-Wedge
	- Silicone Resin Glass Laminate Flat Wedge
Center Wedge	- Silicone Resin Glass Laminate
End Coil Insulation	- Silicone, Glass-Mica-Glass
Sleeving	- Polyimide Coated Glass
Connection Insulation	- Glass
	- Polyimide Coated Glass Sleeving
Lacing	- Woven Glass
Tape	- Woven Glass
Varnish	- Silicone
Lead Cable	- Aramid
	- Polyimide Coated Glass

Notes:

1. Refer to item 25, par A, pg 14 of test report for data showing basis of 109°F (43°C) ambient temp.

Written By

M. J. Shaw

Sheet 1 of 7



LOUIS ALLIS

Litton

APPROVED BY

Louis Allis

CODE IDENT. NO.

DOCUMENT NUMBER

DATE

5-15-81

01425

SECTION G-1

H 3186 10/7

ENGINEERING REPORT

page 2 of 7

DATE OF TEST ---
 MANUFACTURER'S ORDER NO. 9-129576
 PURCHASER'S ORDER NO. 310950

PURCHASER Long Island Lighting Co.

P4-9135 INSULATION SYSTEM ALTERNATOR ROTATING FIELD

Magnet Wire	- Heavy Polyimide Film (H220F)
Pole	- Silicone, Glass-Mica-Glass
Pole End Radius Block	- Silicone Resin Glass Laminate
Pole Washers	- Silicone Resin Glass Laminate
Washer Tape	- Woven Glass
Bonding Resin	- Epoxy Resin
Sleeving	- Polyimide Coated Glass
Tie Tape	- Woven Glass
Crossover Insulation	- Silicone, Glass-Mica-Glass
Connection Tape	- Silicone, Glass-Mica-Glass
	- Woven Glass
Banding Tape	- Epoxy Resin Glass Filament Reinforced
Varnish	- Silicone
Lead Cable	- Aramid
	- Polyimide Coated Glass

Notes:

1. Refer to item 25, para B, pg 15 of test report for data showing basis of 104°F (43°C) ambient temp

Written By

M. J. Shaw

Sheet 2 of 7



LOUIS ALLIS

Litton

APPROVED BY

L. R. 2 Pair

CODE IDENT. NO.

DOCUMENT NUMBER

DATE

5-15-81

01425

SECTION G-1

M 3186 10/75

ENGINEERING REPORT

page 3 of 7

DATE OF TEST ---
 MANUFACTURER'S ORDER NO. 9-129576
 PURCHASER'S ORDER NO. 310950

PURCHASER Long Island Lighting Co.

P4-9144 INSULATION SYSTEM ALTERNATOR EXCITER ROTATING ARMATURE

ARMATURE

Magnet Wire	- Heavy Polyimide Film (H220F)
Slot Cell	- Silicone, Glass-Mica-Glass
Top Wedge	- Silicone Resin Filled Glass Laminate
Center Wedge	- Silicone Resin Filled Glass Laminate
End Coil Insulation	- Silicone, Glass-Mica-Glass
Sleeving	- Polyimide Coated Glass
Connection Tape	- Silicone, Glass-Mica-Glass
	- Woven Glass
Lacing	- Woven Glass
Banding Tape	- Epoxy Resin Glass Filament Reinforced
Resin	- Epoxy
Varnish	- Silicone
Lead Cable	- Aramid
	- Polyimide Coated Glass

Notes:

1. Refer to item 25, para. C, pg 12, of test report for data showing basis of 109°F (43°C) ambient temp.

Written By

M. J. Shaver

Sheet 3 of 7



LOUIS ALLIS
 Litton

APPROVED BY

L. May 2, 1981

CODE IDENT. NO.

DOCUMENT NUMBER

DATE

5-15-81

01425

SECTION G-1

H 3186 10/75

ENGINEERING REPORT

page 4 of 7

DATE OF TEST ---
MANUFACTURER'S
ORDER NO. 9-129576
PURCHASER'S
ORDER NO. 310950

PURCHASER Long Island Lighting Co.

P4-9144 INSULATION SYSTEM
ALTERNATOR EXCITER STATIONARY FIELD

FIELDS

Magnet Wire	- Heavy Polyimide Film (H220F)
Ground Insulation	- Silicone, Glass-Mica-Glass
Conductor Splice	- Polyimide Coated Glass
Coil Leads	- Aramid
	- Polyimide Coated Glass
Connection Insulation	- Woven Glass
	- Polyimide Coated Glass
Start & Finish Leads	- Polyimide Coated Glass
Buffer Insulation	- Polyimide Coated Glass
Coil Insulation Tape	- Silicone, Glass-Mica-Glass
	- Woven Glass
Varnish	- Silicone

Notes:

Refer to item 25, para D, pg 21 of test report for
data showing basis of 109°F (43°C) ambient temp.

Written By

M. J. Shaver

Sheet 4 of 7



LOUIS ALLIS

Litton 12 W. 4th - WILMINGTON, DEL.

APPROVED BY

L. H. 2-1-11

CODE IDENT. NO.

DOCUMENT NUMBER

DATE

5-15-81

01425

SECTION G-1

M 3186 10/75

ENGINEERING REPORT

page 5 of 7

DATE OF TEST ---
 MANUFACTURER'S ORDER NO. 9-129576
 PURCHASER'S ORDER NO. 310950

PURCHASER Long Island Lighting Co.

P4-9128 INSULATION SYSTEM A.C. MOTOR STATOR AND PERMANENT MAGNET PILOT EXCITER STATOR

Magnet Wire	- Heavy Polyimide Film
Slot Cell	- Silicone, Glass-Mica-Glass
Top Wedge	- Aramid U-Wedge
	- Silicone Glass Laminate Flat Wedge
Center Wedge	- Silicone Glass Laminate
End Coils	- Silicone, Glass-Mica-Glass
Sleeving	- Polyimide Coated Glass
Connection Insulation	- Woven Glass
	- Polyimide Coated Glass
Lacing	- Woven Glass
Lead Cable	- Aramid
	- Polyimide Coated Glass
Varnish	- Silicone

Notes:

1. Refer to item 25, para. E, pg 22 of test report for data showing basis of 109°F (43°C) ambient temp.

Written By

mg shaw

Sheet 5 of 7



LOUIS ALLIS

Litton

APPROVED BY

Louis Allis

CODE IDENT. NO.

DOCUMENT NUMBER

DATE

5-15-81

01425

SECTION G-1

H 3186 10/79

ENGINEERING REPORT

page 6 of 7

DATE OF TEST ---
 MANUFACTURER'S ORDER NO. 9-129576
 PURCHASER'S ORDER NO. 310950

PURCHASER Long Island Lighting Co.

09P00057-0000
 INSULATION SYSTEM
 FEEDBACK CURRENT TRANSFORMER

Magnet Wire	- Heavy Polyimide Film
Terminals	- Tin Plated Brass
Terminal and Bracket Insulation	- Flexible Plate Mica
Tape	- Woven Glass
Varnish	- Silicone

VARNISH TREATMENT

Preheat followed by multiple dips and bakes in silicone varnish.

Notes:

L Refer to item 15, para F, pg 23, of test report for data showing basis of 109°F (43°C) ambient temp.

Written By

MA Shaver

Sheet 6 of 7



LOUIS ALLIS

APPROVED BY

L May 2 1981

CODE IDENT. NO.

01425

DOCUMENT NUMBER

SECTION G-1

DATE

5-15-81

M 3186 10/79

ENGINEERING REPORT

PURCHASER Long Island Lighting Co.

DATE OF TEST ---
 MANUFACTURER'S ORDER NO. 9-129576
 PURCHASER'S ORDER NO. 310950

VARNISH TREATMENTS P4-400-115 A.C. STATORS

Preheat followed by multiple dips and bakes in silicone varnish.

P4-400-125 ALTERNATOR ROTATING FIELD COILS

Varnish treatment for coils, wet wound with epoxy resin and baked. Varnish treatment for coil assembly, preheat followed by multiple dips and bakes in a silicone varnish.

P4-400-126 BRUSHLESS EXCITER ARMATURE

Preliminary varnish treatment is a preheat followed by one VPI and bake in epoxy resin before installing leads.

Final varnish treatment after leads are installed is multiple dips and bakes in silicone varnish.

P4-400-127 EXCITER FIELDS

Preliminary varnish treatment is a preheat followed by one dip and bake in silicone varnish before forming and taping operating.

Final varnish treatment is a preheat followed by multiple dips and bakes in silicone varnish after forming and taping operation.

Written By

McL...

Sheet 7 of 7



LOUIS ALLIS

APPROVED BY

L. Ray 2/10/61

DATE

5-15-61

CODE IDENT. NO.

01425

DOCUMENT NUMBER

SECTION G-1

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 439-01B Rev 1
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE 480 V Motor Generator Sets
SPEC. NO. 439 P.O. 310950 VENDOR Louis Allis
TEST ITEM DESC. Bearing Related Elements
MAKE See Attachment MODEL See Attachment 1
VENDOR TEST REPORT NO. Louis Allis 9-129576
APPLICABLE STANDARDS TEST REPORT NO. 439-01
IEEE 323-1974 TEST METHOD Test / Analysis
IEEE _____ DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____
NUREG 0588 CAT. I QUALIFIED LIFE 40 years

TEST SEQUENCE (R: N/A All test were performed independently)

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: DBA test not required)

APPLICABLE
ENV. ZONES

TIME _____

RAD N

TEMP. °F _____

PRES. PSIG _____

T/P 21

R.H. N/A

OP. TIME DEMO 180 Days ACC/PERF DEMO N/A

RADIATION AGING (R: Section J)

* See note 1 on attachment

DOSE RATE Not Given RAD/HR

DOSE PRIOR TO
ENV. TEST N/A RADS

DOSE DURING
ENV. TEST N/A RADS

TOTAL DOSE 1 x 10⁷ RADS

CYCLE AGING (R: Section J-1)

CYCLES REQUIRED 100,000 HRS

CYCLES PERFORMED > 40 years *
(Electro-Mechanical Equip. only)

* See note 2 on attachment

THERMAL AGING (R: Section J)

AGED TO SIMULATED
LIFE OF N/A YRS.

BASED ON AMBIENT
TEMP OF * 109 °F

AGING TEMP./
DURATION N/A / N/A

REL. HUMIDITY Not Addressed

NOT AGED-JUSTIFIED
BY ANALYSIS TO 40 YRS.

* See note 3 on attachment

REVIEWER: Ron M. Lynch

DATE: 1/6/82

ENGINEERING REPORT Attachment 1 for EQS 439-01B

PURCHASER Long Island Lighting Co.

DATE OF TEST ---
 MANUFACTURER'S
 ORDER NO. 9-129576
 PURCHASER'S
 ORDER NO. 310950

BEARING RELATED ELEMENTS

A. BEARING SIZE AND TYPE:

1. Motor

Drive End - 218 SF Deep Groove Conrad Ball (1 Shield)
 Non Drive End - 216 SF Deep Groove Conrad Ball (1 Shield)

2. Alternator

Drive End - 318SF Deep Groove Conrad Ball (1 Shield)
 Non Drive End - 318 SF Deep Groove Conrad Ball (1 Shield)

B. BEARING INSULATION:

1. Motor

Insulating Washers - Canvas Base Phenolic
 Insulating Tape - Epoxy Resin Glass Filament Reinforced

2. Alternator

Insulating Washers - Polyester Glass Laminate
 Insulating Tape - Epoxy Resin Glass Filament Reinforced

C. BEARING LUBRICATION: Dow Corning (R)
 FS-3451 Grease
 NGLI #2

Notes:

1. Limiting Component is bearing lubricant
2. The bearing life of >40 years established by analysis
3. Refer to page 25 of test report for data showing basis of 109°F (43°C) ambient temp

Written By

M. A. Shaver

Sheet 1 of 1



LOUIS ALLIS

APPROVED BY

L. H. J. Davis

CODE IDENT. NO.

DOCUMENT NUMBER

DATE

5-15-81

01425

SECTION G-2

M 3186 10/79

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 439-OIC Rev 1
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE 480 V Motor Generator Set
SPEC. NO. 439 P.O. 310950 VENDOR Louis Allis
TEST ITEM DESC. Rotating Rectifier Assembly
MAKE See Attachment MODEL See Attachment
VENDOR TEST REPORT NO. Louis Allis 9-129576
APPLICABLE STANDARDS TEST REPORT NO. 439-01
IEEE 323-1974 TEST METHOD Test/Analysis
IEEE 650-1979 DOCUMENTATION ACCEPTABILITY Acceptable,
IEEE when supplemented by Wyle Lab.
NUREG 0588 CAT. I report 17464-3901
QUALIFIED LIFE 40 years

TEST SEQUENCE (R: N/A All test were performed independently)

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: DBA test not required)

APPLICABLE
ENV. ZONES

TIME _____

TEMP. °F _____

PRES. PSIG _____

R.H. N/A

OP. TIME DEMO 180 days ACC/PERF DEMO N/A

RAD N

T/P 21

RADIATION AGING (R: Section K & Wyle)

THERMAL AGING (R: Section K)

DOSE RATE Not Given RAD/HR

AGED TO SIMULATED

LIFE OF N/A YRS.

DOSE PRIOR TO
ENV. TEST N/A RADS

BASED ON AMBIENT

TEMP OF * 109 °F

DOSE DURING
ENV. TEST N/A RADS

AGING TEMP./

DURATION N/A / N/A

TOTAL DOSE 1 x 10⁷ <sup>See note 1 on
attach.</sup> RADS

REL. HUMIDITY Not Addressed

CYCLE AGING (R: Not Required)

NOT AGED-JUSTIFIED

BY ANALYSIS TO 40 YRS.

CYCLES REQUIRED _____

* See note 2 on attachment

CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

REVIEWER: Ron M Snyder

DATE: 1/6/82

ENGINEERING REPORT Attachment 1 for EQS-439-01C

DATE OF TEST

MANUFACTURER'S
ORDER NO.

9-129576

PURCHASER Long Island Lighting Co.

PURCHASER'S
ORDER NO.

310950

ROTATING RECTIFIER ASSEMBLYA. Diodes: "General Electric" Part No. 1N1190 (Forward)
and 1N1190R (Reverse)

B Diode Support: Canvas Base Phenolic

C. Shaft Insulation: Glass-Micapaper-Glass
Laminate Silicon Bonded

D. Cable: Aramid

Notes:

1. 1×10^7 RADS based on limiting component (Diodes)
2. Refer to item 25, para. H, pg 26 of test report for data giving basis for 109°F (43°C) ambient temp.
3. The effects of radiation on diodes was ~~not~~ addressed by Wyle Lab report 17464-3902

Written By

Mr. L. H. Allen

Sheet 1 of 1



LOUIS ALLIS

Litton

APPROVED BY

L. H. Allen

CODE IDENT. NO.

DOCUMENT NUMBER

DATE

5-15-81

01425

SECTION G-3

M 3186 10/79

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 439-01D Rev 1
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE 480 V Motor Generator Set
SPEC. NO. 439 P.O. 310950 VENDOR Louis Allis
TEST ITEM DESC. Static Rectifier Control Board Circuit
MAKE See Attachment MODEL See Attachment
VENDOR TEST REPORT NO. Louis Allis 9-129576
APPLICABLE STANDARDS TEST REPORT NO. 439-01
IEEE 323-1974 TEST METHOD Test/Analysis
IEEE 650-1979 DOCUMENTATION ACCEPTABILITY Acceptable
IEEE when supplemented by Wyle Lab.
 report 17464-3901
NUREG 0588 CAT. I QUALIFIED LIFE 40 years

TEST SEQUENCE (R: N/A All test were performed independently)

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: DBA test is not required)

APPLICABLE
ENV. ZONES

TIME _____

RAD N

TEMP. °F _____

PRES. PSIG _____

T/P 21

R.H. N/A

OP. TIME DEMO 180 Days ACC/PERF DEMO N/A

RADIATION AGING (R: Section L Wyle)
report 17464-3902

THERMAL AGING (R: Section L)

DOSE RATE Not Given RAD/HR

AGED TO SIMULATED
LIFE OF N/A YRS.

DOSE PRIOR TO
ENV. TEST N/A RADS

BASED ON AMBIENT
TEMP OF * 109 °F

DOSE DURING
ENV. TEST N/A RADS

AGING TEMP./
DURATION N/A / N/A

TOTAL DOSE 4.17 x 10⁶ <sup>See note 1 on
attach.</sup> RADS

REL. HUMIDITY Not Addressed

CYCLE AGING (R: Not Required)

NOT AGED-JUSTIFIED
BY ANALYSIS TO 40 YRS.

CYCLES REQUIRED _____
CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

* See note 2 on attachment

REVIEWER: Ron M Snyder

DATE: 1/6/82

ENGINEERING REPORT

Attachment 1 for EQS-439-01D

DATE OF TEST ---

MANUFACTURER'S
ORDER NO. 9-129576

PURCHASER Long Island Lighting Co.

PURCHASER'S
ORDER NO. 310950STATIC RECTIFIER CONTROL BOARD CIRCUIT

- A. Diodes: "General Electric" Part No. 1N1190 (Forward) and 1N1190R (Reverse)
- B. Insulated Diode Support: Canvas Base Phenolic
- C. Cable: Aramid
- D. Resistors:
1. 10 OHM - "OHMITE" Type 210
 2. 21 OHM (²⁵Watt Tapped) - "Milwaukee Resistor Corp."
- E. Terminal Board: General Purpose Black Phenolic
- F. Poly Crystalline Varistor: "General Electric" Part No. V320LA40B

Notes:

1. 4.17×10^6 RADS based on limiting component (Poly Crystalline Varistor)
2. Refer to item 25, para. J, pg 29 of test report for data giving basis for 109°F (43°C) ambient temp.
3. The effects of radiation on the diodes, resistors, and Poly Crystalline Varistor is addressed by Wyle Laboratories report 17464-3901

Written By

M. J. Shaw

Sheet 1 of 1



LOUIS ALLIS

Lifton

APPROVED BY

L. Roy R. Paris

CODE IDENT. NO.

DOCUMENT NUMBER

DATE

5-15-81

01425

SECTION G-4

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 439-01E
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE 480V Motor Generator Set
SPEC. NO. 439 P.O. 310950 VENDOR Louis Allis
TEST ITEM DESC. Rotating Field Clamping
MAKE See Attachment 1 MODEL See Attachment 1
VENDOR TEST REPORT NO. Louis Allis 9-129576
APPLICABLE STANDARDS TEST REPORT NO. 439-01
IEEE 323-1974 TEST METHOD Test/Analysis
IEEE _____ DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____
NUREG 0588 CAT. I QUALIFIED LIFE 40 years

TEST SEQUENCE (R: N/A All test were performed independently)

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: N/A DBA test not required)

TIME _____

TEMP. °F _____

PRES. PSIG _____

R.H. N/A

OP. TIME DEMO N/A ACC/PERF DEMO N/A

APPLICABLE
ENV. ZONES

RAD N

T/P 21

RADIATION AGING (R: Section M)

* See note 1 on attachment 1

DOSE RATE Not Given RAD/HR

DOSE PRIOR TO
ENV. TEST N/A RADS

DOSE DURING
ENV. TEST N/A RADS

TOTAL DOSE 2×10^7 RADS

THERMAL AGING (R: Section M)

AGED TO SIMULATED
LIFE OF N/A YRS.

BASED ON AMBIENT
TEMP OF * 109 °F

AGING TEMP./
DURATION N/A / N/A

REL. HUMIDITY N/A %

NOT AGED-JUSTIFIED
BY ANALYSIS TO 40 YRS.

* See note note 2 on attachment 1

CYCLE AGING (R: Not Required)

CYCLES REQUIRED _____

CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

REVIEWER: Ron M Snyder

DATE: 6-25-81

ENGINEERING REPORT Attachment. 1 for EQS-439-01E

DATE OF TEST ---

MANUFACTURER'S
ORDER NO. 9-129576

PURCHASER Long Island Lighting Co.

PURCHASER'S
ORDER NO. 310950ROTATING FIELD CLAMPING

A. Coil Clamps: Canvas Base Phenolic

B. Bolt Insulation: Polyimide Resin Coated Glass

Notes:

1. 2×10^7 RADS based on limiting component (Coil Clamps)
2. Refer to item 25, para. K, pg 34, of test report for data giving basis for 109°F (43°C) ambient temp.

Written By

W. J. Shaw

Sheet 1 of 1



LOUIS ALLIS

MADE IN U.S.A.

APPROVED BY

L. J. Shaw

CCDE IDENT. NO.

DOCUMENT NUMBER

DATE

5-15-81

01425

SECTION G-5

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 439-02 Rev 1
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE 480 Volt Motor Generator Sets
SPEC. NO. 439 P.O. 310950 VENDOR Louis Allis Inc.
TEST ITEM DESC. Motor Control Panel for 480V MG Set
MAKE Gould MODEL 5600 Series
VENDOR TEST REPORT NO. CC-323.74-83 Rev 0
APPLICABLE STANDARDS TEST REPORT NO. 439-02
IEEE 323-1974 TEST METHOD Summary Report
IEEE _____ DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____ provided the information requested on
NUREG 0588 CAT. I EQREF 439-02 is provided
QUALIFIED LIFE See Attachment

TEST SEQUENCE (R: N/A)

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: N/A, DBA test not required)

TIME _____
TEMP. °F _____
PRES. PSIG _____
R.H. N/A
OP. TIME DEMO N/A ACC/PERF DEMO N/A

APPLICABLE
ENV. ZONES

RAD N
T/P 21

RADIATION AGING (R: Page 7)

DOSE RATE See Attachment RAD/HR
DOSE PRIOR TO
ENV. TEST N/A RADS
DOSE DURING
ENV. TEST N/A RADS
TOTAL DOSE See Attachment RADS

CYCLE AGING (R: Page 7)

CYCLES REQUIRED _____
CYCLES PERFORMED See Attachment
(Electro-Mechanical Equip. only)

THERMAL AGING (R: Page 7)

AGED TO SIMULATED
LIFE OF See Attachment YRS.
BASED ON AMBIENT
TEMP OF See Attachment °F
AGING TEMP./
DURATION See Attachment
REL. HUMIDITY See Attachment
NOT AGED-JUSTIFIED
BY ANALYSIS TO See Attachment YRS.

REVIEWER: Ross M. Snyder

DATE: 1/5/82

Attachment to EO 439-02

SEP / 1981

No.	Item	Cycle, Aging	Radiation Total Dose	Aging Yrs at °F	Simulated at °F	Aging Temp/Duration
1.	Cabinet Structure (MGS)	N/A	1×10^8 RADS	40 yrs at 122°	230°F	670.1 HRS
2.	Relay (86) HEA	Not performed	1×10^5 RADS	Not determined	—	—
3.	Relay (74) 7024	27,500	2×10^5 RADS	10 yrs at 70°-104°	212°F	42 DYS
4.	Circuit Breaker KM	4000	1×10^7 RADS	10 yrs at 104°	212°F	107.4 HRS
5.	Contactors S/S A103G	1×10^6	1×10^7 RADS	10 yrs at 104°	212°F	107.4 HRS
6.	Terminal Blk. EB-25	N/A	1×10^8 RADS	40 yrs at 104°	Analysis.	Analysis.
7.	Relay (59) NGV	Not performed	1×10^5 RADS	40 yrs at 104°	Analysis	Analysis
8.	Current Transformer JCS-O	N/A	1×10^7 RADS	40 yrs at 140°	212°F	26 weeks
9.	Potential Transformer JVA-O	N/A	1×10^7 RADS	40 yrs at 140°	212°F	26 weeks
10.	Relay (87) HFC	Not performed	1×10^5 RADS	40 yrs at 104°	Analysis	Analysis
11.	Switch (43) C77	50,000	1×10^6 RADS	40 yrs at 104°	Analysis	Analysis
12.	Switch (CCS) H33	1.2×10^4	1×10^6 RADS	40 yrs at 104°	230°F	808.7 HRS
13.	Control Transformer 750 VA	N/A	1×10^8 RADS	40 yrs at 104°	Analysis	Analysis
14.	Fuse (Form 600) A6Y	N/A	1×10^7 RADS	10 yrs at 104°	212°F	107.4 HRS
15.	Control Wire Vulkene Supreme Power Wire	N/A	2.2×10^8	40 yrs at 194°	329°F	125 HRS
16.	Okalon	N/A	2×10^8 RADS	40 yrs at 194°	302°	21 DYS

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 455-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Low Capacitance Fire Resistant Instrument Cable
SPEC. NO. 455 P.O. 310965 VENDOR Brand Rex Co.
TEST ITEM DESC. Coaxial Instrument Cable, XLPE insulation
MAKE Brand Rex Co. MODEL RG-12A/u ; RG-59 B/u
VENDOR TEST REPORT NO. F-C5120-2 (Brand-Rex Co./Franklin Research Ctr.)
APPLICABLE STANDARDS TEST REPORT NO. 455-01
IEEE 323-1974 TEST METHOD Sequential Test/Analysis
IEEE 383-1974 DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____
NUREG 0588 CAT. I QUALIFIED LIFE 40 years

TEST SEQUENCE (R: Section 4, pages 4-1 thru 4-4)

1. Functional Test
2. Thermal Aging
3. Insulation Resistance Check
4. Gamma Irradiation
5. Steam/Chemical Spray Exposure
6. Final Inspection
7. High Potential Withstand Test
8. _____
9. _____
10. _____

TEST ENVIRONMENT (R: Page 4-3 *EGREF 455-01 ^{page 4} comment 3)

TIME HRS	.2	2.8	.2	2.8	49	192	474
TEMP. °F	385	346	385	346	317	280	230
PRES. PSIG	66	113	66	113	70	35	10
R.H. (SPRAY)	100						
OP. TIME DEMO	180 Days*						
ACC/PERF DEMO	N/A						

APPLICABLE
ENV. ZONES

RAD ALL

T/P ALL

RADIATION AGING (R: Page 4-1, + App B)

DOSE RATE 6.3×10^5 RAD/HR
DOSE PRIOR TO ENV. TEST 2×10^8 RADS
DOSE DURING ENV. TEST None RADS
TOTAL DOSE 2×10^8 RADS

CYCLE AGING (R: Not Required)

CYCLES REQUIRED N/A
CYCLES PERFORMED N/A
(Electro-Mechanical Equip. only)

THERMAL AGING (R: Pages 4-1, 5-1, + Attach 1)

AGED TO SIMULATED LIFE OF 40 YRS.
BASED ON AMBIENT TEMP OF 194 °F
AGING TEMP./ DURATION 277° / 168 HRS
REL. HUMIDITY Uncontrolled
NOT AGED-JUSTIFIED BY ANALYSIS TO N/A YRS.

REVIEWER: Ron M Snyder

DATE: 4/5/81

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 456-01 Rev 1
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Reactor Containment Electrical Penetrations
SPEC. NO. 456 P.O. 310967 VENDOR Conax Corporation
TEST ITEM DESC. Instrument Penetration Assembly
MAKE Conax MODEL Instrument Penetration Assembly
VENDOR TEST REPORT NO. IPS-583
APPLICABLE STANDARDS TEST REPORT NO. 456-01
IEEE 317-1976 TEST METHOD Sequential Test, Analysis
IEEE 323-1974 DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____
NUREG 0588 CAT. I QUALIFIED LIFE 40 years

TEST SEQUENCE (R: Table 4.2, page 5; Figure 4.1 page 5A)

- | | |
|----------------------------------|-----------------------------------|
| 1. <u>Design Validation Test</u> | 6. <u>Validation Test</u> |
| 2. <u>Storage Simulation</u> | 7. <u>Seismic Test</u> |
| 3. <u>Thermal Cycle</u> | 8. <u>Validation Test</u> |
| 4. <u>Thermal Aging</u> | 9. <u>Design Basis Event Test</u> |
| 5. <u>Radiation Exposure</u> | 10. <u>Validation Test</u> |

TEST ENVIRONMENT (R: Section 5.8, pg 14; Fig 5.8.1 pg 13A)

APPLICABLE
ENV. ZONES

TIME	1 Min. Transient	10 Min	1.8 HRS	6 HRS	4 HRS	348 HRS
TEMP. °F	375° Peak Temp	320°	350°	340°	320°	300°
PRES. PSIG	30	—	78	70	35	35
R.H. (<u>SPRAY</u>)	100 %					
OP. TIME DEMO	1 year		ACC/PERF DEMO		N/A	

RAD D, G, H

T/P 10, 11, 22

RADIATION AGING (R: Sec 5.6.1, para 5 pg 9)
Wyle Analysis 17464-3002A Sec 4.0 pg 1

DOSE RATE 6.93×10^5 RAD/HR

DOSE PRIOR TO
ENV. TEST 1.62×10^8 RADS

DOSE DURING
ENV. TEST None RADS

TOTAL DOSE 1.62×10^8 RADS

CYCLE AGING (R: Sec 5.6.1 para 3 pg 9)

CYCLES REQUIRED 120

CYCLES PERFORMED 120
(Electro-Mechanical Equip. only)

THERMAL AGING (R: Section 5.6.2.3 page 10)

AGED TO SIMULATED
LIFE OF 40 YRS.

BASED ON AMBIENT
TEMP OF 248 °F

AGING TEMP./
DURATION 302°F / 100 HRS

REL. HUMIDITY Uncontrolled %

NOT AGED-JUSTIFIED
BY ANALYSIS TO N/A YRS.

REVIEWER: Ron M. Snyder

DATE: 2/22/82

SPEC. TITLE Reactor Containment Electrical Penetrations
SPEC. NO. 456 P.O. 310967 VENDOR Conax Corporation
TEST ITEM DESC. Penetration Adapter Module
MAKE Conax MODEL Viton "A" O-Ring Seals
VENDOR TEST REPORT NO. IPS-631
APPLICABLE STANDARDS TEST REPORT NO. 456-02
IEEE 317-1976 TEST METHOD Sequential Test/Analysis
IEEE 323-1974 DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____
NUREG 0588 CAT. I QUALIFIED LIFE 40 years

TEST SEQUENCE (R: Figure 3.3 page 3)

- | | |
|------------------------------|--|
| 1. <u>Gas Leak Rate Test</u> | 6. <u>Irradiation *</u> |
| 2. <u>Thermal Cycling</u> | 7. <u>Seismic *</u> |
| 3. <u>Storage Simulation</u> | 8. <u>DBE Environmental Test *</u> |
| 4. <u>Age Conditioning *</u> | 9. <u>(* Indicates Evaluation Test</u> |
| 5. <u>Shipping</u> | 10. <u>performed)</u> |

TEST ENVIRONMENT (R: Fig 6.10.2, pg 11A, *Wyle Analysis
17464-30020, Sec 6.0)

TIME	2 Min	1 Min	5 Min	2 Min	6 HRS	425 HRS
TEMP. °F	300°	350°	400°	300°	350°	266°
PRES. PSIG	55	55	55	55	55	25
R.H.	100 %					
OP. TIME DEMO	* 180 DYS					
ACC/PERF DEMO	N/A					

APPLICABLE
ENV. ZONES

RAD D, G, H

T/P 10, 11, 22

RADIATION AGING (R: Sec 6.6 pg 7)

DOSE RATE 1.5×10^6 RAD/HR
DOSE PRIOR TO
ENV. TEST 1.5×10^8 RADS
DOSE DURING
ENV. TEST None RADS
TOTAL DOSE 1.5×10^8 RADS

CYCLE AGING (R: Section 6.3 pg 6)

CYCLES REQUIRED 120
CYCLES PERFORMED 120
(Electro-Mechanical Equip. only)

THERMAL AGING (R: Sec 6.4 pg 6: Attach 1:
Wyle Anal 17464-30020, Sec 3.0)

AGED TO SIMULATED
LIFE OF 113 YRS.

BASED ON AMBIENT
TEMP OF 150 °F

AGING TEMP./
DURATION 302° / 168 HRS

REL. HUMIDITY Uncontrolled %

NOT AGED-JUSTIFIED
BY ANALYSIS TO N/A YRS.

REVIEWER: Ron M. Smyke

DATE: 2/22/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 456-02A
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE Reactor Containment Electrical Penetrations
SPEC. NO. 456 P.O. 310967 VENDOR Conax Corporation
TEST ITEM DESC. Electrical Penetration Assembly
MAKE Conax MODEL LVP/C P/N 7508-10003
VENDOR TEST REPORT NO. IPS-585.3
APPLICABLE STANDARDS TEST REPORT NO. 456-02A
IEEE 317-1976 TEST METHOD Sequential Test
IEEE 323-1974 DOCUMENTATION ACCEPTABILITY Acceptable,
IEEE Vendor to submit supplemental
information.
NUREG 0588 CAT. I QUALIFIED LIFE Not Given

TEST SEQUENCE (R: Figure 3.4 page 3, See Attachment)

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: Figure 6.20.7 page 26A)

	1st transient	2nd transient			
TIME	5 min trans.	10 min rise	10 min	9.66 HRS	315 HRS
TEMP. °F	355° peak	370°	360°	340°	310°
PRES. PSIG	70	70	70	62	30
R.H.	100 %				
OP. TIME DEMO	325 HRS	ACC/PERF DEMO <u>N/A</u>			

APPLICABLE
ENV. ZONES

RAD D, G, H

T/P 10, 11, 22

RADIATION AGING (R: Sec. 6.11 pg 8)

DOSE RATE 7×10^5 to 1.09×10^6 RAD/HR
DOSE PRIOR TO
ENV. TEST 1.28×10^8 RADS
DOSE DURING
ENV. TEST None RADS
TOTAL DOSE 1.28×10^8 RADS

THERMAL AGING (R: Section 6.9 pg 8)

AGED TO SIMULATED
LIFE OF Not Stated YRS.
BASED ON AMBIENT
TEMP OF Not Stated °F
AGING TEMP./
DURATION 303° / 104 HRS
REL. HUMIDITY Not Controlled %

CYCLE AGING (R: Sec 6.8 pg 7)

CYCLES REQUIRED 120
CYCLES PERFORMED 120
(Electro-Mechanical Equip. only)
(Thermal Cycle Test)

NOT AGED-JUSTIFIED
BY ANALYSIS TO N/A YRS.

REVIEWER: Ron M. Lough

DATE: 2/22/82



CONAX CORPORATION
2300 Walden Ave., Buffalo, New York 14225

Attachment to EQSS 456.02A

Nuclear Products Division

IPS

585.3

FIGURE 3.4

BF-LVP/C TEST SEQUENCE

Gas Leak Rate	(6.4.1)
Pneumatic Pressure	(6.4.2)
Continuity	(6.4.3)
Dielectric Strength	(6.4.4)
Insulation Resistance	(6.4.5)
Shipping and Storage	(6.4.8(1))
Installation Welding	(6.4.8(2))
Thermal Cycling	(6.4.8(3))
Age Conditioning	(6.4.8(4))
(Gas Leak Rate Test)	
Radiation Exposure	(6.4.8(5))
<u>Evaluation Tests (Post Aging - Irradiation)</u>	(6.4.8)
Gas Leak Rate	
Continuity	
Dielectric Strength	
Insulation Resistance	
Rated Continuous Current	(6.4.7)
Heat Load Test	
Rated STOL	(6.4.9)
SCI and Duration	(6.4.10)
<u>Evaluation Tests (Post Short Circuit)</u>	
Gas Leak Rate	(8.3)
Dielectric Strength	(8.4)
Insulation Resistance	(8.4)
Continuity	(6.4.3)
Seismic DBE	(6.4.11)
<u>Evaluation Tests (Post Seismic)</u>	(6.4.11)
Dielectric Strength	
Insulation Resistance	
Continuity	
Gas Leak Rate	
DBE Environmental Test	(6.4.13)
<u>Evaluation Tests (Post DBE:LOCA)</u>	(6.4.13)
Dielectric Strength	
Insulation Resistance	
Gas Leak Rate	
Max Duration Short Circuit	(6.4.14)
<u>Evaluation Tests (Post M.D.S.C.)</u>	
Continuity - (Post DBE:LOCA)	(6.4.13)
Gas Leak Rate	(6.4.14)

() refers to IEEE Std. 317-1976 Section

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 457-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE leakage Level Pumps
SPEC. NO. 457 P.O. 348187 VENDOR Goulds Pumps Co.
TEST ITEM DESC. Westinghouse Motors
MAKE Westinghouse MODEL Frame 886T
VENDOR TEST REPORT NO. Westinghouse No MM-9112
APPLICABLE STANDARDS TEST REPORT NO. 457-01
IEEE 323-1974 TEST METHOD Sequential Test
IEEE 334-1974 DOCUMENTATION ACCEPTABILITY
IEEE Acceptable for NUREG 0588
NUREG 0588 CAT. I Cat. I.
QUALIFIED LIFE 40 years

TEST SEQUENCE (R: page 4; 5; 7; 8)

1. Inspection of motorettes
2. Aging simulation
3. Voltage Tests
4. Irradiation
5. Mechanical Stress Exposure
6. Moisture Exposure
7. Voltage Test
8. _____
9. _____
10. _____

TEST ENVIRONMENT (R: page 7)

TIME 7533 Hours (313.8 Days)
TEMP. °F 210°C (410°F)
PRES. PSIG Atmospheric
R.H. 100 (spray)
OP. TIME DEMO 313.8 Days ACC/PERF DEMO N/A

APPLICABLE
ENV. ZONES

RAD G

T/P 01

RADIATION AGING (R: Appendix B)

DOSE RATE 0.4×10^6 RAD/HR
DOSE PRIOR TO
ENV. TEST 2.8×10^8 RADS
DOSE DURING
ENV. TEST — RADS
TOTAL DOSE 2.8×10^8 RADS

CYCLE AGING (R: N/A)

CYCLES REQUIRED _____
CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

THERMAL AGING (R: page 7; 9)

AGED TO SIMULATED
LIFE OF over 150 YRS.

BASED ON AMBIENT
TEMP OF (130°C) 266 °F

AGING TEMP. /
DURATION (210°C) 410°F, 7533 Hours

REL. HUMIDITY 100 %

NOT AGED-JUSTIFIED
BY ANALYSIS TO N/A YRS.

REVIEWER: M. Ginshteyn

DATE: 3-23-82

B

ENVIRONMENTAL QUALIFICATION SUMMARY NO. <u>51554-2-01</u> Revision <u>1</u> SHOREHAM NUCLEAR POWER STATION-UNIT 1 Date: <u>5/10/82</u>								
SPEC. TITLE <u>Safety Related Solenoid Valves</u>								
SPEC. NO. <u>515542</u> P.O. <u>310979</u> VENDOR <u>Valcor Engineering Corp.</u>								
TEST ITEM DESC. <u>Solenoid Valve</u>								
MAKE <u>Valcor</u>				MODEL <u>V52600-515</u>				
VENDOR TEST REPORT NO. <u>QR 52600-5940-2</u>								
APPLICABLE STANDARDS				TEST REPORT NO. <u>51554-2-01, Rev. 1</u>				
IEEE <u>323-1974</u>				TEST METHOD <u>Sequential Test/Analysis</u>				
IEEE _____				DOCUMENTATION ACCEPTABILITY <u>Acceptable</u>				
IEEE _____				_____				
NUREG 0588 CAT. <u>I</u>				QUALIFIED LIFE <u>40 years</u>				
TEST SEQUENCE (R: <u>Appendix XII page 45</u>)								
1. <u>Initial Acceptance Test</u> 6. <u>Seismic Simulation/Acceptance Test</u> 2. <u>Thermal Aging/Acceptance Test</u> 7. <u>LCA Test/Acceptance Test</u> 3. <u>Cyclic Aging/Acceptance Test</u> 8. <u>Disassembly and Inspection</u> 4. <u>Radiation</u> 9. _____ 5. <u>Dielectric and Insulation Resist.</u> 10. _____								
TEST ENVIRONMENT (R: <u>App IV of App XII page 4-16</u>)							APPLICABLE ENV. ZONES RAD <u>G, H, L</u> T/P <u>1, 2, 3, 10, 11, 12</u>	
* Ref: <u>App XII, Sec 4.2.6, page 30, Wyle Report 17464-4802</u>								
TIME	<u>2 HRS</u>	<u>2 HRS</u>	<u>2 HRS</u>	<u>3 HRS</u>	<u>4 HRS</u>	<u>8 HRS</u>		<u>25 DYS</u>
TEMP. °F	<u>346</u>	<u>140</u>	<u>346</u>	<u>335</u>	<u>315</u>	<u>265</u>		<u>245</u>
PRES. PSIG	<u>113</u>		<u>113</u>	<u>95</u>	<u>69</u>	<u>28</u>		<u>13</u>
R.H.	<u>100</u>							
OP. TIME DEMO <u>1 year</u> * ACC/PERF DEMO <u>N/A</u>								
RADIATION AGING (R: <u>App XII Sec 4.2.1</u>)				THERMAL AGING (R: <u>App XII Sec 4.2.2</u>)				
DOSE RATE <u>7.5×10^5</u> RAD/HR				AGED TO SIMULATED LIFE OF <u>40</u> YRS.				
DOSE PRIOR TO ENV. TEST <u>2×10^8</u> RADS				BASED ON AMBIENT TEMP OF <u>120</u> °F				
DOSE DURING ENV. TEST <u>None</u> RADS				AGING TEMP./DURATION <u>318 °F / 172 HRS</u>				
TOTAL DOSE <u>2×10^8</u> RADS				REL. HUMIDITY <u>Not Addressed</u>				
CYCLE AGING (R: <u>App XII Sec 4.2.3</u>)				NOT AGED-JUSTIFIED BY ANALYSIS TO <u>N/A</u> YRS.				
CYCLES REQUIRED _____								
CYCLES PERFORMED <u>7500</u> (Electro-Mechanical Equip. only)								
REVIEWER: <u>Ron M. Snyder</u>							DATE: <u>8/17/81</u>	

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 88V-01
SHOREHAM NUCLEAR POWER STATION-UNIT 1 Rev 1

SPEC. TITLE Carbon Steel Valve - MOV
SPEC. NO. * P.O. * VENDOR * - SEE ATTACHMENT
TEST ITEM DESC. Limitorque MOV
MAKE Limitorque MODEL ACISMB-0-25 Reliance Class BH
VENDOR TEST REPORT NO. 80058 + App B - 600376A
APPLICABLE STANDARDS TEST REPORT NO. _____
IEEE - 323-71 TEST METHOD Sequential Testing + Analysis
IEEE - 382-72 DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____ See comments + special conditions
NUREG 0588 CAT. II EQREF-88V-1
QUALIFIED LIFE 2.40 yrs

TEST SEQUENCE (R: pp 3-5 (600376A))

- | | |
|---------------------------------|-----------|
| 1. <u>Thermal Aging</u> | 6. _____ |
| 2. <u>Mechanical Aging</u> | 7. _____ |
| 3. <u>Radiation Aging</u> | 8. _____ |
| 4. <u>Seismic Qualification</u> | 9. _____ |
| 5. <u>Accident Simulation</u> | 10. _____ |

TEST ENVIRONMENT (R: Franklin Institute Report; EC3441)
pg 3-5

APPLICABLE
ENV. ZONES

TIME	0-3hr	3-6hr	6-9hr	9-12hr	12-13hr	13-102hr	102hr-30day	5	B, C, D, G, K, L
TEMP. °F	340	340	340	320	320-252	251	200		
PRES. PSIG	105	Down	105	77	19	15	—		F/P 1, 2, 3, 5, 7, 13
R.H.	100							22	
OP. TIME DEMO	30 days / EXTENDED BY ANALYSIS TO 890 DAYS [ATTACH 1 to EQREF 88V-01]								

RADIATION AGING (R: pg 4 (600376A))

DOSE RATE 1×10^6 RAD/HR
DOSE PRIOR TO ENV. TEST 204×10^6 RADS
DOSE DURING ENV. TEST _____ RADS
TOTAL DOSE 204×10^6 RADS

CYCLE AGING (R: pg 3, 4 (600376A))

CYCLES REQUIRED 500
CYCLES PERFORMED 500
(Electro-Mechanical Equip. only)

THERMAL AGING (R: pg 3; (80058-pg 10, 11))

Only the motor/stator aged
AGED TO SIMULATED LIFE OF 48 YRS.

BASED ON AMBIENT TEMP OF 158 °F

AGING TEMP./ DURATION 180°C / 100 HRS

REL. HUMIDITY Not Given
Actuator
NOT AGED - JUSTIFIED BY ANALYSIS TO 240 YRS.

Equiv. age at 158°F is determined by proportioning to thermal life figures given in 80058

REVIEWER: Jim W. Smith

DATE: 4/22/82

Attachment to EQSS 88V-01

REV 1

<u>SPEC No.</u>	<u>PO</u>	<u>VENDOR</u>
SHI-88V	310502	VELAN
SHI-214	310512	VELAN
SHI-253	310512	VELAN
SHI-289	310624	ATOMICS INT.
SHI-88AD	310501	ANCHOR DARLING

SPEC. TITLE CARBON STEEL MOTOR OPERATED VALVES
SPEC. NO. * P.O. * VENDOR * - SEE ATTACHED
TEST ITEM DESC. MOTOR OPERATED VALVE
MAKE LIMITORQUE MODEL SMB-0-25, Reliance, DC, Class H
VENDOR TEST REPORT NO. B0058 + App E - B0009
APPLICABLE STANDARDS TEST REPORT NO. _____
IEEE - 382-72 TEST METHOD Sequential Testing
IEEE - 323-71 DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____ See Comments and Special
NUREG 0588 CAT. _____ Conditions EQREF-88V-2
QUALIFIED LIFE NOT DETERMINED

TEST SEQUENCE (R: pg 6-9 (B0009))

1. THERMAL AGING 6. _____
2. MECHANICAL AGING 7. _____
3. RADIATION AGING 8. _____
4. SEISMIC TESTING 9. _____
5. ENVIRONMENTAL TEST

TEST ENVIRONMENT (R: pg 10 (B0009))

TIME	0-1hr	1-2hr	2-4hr	4-7hr	7-25hr
TEMP. °F	120→340	340	330	310	212
PRES. PSIG	0→68	68→104	104→86	86→63	0
R.H.	100				
OP. TIME DEMO	25hrs/5158hrs ²				

APPLICABLE
ENV. ZONES

RAD G, I
T/P 1, 3, 8,

1. FOR MOTOR 2. FOR ACTUATOR (BY ANALYSIS - SEE EQREF-88V-2)

RADIATION AGING (R: pg. 7 (B0009))

DOSE RATE - RAD/HR
DOSE PRIOR TO
ENV. TEST 1×10^7 RADS
DOSE DURING
ENV. TEST - RADS
TOTAL DOSE 1×10^7 RADS

CYCLE AGING (R: pg. 7 (B0009))

CYCLES REQUIRED 500 (IEEE-382)
CYCLES PERFORMED 2004
(Electro-Mechanical Equip. only)

THERMAL AGING (R: pg. 6 + App. III (B0009))
MOTOR STATOR ONLY

AGED TO SIMULATED
LIFE OF NOT DETERMINED YRS.

BASED ON AMBIENT
TEMP OF NOT GIVEN °F

AGING TEMP./
DURATION 180°C / 100

REL. HUMIDITY Not Given %
ACTUATOR
NOT AGED-JUSTIFIED
BY ANALYSIS TO 40 YRS.

REVIEWER: Gene W. Smith

DATE: 4/22/82

Attachment to EQSS 88V-02
REV #1

SPEC. NO.

SHI-88V

SHI-253

P.O.

310502

310512

VENDOR

VELAN

VELAN

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 88V-03
SHOREHAM NUCLEAR POWER STATION-UNIT 1 Rev.1

SPEC. TITLE Carbon Steel Valve - MOV
SPEC. NO. * P.O. * VENDOR * - SEE ATTACHMENT
TEST ITEM DESC. Limitorque MOV
MAKE Limitorque MODEL MOTOR+ACTUATOR-SMB-0-25
VENDOR TEST REPORT NO. B0058+AppD-B0003 MOTORS [ALONE]- 25+40 ft-lb start torq
Reliance, AC class B [ALL MOTORS]
APPLICABLE STANDARDS TEST REPORT NO. _____
IEEE - 382-1972 TEST METHOD Sequential Testing
IEEE - 323-1971 DOCUMENTATION ACCEPTABILITY Acceptable
IEEE _____ See comments + special
NUREG 0588 CAT. II conditions - EQREF-88V-3
QUALIFIED LIFE 40 yrs

TEST SEQUENCE (R: pg 7-10 (B0003))

- | | |
|------------------------------|-----------|
| 1. <u>Thermal Aging</u> | 6. _____ |
| 2. <u>Mechanical Aging</u> | 7. _____ |
| 3. <u>Radiation Aging</u> | 8. _____ |
| 4. <u>Siesmic Aging</u> | 9. _____ |
| 5. <u>Environmental Test</u> | 10. _____ |

TEST ENVIRONMENT (R: pg 10 (B0003))

TIME	0-.5hr	.5-2hr	2-24hr	24-25hr	25hr-16days
TEMP. °F	250	250+120	250	250-300	200
PRES. PSIG	25	-	25	-	10
R.H. %	100				
OP. TIME DEMO	<u>16 days / EXTENDED BY ANALYSIS</u> <u>SEE EQREF-88V-03, ATTACH</u>				

APPLICABLE
ENV. ZONES

RAD T, G, L, ST, H, P, S

T/P 01, 02, 03, 07, 08, 09
10, 11, 12, 14, 18, ST

RADIATION AGING (R: pg 8 (B0003))

DOSE RATE 1×10^6 RAD/HR
DOSE PRIOR TO
ENV. TEST 2×10^7 RADS
DOSE DURING
ENV. TEST _____ RADS
TOTAL DOSE 2×10^7 RADS

THERMAL AGING (R: pg 7 (B0003) (B0058-p12))

AGED TO SIMULATED
LIFE OF 232 days

BASED ON AMBIENT
TEMP OF 104 °F

AGING TEMP./
DURATION 165° / 200 [199.8] hrs

REL. HUMIDITY 100 %

CYCLE AGING (R: pg 7-8 (B0003))

CYCLES REQUIRED 500
CYCLES PERFORMED 1393
(Electro-Mechanical Equip. only)

NOT AGED-JUSTIFIED
BY ANALYSIS TO 40 YRS.

[pg 12-15 B0058]
Equiv. Age at 104°F obtained by
proportioning to thermal life figures

REVIEWER: David W. Smith

DATE: 4/22/82

Attachment to EQSS 88V-03
REV 1

<u>Spec No.</u>	<u>P.O.</u>	<u>VENDOR</u>
SHI-88AD	310501	ANCHOR DARLING
SHI-88V	310502	VELAN
SHI-197	310546	HENRY PRATT
SHI-203	310539	ITT GRINNELL
SHI-214	310512	VELAN
SHI-253	310512	VELAN
SHI-281	310744	CONTRONATICS

SPEC. TITLE Carbon Steel Valve - MOV
SPEC. NO. SHI-88V P.O. 310502 VENDOR VELAN
TEST ITEM DESC. Motor operated valve actuator
MAKE Limitorque MODEL AC - SMB-0-25 RELIANCE Class RH
VENDOR TEST REPORT NO. B0058 + App B 600376A
APPLICABLE STANDARDS TEST REPORT NO. _____
IEEE - 323 - 1971 TEST METHOD SEQUENCE TESTING + ANALYSIS
IEEE 382 - A72 DOCUMENTATION ACCEPTABILITY ACCEPTABLE
IEEE _____ SEE COMMENTS & SPECIAL CONDITIONS
NUREG 0588 CAT. _____ QUALIFIED LIFE 40 YEARS

TEST SEQUENCE (R: pp 3-5 (600376A))

- | | |
|---------------------------------|-----------|
| 1. <u>Thermal Aging</u> | 6. _____ |
| 2. <u>Mechanical Aging</u> | 7. _____ |
| 3. <u>Radiation Aging</u> | 8. _____ |
| 4. <u>Seismic Qualification</u> | 9. _____ |
| 5. <u>Accident Simulation</u> | 10. _____ |

TEST ENVIRONMENT (R: Franklin Institute Report; FC 3441)
Pg 3-5

APPLICABLE
ENV. ZONES

TIME	0-3HR	3-6HR	6-9HR	9-12HR	12-13HR	13-102HR	102-300Y
TEMP. °F	340	COOL	340	320	320-252	251	200
PRES. PSIG	105	DOWN	105	77	19	15	-
R.H.	100						
OP. TIME DEMO	30 DAYS/EXTEND. ACC/PERF DEMO <u>N/A</u> BY ANALYSIS / SEE EAREF 88V-04						

RAD B
T/P 22

RADIATION AGING (R: Pg 4 (600376A))

DOSE RATE 1×10^6 RAD/HR
DOSE PRIOR TO ENV. TEST 204×10^6 RADS
DOSE DURING ENV. TEST - RADS
TOTAL DOSE 204×10^6 RADS

THERMAL AGING (R: Pg 3 (B0058 Pg 10, 11))

only motor & stator aged
AGED TO SIMULATED LIFE OF 48 YRS.
BASED ON AMBIENT TEMP OF 158 °F
AGING TEMP./ DURATION 180°C / 100 HRS

CYCLE AGING (R: _____)

CYCLES REQUIRED _____
CYCLES PERFORMED _____
(Electro-Mechanical Equip. only)

REL. HUMIDITY NOT GIVEN
ACTUATOR
NOT AGED - JUSTIFIED
BY ANALYSIS TO 40 YRS.
SEE EAREF-88V-04

REVIEWER: W. Shuler

DATE: 4/22/82

Attachment to EASS 88V-04

Additional documentation to qualify
MOVS located in spray impingement zone.

Limitorgue report no. 600456

TEST Environment

TIME	33min-3.75HR	3.75-4.15HR	4.15HR-5.15HR	5.15-96.1HR	96.1-97.1HR	97.1-720HR
TEMP [°]	295-120	310	310-245	245	245-192	192
PRESS ^{psig}	-	70	-	30	-	10

R.H. 100% / OPTIME 30 DAYS

SPRAY : FLOW 1.2 gal/min
(ref. Pg 17 of 600456)

SPEC. TITLE _____
SPEC. NO. SHI-003 P.O. 310010 VENDOR GENERAL ELECTRIC
TEST ITEM DESC. PRESSURE SWITCH
MAKE BARKSDALE MODEL BIT-M1255, BIT-M1255-GE
VENDOR TEST REPORT NO. BARKSDALE PROCEDURE 9993
APPLICABLE STANDARDS _____ TEST REPORT NO. 3018-A
IEEE 323-1971 TEST METHOD SEPARATE
IEEE _____ DOCUMENTATION ACCEPTABILITY _____
IEEE _____ ACCEPTABLE
NUREG 0588 CAT. II QUALIFIED LIFE 6 YRS BY ANALYSIS

TEST SEQUENCE (R: BARKSDALE - 9993)

- | | |
|----------------------------|-----------|
| 1. <u>FUNCTIONAL</u> | 6. _____ |
| 2. <u>STEAM/FUNCTIONAL</u> | 7. _____ |
| 3. <u>FUNCTIONAL</u> | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: BARKSDALE - 9993)

APPLICABLE
ENV. ZONES

TIME 6 HRS
TEMP. °F 212
PRES. PSIG .25
R.H. 100%
OP. TIME DEMO 6 HRS ACC/PERF DEMO 2.3% FSPE

RAD G

T/P 1,10,12

RADIATION AGING (R: EOS Calc No 0630-001-013)

THERMAL AGING (R: EOS Calc No 0630-001-013)

DOSE RATE NONE RAD/HR
DOSE PRIOR TO
ENV. TEST NONE RADS
DOSE DURING
ENV. TEST NONE RADS
TOTAL DOSE 3 x 10⁶ B, ANALYSIS RADS

AGED TO SIMULATED
LIFE OF NONE YRS.
BASED ON AMBIENT
TEMP OF 104 °F
AGING TEMP./
DURATION NONE

CYCLE AGING (R: GE APED TEST)

REL. HUMIDITY NONE

CYCLES REQUIRED UNDETERMINED
CYCLES PERFORMED 1000
(Electro-Mechanical Equip. only)

NOT AGED-JUSTIFIED
BY ANALYSIS TO 6 YRS.

REVIEWER: John P. ...

DATE: 5/13/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 3021
SHOREHAM NUCLEAR POWER STATION-UNIT 1

Revision 3

SPEC. TITLE _____

SPEC. NO. SH-003 P.O. 310010 VENDOR GENERAL ELECTRIC

TEST ITEM DESC. PRESSURE SWITCH

MAKE BARKSDALE

MODEL SEE NEXT PAGE

VENDOR TEST REPORT NO. BARKSDALE PROCEDURE 9993

APPLICABLE STANDARDS _____

TEST REPORT NO. 3021-A

IEEE 323-1971

TEST METHOD SEPARATE

IEEE _____

DOCUMENTATION ACCEPTABILITY
ACCEPTABLE

IEEE _____

NUREG 0588 CAT. II

QUALIFIED LIFE 6 YRS BY ANALYSIS

TEST SEQUENCE (R: BARKSDALE 9993)

1. FUNCTIONAL
2. STEAM / FUNCTIONAL TEST
3. FUNCTIONAL TEST
4. _____
5. _____

6. _____
7. _____
8. _____
9. _____
10. _____

TEST ENVIRONMENT (R: BARKSDALE 9993)

APPLICABLE
ENV. ZONES

TIME 6 HRS

RAD G.H

TEMP. °F 212

PRES. PSIG .25

T/P 1, 10, 12

R.H. 100%

OP. TIME DEMO 6 HRS ACC/PERF DEMO 8.1 % FSPG

RADIATION AGING (R: EDS Calc No 0630-001-013)

DOSE RATE NONE RAD/HR

DOSE PRIOR TO
ENV. TEST NONE RADS

DOSE DURING
ENV. TEST NONE RADS

TOTAL DOSE 3x 10⁶ By ANALYSIS RADS

THERMAL AGING (R: EDS Calc No 0630-001-014)

AGED TO SIMULATED
LIFE OF NONE YRS.

BASED ON AMBIENT
TEMP OF 104 °F

AGING TEMP./
DURATION NONE

REL. HUMIDITY NONE

NOT AGED-JUSTIFIED
BY ANALYSIS TO 6 YRS.

CYCLE AGING (R: GE APED TEST)

CYCLES REQUIRED UNDETERMINED

CYCLES PERFORMED 1000
(Electro-Mechanical Equip. only)

REVIEWER: St. Paul

DATE: 5/13/82

MODEL

D2H-M150SS

D2H-A150SS

D2H-M18SS

D2H-M12SS

D2H-M80SS

SPEC. TITLE _____
SPEC. NO. SH-003 P.O. 310010 VENDOR GENERAL ELECTRIC
TEST ITEM DESC. PRESSURE SWITCH
MAKE BARKSDALE MODEL PIH-M340SS-V, PIH-M340SSB
VENDOR TEST REPORT NO. BARKSDALE PROCEDURE 9993
APPLICABLE STANDARDS _____ TEST REPORT NO. 3025-A
IEEE 323-1971 TEST METHOD SEPARATE
IEEE _____ DOCUMENTATION ACCEPTABILITY
IEEE _____ ACCEPTABLE
NUREG 0588 CAT. II QUALIFIED LIFE 6 YEARS BY ANALYSIS

TEST SEQUENCE (R: BARKSDALE 9993)

- | | |
|-----------------------------------|-----------|
| 1. <u>FUNCTIONAL</u> | 6. _____ |
| 2. <u>START / FUNCTIONAL TEST</u> | 7. _____ |
| 3. <u>FUNCTIONAL</u> | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: <u>BARKSDALE - 9993</u>)		APPLICABLE ENV. ZONES
TIME	<u>6 Hrs</u>	RAD <u>G</u>
TEMP. °F	<u>212°F</u>	_____
PRES. PSIG	<u>.25</u>	T/P <u>1</u>
R.H.	<u>100%</u>	_____
OP. TIME DEMO	<u>6 Hrs</u>	ACC/PERF DEMO <u>1.9% FSPE</u>

RADIATION AGING (R: EDS CALL NO 0630-001-022)

DOSE RATE NONE RAD/HR
DOSE PRIOR TO ENV. TEST NONE RADS
DOSE DURING ENV. TEST NONE RADS
TOTAL DOSE 5 X 10⁶ BY ANALYSIS RADS

CYCLE AGING (R: GE APED TEST)

CYCLES REQUIRED UNDETERMINED
CYCLES PERFORMED 1000
(Electro-Mechanical Equip. only)

THERMAL AGING (R: EDS CALL NO 0630-001-022)

AGED TO SIMULATED LIFE OF NONE YRS.
BASED ON AMBIENT TEMP OF 104°F °F
AGING TEMP./ DURATION NONE
REL. HUMIDITY NONE
NOT AGED-JUSTIFIED BY ANALYSTS TO 6 YRS.

REVIEWER: St. Paul

DATE: 5/13/82

SPEC. TITLE _____
SPEC. NO. SA-003 P.O. 310010 VENDOR GENERAL ELECTRIC
TEST ITEM DESC. DIFFERENTIAL PRESSURE INDICATING SWITCH
MAKE ITT BARTON MODEL 288A/289A
VENDOR TEST REPORT NO. ITT BARTON 9999.1217.2 AND R3-288A-1
APPLICABLE STANDARDS TEST REPORT NO. 3027-A & 3027B
IEEE 323-1971 TEST METHOD SEPARATE
IEEE 344-1975 DOCUMENTATION ACCEPTABILITY _____
IEEE _____ ACCEPTABLE
NUREG 0588 CAT. II QUALIFIED LIFE 40 YEARS By ANALYSIS

TEST SEQUENCE (R: SEE BELOW)
ITT BARTON 9999.1217.2 ITT BARTON R3-288A-1
1. FUNCTIONAL TEST (CALIBRATION) 1. INSPECTION 6 FUNCTIONAL TEST
2. STEAM TEST 2. FUNCTIONAL TEST
3. FUNCTIONAL TEST (CALIBRATION) 3. RADIATION
4. _____ 4. FUNCTIONAL TEST
5. _____ 5. SEISMIC

TEST ENVIRONMENT (R: ITT BARTON 9999.1217.2)
TIME 6 HRS APPLICABLE ENV. ZONES
TEMP. °F 212 °F RAD G, H
PRES. PSIG 7 IN WATER COLUMN T/P 1, 2, 10, 12
R.H. 100%
OP. TIME DEMO 6 HRS ACC/PERF DEMO ± 1%

RADIATION AGING (R: BARTON R3-288A-1)
EDS CMC No 0630-001-010
DOSE RATE 1x10⁶ RAD/HR
DOSE PRIOR TO ENV. TEST 3x10⁶ RADS
DOSE DURING ENV. TEST NONE RADS
TOTAL DOSE 3x10⁶ BY TEST / 1x10⁷ BY ANALYSIS RADS

THERMAL AGING (R: EDS CMC No 0630-001-010)
AGED TO SIMULATED LIFE OF NONE YRS.
BASED ON AMBIENT TEMP OF 104 °F
AGING TEMP./ DURATION NONE
REL. HUMIDITY NONE
NOT AGED-JUSTIFIED BY ANALYSIS TO 40 YRS.

CYCLE AGING (R: BARTON R3-288A-1)
CYCLES REQUIRED UNDETERMINED
CYCLES PERFORMED 36
(Electro-Mechanical Equip. only)

REVIEWER: Steve Paul

DATE: 1/11/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 3032
SHOREHAM NUCLEAR POWER STATION-UNIT 1

Revision 2

SPEC. TITLE _____

SPEC. NO. SH-003 P.O. 310010 VENDOR GENERAL ELECTRIC

TEST ITEM DESC. PRESSURE SWITCH

MAKE STATIC-O-RING

MODEL 5N-AA3-X10STT, 6N-AA2-X10VSTT

VENDOR TEST REPORT NO. VIKING LABORATORIES TEST LETTER REPORT No 30203-1

APPLICABLE STANDARDS

TEST REPORT NO. 3032-A

IEEE 323-1971

TEST METHOD SEPARATE

IEEE _____

DOCUMENTATION ACCEPTABILITY

IEEE _____

ACCEPTABLE

NUREG 0588 CAT. II

QUALIFIED LIFE 6 YRS BY ANALYSIS

TEST SEQUENCE (R: VIKING: 30203-1)

1. FUNCTIONAL

6. _____

2. PRESSURE/TEMPERATURE/HUMIDITY

7. _____

3. INSPECTION

8. _____

4. _____

9. _____

5. _____

10. _____

TEST ENVIRONMENT (R: VIKING: 30203-1)

APPLICABLE
ENV. ZONES

TIME

(MID RANGE)

(HIGH RANGE)

(LOW RANGE)

6 HRS

6 HRS

6 HRS

TEMP. °F

212°F

212°F

212°F

PRES. PSIG

.25 ± .05 PSIG

.25 ± .05 PSIG

.25 ± .05 PSIG

R.H. 100%

OP. TIME DEMO 18 HRS

ACC/PERF DEMO NONE REPORTED

RAD G, L

T/P 1, 2

RADIATION AGING (R: EDS Calc No 0620-001-030)

THERMAL AGING (R: EDS Calc No 0620-001-031)

DOSE RATE NONE RAD/HR

AGED TO SIMULATED

LIFE OF

NONE

YRS.

DOSE PRIOR TO

ENV. TEST

NONE

RADS

BASED ON AMBIENT

TEMP OF

104

°F

DOSE DURING

ENV. TEST

NONE

RADS

AGING TEMP./

DURATION

NONE

TOTAL DOSE

3x10⁶ BY ANALYSIS RADS

REL. HUMIDITY

NONE

%

CYCLE AGING (R: VIKING: 3023-1)

NOT AGED-JUSTIFIED

BY ANALYSIS TO

6

YRS.

CYCLES REQUIRED

UNDETERMINED

CYCLES PERFORMED

27

(Electro-Mechanical Equip. only)

REVIEWER: Walter P. Juran

DATE: 5/13/82

SHEET 9 OF 12

SPEC. TITLE _____
SPEC. NO. SHI-003 P.O. 310010 VENDOR GENERAL ELECTRIC
TEST-ITEM DESC. PRESSURE TRANSMITTER
MAKE ROSEMOUNT MODEL SEE NEXT PAGE
VENDOR TEST REPORT NO. ROSEMOUNT REPORT NO'S 117415, REV A AND 127227 REV B
APPLICABLE STANDARDS _____ TEST REPORT NO. 3048-A, 3048-B
IEEE 323-1971 TEST METHOD SEPARATE
IEEE _____ DOCUMENTATION ACCEPTABILITY _____
IEEE _____ ACCEPTABLE
NUREG 0588 CAT. II QUALIFIED LIFE 1.4 YRS

TEST SEQUENCE (R: ROSEMOUNT: 117415, Pg. 3)

- | | |
|--------------------------------------|-----------|
| 1. <u>THERMAL AGING</u> | 6. _____ |
| 2. <u>RADIATION EXPOSURE</u> | 7. _____ |
| 3. <u>SEISMIC VIBRATION</u> | 8. _____ |
| 4. <u>STEAM PRESSURE ENVIRONMENT</u> | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: ROSEMOUNT: 117415, Pg. 9)

APPLICABLE
ENV. ZONES

TIME	<u>10 MIN</u>	<u>1 HR</u>	<u>7 HR</u>	<u>42 HR</u>
TEMP. °F	<u>350</u>	<u>316</u>	<u>303</u>	<u>230</u>
PRES. PSIG	<u>60</u>	<u>70</u>	<u>55.4</u>	<u>6</u>
R.H.	<u>100%</u>			
OP. TIME DEMO	<u>50 HRS, 10 MIN</u>			
ACC/PERF DEMO	<u>0.5% FS</u>			

RAD H, G
T/P 1, 5, 10, 12, 16

RADIATION AGING (R: ROSEMOUNT: 127227)

THERMAL AGING (R: WYLE: 17464-0902)

DOSE RATE 1×10^6 RAD/HR
DOSE PRIOR TO ENV. TEST 2×10^6 RADS
DOSE DURING ENV. TEST NONE RADS
TOTAL DOSE 2×10^6 RADS

AGED TO SIMULATED LIFE OF 1.4 YRS.

BASED ON AMBIENT TEMP OF 104 °F
AGING TEMP./DURATION 350°F/17 HR; 316°F/1 HR;
303°F/7 HR; 230°F/39 HR

CYCLE AGING (R: _____)

REL. HUMIDITY 100

CYCLES REQUIRED NOT REQUIRED
CYCLES PERFORMED NOT REQUIRED
(Electro-Mechanical Equip. only)

NOT AGED-JUSTIFIED BY ANALYSIS TO 1.4 YRS.

REVIEWER: John Paul

DATE: 5/13/82

MODEL

1151DP4E22T0003PB

1151DP5E22T0003PB

1151DP5C22T0002PB

1151DPD52MBGE2

1151DP5A52MBGE2

1151DP5D52MBGE2

1

1151DP5A22MBX

1151DP4E52T0003PB

1151DP5D22MBGE2

1151GP4E22T0003PB

1151GP9E22T0003PB

1151GP6E52T0003PB

1151AP5E22T0003PB

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 3096
SHOREHAM NUCLEAR POWER STATION-UNIT 1

Revision 0

SPEC. TITLE _____

SPEC. NO. SHI-003 P.O. 310010 VENDOR GENERAL ELECTRIC

TEST ITEM DESC. SOLENOID VALVE

MAKE ASCO

MODEL HT-X-8320-A20

VENDOR TEST REPORT NO. Rockwell Report No 2792-03-02, Rev. 1

APPLICABLE STANDARDS _____

TEST REPORT NO. 3096-A

IEEE 323-1971

TEST METHOD SEPARATE

IEEE _____

DOCUMENTATION ACCEPTABILITY _____

IEEE _____

ACCEPTABLE

NUREG 0588 CAT. II

QUALIFIED LIFE 40 Yrs BY ANALYSIS

TEST SEQUENCE (R: Rockwell 2792-03-02)

1. LEAKAGE TESTING

6. _____

2. STEAM

7. _____

3. CYCLING

8. _____

4. LEAKAGE TEST

9. _____

5. _____

10. _____

TEST ENVIRONMENT (R: Rockwell : 2792-03-02)

APPLICABLE
ENV. ZONES

TIME 2 HRS

RAD D.T

TEMP. °F 340

PRES. PSIG 110

T/P 3,22

R.H. 100 %

OP. TIME DEMO 2 HRS ACC/PERF DEMO LEAKAGE LL: 5 SCFH

RADIATION AGING (R: EDS Calc. No 0630-001-025)

THERMAL AGING (R: EDS Calc. No 0630-001-025)

DOSE RATE NONE RAD/HR

AGED TO SIMULATED

LIFE OF NONE YRS.

DOSE PRIOR TO
ENV. TEST NONE RADS

BASED ON AMBIENT

TEMP OF 150 °F

DOSE DURING
ENV. TEST NONE RADS

AGING TEMP./

DURATION NONE

TOTAL DOSE 6x10⁶ BY ANALYSIS RADS

CYCLE AGING (R: Rockwell : 2792-03-02, Rev. 1)

REL. HUMIDITY NONE %

CYCLES REQUIRED UNDETERMINED

NOT AGED-JUSTIFIED

BY ANALYSIS TO 40 YRS.

CYCLES PERFORMED 20,000
(Electro-Mechanical Equip. only)

REVIEWER: Steve Parry

DATE: 12/28/81

SPEC. TITLE _____
SPEC. NO. SHI-003 P.O. 310010 VENDOR. GENERAL ELECTRIC
TEST ITEM DESC. TEMPERATURE ELEMENT
MAKE PYCO/CALIFORNIA Alloy/NEGI MODEL GE PPD 145C3224, FYCO 102-9039-08
VENDOR TEST REPORT NO. PYCO REPORT No. 122375, REV. 0
APPLICABLE STANDARDS _____ TEST REPORT NO. 3110-A
IEEE 323-1971 TEST METHOD SEPARATE
IEEE _____ DOCUMENTATION ACCEPTABILITY _____
IEEE _____ ACCEPTABLE
NUREG 0588 CAT. II QUALIFIED LIFE 28.9 YRS BY ANALYSIS

TEST SEQUENCE (R: PYCO:122375)

- | | |
|-------------------------|-----------|
| 1. <u>THERMAL AGING</u> | 6. _____ |
| 2. <u>INSPECTION</u> | 7. _____ |
| 3. <u>RADIATION</u> | 8. _____ |
| 4. <u>INSPECTION</u> | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: PYCO:122375)

TIME 168 HRS
TEMP. °F 250°F
PRES. PSIG ATMOSPHERIC (ASSUMED)
R.H. MOIST
OP. TIME DEMO 168 HRS ACC/PERF DEMO NONE REPORTED

APPLICABLE
ENV. ZONES

RAD G, H, K, A, ST

T/P 1, 13, 14
15, 16, 18, 19, ST

RADIATION AGING (R: PYCO:122375)

DOSE RATE 7.5×10^5 RAD/HR
DOSE PRIOR TO
ENV. TEST 2×10^2 RADS
DOSE DURING
ENV. TEST NONE RADS
TOTAL DOSE 2×10^8 RADS

THERMAL AGING (R: EOS CAL. No. 0630-001-017)
PYCO No. 770831

AGED TO SIMULATED
LIFE OF NONE YRS.

BASED ON AMBIENT
TEMP OF 104 °F

AGING TEMP./
DURATION 121°F / 7 DAYS

REL. HUMIDITY 85-95 %

CYCLE AGING (R: _____)

CYCLES REQUIRED NOT REQUIRED

CYCLES PERFORMED NOT REQUIRED
(Electro-Mechanical Equip. only)

NOT AGED-JUSTIFIED
BY ANALYSIS TO 28.9 YRS.

REVIEWER: Warren P. Oursman

DATE: 5/13/82

SPEC. TITLE

SPEC. NO. SH-003 P.O. 310010 VENDOR GENERAL ELECTRIC

TEST ITEM DESC. ECS PUMP MOTOR

MAKE GENERAL ELECTRIC MODEL 5K6339XC157A, 5K6339XC94A

VENDOR TEST REPORT NO. GE REPORT No's NEDM-10672 AND 491HA988

APPLICABLE STANDARDS TEST REPORT NO. 3111-A, 3111-B

IEEE 323-1971 TEST METHOD SEPARATE

IEEE 334-1971 DOCUMENTATION ACCEPTABILITY

IEEE ACCEPTABLE

NUREG 0588 CAT. II QUALIFIED LIFE 40 YRS WITH ANNUAL MAINTENANCE

TEST SEQUENCE (R: GE; NEDM-10672 GE, 491HA988)

- | | | |
|-----------------------|-----------------------|-----------------------------|
| 1. <u>PRE-AGED</u> | <u>(1) FUNCTIONAL</u> | <u>(6) FUNCTIONAL &</u> |
| 2. <u>STEAM TEST</u> | <u>(2) AGING</u> | <u>INSPECTION</u> |
| 3. <u>HI-POT TEST</u> | <u>(3) RADIATION</u> | |
| 4. <u></u> | <u>(4) SEISMIC</u> | |
| 5. <u></u> | <u>(5) STEAM</u> | |

TEST ENVIRONMENT (R: GE; NEDM-10672)

APPLICABLE ENV. ZONES

TIME	<u>6 HRS</u>	<u>1 HR</u>	<u>6 HRS</u>	<u>86 HRS</u>	RAD	<u>G</u>
TEMP. °F	<u>212</u>	<u>AMBIENT</u>	<u>212</u>	<u>AMBIENT</u>		
PRES. PSIG	<u>7" H₂O GAGE</u>	<u>AMBIENT</u>	<u>7" H₂O GAGE</u>	<u>AMBIENT</u>	T/P	<u>01</u>
R.H.	<u>100%</u>					
OP. TIME DEMO	<u>99 HRS</u>	ACC/PERF DEMO	<u>N/A</u>			

RADIATION AGING (R: GE 491HA988)

THERMAL AGING (R: EDS Call No 0630-001-012)

DOSE RATE NONE REPORTED RAD/HR

AGED TO SIMULATED LIFE OF NONE YRS.

DOSE PRIOR TO ENV. TEST NONE RADS

BASED ON AMBIENT TEMP OF 104°F °F

DOSE DURING ENV. TEST 5.5 x 10⁶ RADS

AGING TEMP./DURATION NONE

TOTAL DOSE 5.5 x 10⁶ RADS

REL. HUMIDITY NONE

CYCLE AGING (R: GE NEDM-10672, P2)

NOT AGED-JUSTIFIED BY ANALYSIS TO 40 YRS.

CYCLES REQUIRED 170

CYCLES PERFORMED 300
(Electro-Mechanical Equip. only)

PROVIDED LUBE OIL AND LEAD WIRE SEALS ARE CHECKED/CHANGED ANNUALLY

REVIEWER: St Paul

DATE: 5/13/82

SPEC. TITLE _____
SPEC. NO. SHI-003 P.O. 31001Q VENDOR GENERAL ELECTRIC
TEST ITEM DESC. LEVEL SWITCH
MAKE MAGNETROL MODEL 3.5-751-1X-MPG-M14HY
VENDOR TEST REPORT NO. WYLE LAB, REPORT No 43235-1, Revision A
APPLICABLE STANDARDS _____ TEST REPORT NO. 3143-A
IEEE 323-1974 TEST METHOD SEQUENTIAL
IEEE 344-1975 DOCUMENTATION ACCEPTABILITY _____
IEEE _____ ACCEPTABLE
NUREG 0588 CAT. II QUALIFIED LIFE 40 YRS BY ANALYSIS

TEST SEQUENCE (R: WYLE: 43235-1)
1. NUCLEAR RAD DAMAGE THRESHOLD TEST 6. 75 HZ PLANT INDUCED VIBRATION TEST
2. REGRESSION ANALYSES 7. SEISMIC QUALIFICATION
3. BASELINE FUNCTIONAL * HYDROST. PRESS. TEST 8. TYPE TEST PLAN
4. NUCLEAR RADIATION AGING 9. _____
5. ELEVATED TEMP./HUMIDITY/CYCLE AGING 10. _____

TEST ENVIRONMENT (R: <u>WYLE: 43235-1, Pg 196</u>)		APPLICABLE ENV. ZONES
TIME	<u>160 HRS</u>	RAD <u>G</u>
TEMP. °F	<u>300</u>	
PRES. PSIG	<u>NONE GIVEN - ASSUME ATMOSPHERIC</u>	T/P <u>1</u>
R.H.	<u>100%</u>	
OP. TIME DEMO	<u>160 HRS</u>	
ACC/PERF DEMO	<u>NOT GIVEN</u>	

RADIATION AGING (R: WYLE: 43235-1, Pg 7
AND TABLE 1)
DOSE RATE 1.2×10^5 TO 3.3×10^6 RAD/HR
DOSE PRIOR TO DEVICE: 4.4×10^4
ENV. TEST COMPONENTS: $\geq 1 \times 10^6$ RADS
DOSE DURING _____
ENV. TEST NONE RADS
TOTAL DOSE DEVICE: 4.4×10^4
COMPONENTS: $\geq 1 \times 10^6$ RADS

CYCLE AGING (R: WYLE: 43235-1, Pg 146)
CYCLES REQUIRED UNDETERMINED
CYCLES PERFORMED 10,000
(Electro-Mechanical Equip. only)

THERMAL AGING (R: WYLE: 43235-1, Pg 196)
EOS CASE No 0630-001-027
AGED TO SIMULATED
LIFE OF NOT GIVEN YRS.
BASED ON AMBIENT
TEMP OF 104°F °F
AGING TEMP./
DURATION 300°F / 160 hrs
REL. HUMIDITY NONE
NOT AGED-JUSTIFIED
BY ANALYSIS TO 40 YRS YRS.

REVIEWER: Warren P. Gurnan

DATE: 12/31/81

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 3146
SHOREHAM NUCLEAR POWER STATION-UNIT 1

Revision 0

SPEC. TITLE

SPEC. NO. 21A9370 P.O. 205-G93 VENDOR GENERAL ELECTRIC

TEST ITEM DESC. Conax explosive Valve.

MAKE Conax

MODEL P/N 1832-159-01

VENDOR TEST REPORT NO. CONAX REPORT No TR-39

APPLICABLE STANDARDS

TEST REPORT NO. 3146-A

IEEE 323-1971

TEST METHOD Seperate

IEEE 344-1975

DOCUMENTATION ACCEPTABILITY

IEEE

ACCEPTABLE

NUREG 0588 CAT.

II

QUALIFIED LIFE

Not DETERMINED

TEST SEQUENCE (R: Conax TR 39, Page 5-7.)

1. Bridge wire Resistance

6. Irradiation

2. Circuit Resistance testing

7. Seismic Test.

3. Temp./Humidity

8.

4. Visual Inspection

9.

5. Aging (Seismic Aging.)

10.

TEST ENVIRONMENT (R: Conax TR 39, Pages 5-7)

APPLICABLE
ENV. ZONES

TIME

100 days

RAD

1

TEMP. °F

185 to 190 °F

PRES. PSIG

Atmc

T/P

15

R.H.

100

OP. TIME DEMO

100 DYS

ACC/PERF DEMO

N/A

RADIATION AGING (R: Conax TR-39, Pg 6)

THERMAL AGING (R:)

DOSE RATE 2.2×10^4 to 2.4×10^4 RAD/HR

AGED TO SIMULATED
LIFE OF

NONE

YRS.

DOSE PRIOR TO
ENV. TEST

NONE

RADS

BASED ON AMBIENT
TEMP OF

NONE

°F

DOSE DURING
ENV. TEST

2.2×10^4

RADS

AGING TEMP./
DURATION

NONE

TOTAL DOSE

2.2×10^4

RADS

REL. HUMIDITY

NONE

%

CYCLE AGING (R:)

NOT AGED-JUSTIFIED
BY ANALYSIS TO

NONE

YRS.

CYCLES REQUIRED

N/A

CYCLES PERFORMED

N/A

(Electro-Mechanical Equip. only)

REVIEWER:

Steve Paul

DATE: 4/11/82

SPEC. TITLE _____
SPEC. NO. SH-003 P.O. 31040 VENDOR GENERAL ELECTRIC
TEST ITEM DESC. ELECTRIC HEATER
MAKE GENERAL ELECTRIC MODEL 47D518673
VENDOR TEST REPORT NO. GE REPORT 8272-542-4, REV A
APPLICABLE STANDARDS TEST REPORT NO. 3902-A
IEEE 323-1971 TEST METHOD SEPARATE
IEEE _____ DOCUMENTATION ACCEPTABILITY _____
IEEE _____ ACCEPTABLE
NUREG 0588 CAT. II QUALIFIED LIFE 40 YRS BY ANALYSIS

TEST SEQUENCE (R: GE: 8272-542-4)

- | | |
|-------------------------------------|-----------|
| 1. <u>ENERGIZE HEATER (2 Hours)</u> | 6. _____ |
| 2. <u>DEENERGIZE HEATER</u> | 7. _____ |
| 3. <u>ENERGIZE HEATER (100 OYS)</u> | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: <u>GE: 8272-542-4, REV A</u>)		APPLICABLE ENV. ZONES
TIME <u>100 OYS</u>		RAD <u>6</u>
TEMP. °F <u>NORMAL AMBIENT</u>		
PRES. PSIG <u>NORMAL AMBIENT</u>		T/P <u>7</u>
R.H. <u>NORMAL AMBIENT</u>		
OP. TIME DEMO <u>100 OYS</u>	ACC/PERF DEMO <u>N/A</u>	

RADIATION AGING (R: EDS CAL 0630-001-028)

DOSE RATE NONE RAD/HR
DOSE PRIOR TO ENV. TEST NONE RADS
DOSE DURING ENV. TEST NONE RADS
TOTAL DOSE 1x10¹² BY ANALYSIS RADS

CYCLE AGING (R: _____)

CYCLES REQUIRED NOT REQUIRED
CYCLES PERFORMED NOT REQUIRED
(Electro-Mechanical Equip. only)

THERMAL AGING (R: EDS CAL 0630-001-028)

AGED TO SIMULATED LIFE OF NONE YRS.
BASED ON AMBIENT TEMP OF 104 °F
AGING TEMP./ DURATION NONE
REL. HUMIDITY NONE
NOT AGED-JUSTIFIED BY ANALYSIS TO 40 YRS YRS.

REVIEWER: [Signature]

DATE: 12/31/91

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 3903
SHOREHAM NUCLEAR POWER STATION-UNIT 1

Revision 1

SPEC. TITLE _____
SPEC. NO. 541-003 P.C. 310917 VENDOR GENERAL ELECTRIC
TEST ITEM DESC. BLOWER
MAKE GENERAL ELECTRIC MODEL 2CH6-041-1U
VENDOR TEST REPORT NO. GE REPORT NO. B272-NL9-4, P.1A
APPLICABLE STANDARDS _____ TEST REPORT NO. 3903-A
IEEE 323-71 TEST METHOD SEPARATE
IEEE _____ DOCUMENTATION ACCEPTABILITY _____
IEEE _____ ACCEPTABLE
NUREG 0588 CAT. II QUALIFIED LIFE 6 YRS. BY ANALYSIS

TEST SEQUENCE (R: GE: B272-NL9-4)

- | | |
|------------------------------------|-----------|
| 1. <u>CONTINUOUS FUNCTIONAL</u> | 6. _____ |
| 2. <u>TEST IN SEAM ENVIRONMENT</u> | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: GE: B272-NL9-4)

APPLICABLE
ENV. ZONES

TIME 100.0 YS
TEMP. °F 150
PRES. PSIG ATMOSPHERIC
R.H. 97
OP. TIME DEMO 100.0 YS ACC/PERF DEMO N/A

RAD 6
T/P 5,6

RADIATION AGING (R: EDS Calc 0630-001-026)

DOSE RATE NONE RAD/HR
DOSE PRIOR TO
ENV. TEST NONE RADS
DOSE DURING
ENV. TEST NONE RADS
TOTAL DOSE 1x10⁷ BY ANALYSIS RADS

THERMAL AGING (R: EDS Calc 0630-001-026)

AGED TO SIMULATED
LIFE OF NONE YRS.
BASED ON AMBIENT
TEMP OF 104 °F
AGING TEMP./
DURATION NONE
REL. HUMIDITY NONE

CYCLE AGING (R: GE B272-NL9-4)

CYCLES REQUIRED UNDETERMINED
CYCLES PERFORMED 7
(Electro-Mechanical Equip. only)

NOT AGED-JUSTIFIED
BY ANALYSIS TO 6 YRS.

REVIEWER: [Signature]

DATE: 5/13/82

SPEC. TITLE _____
SPEC. NO. SH-003 P.O. 310010 VENDOR GENERAL ELECTRIC
TEST ITEM DESC. SOLENOID VALVE
MAKE TARGET ROCK MODEL Y2 SMS-A-01
VENDOR TEST REPORT NO. TARGET ROCK REPORT NO. 2199A
APPLICABLE STANDARDS _____ TEST REPORT NO. 3904-A
IEEE 323-1974 TEST METHOD SEQUENTIAL
IEEE 382-1972 DOCUMENTATION ACCEPTABILITY _____
IEEE _____
NUREG 0588 CAT. II QUALIFIED LIFE 40 YRS BY ANALYSIS

TEST SEQUENCE (R: TARGET ROCK REPORT No 2199A)

- | | |
|--|--------------------------------|
| 1. <u>FUNCTIONAL</u> | 6. <u>PRESSURE/TEMPERATURE</u> |
| 2. <u>RADIATION</u> | 7. <u>CYCLING/LEAKAGE</u> |
| 3. <u>FUNCTIONAL</u> | 8. <u>FUNCTIONAL</u> |
| 4. <u>TEMPERATURE/HUMIDITY & CYCLING</u> | 9. <u>RADIATION</u> |
| 5. <u>FUNCTIONAL</u> | 10. <u>FUNCTIONAL</u> |
| | 11. <u>INSPECTION</u> |

TEST ENVIRONMENT (R: TARGET ROCK REPORT No 2199A)

APPLICABLE
ENV. ZONES

TIME (min.)	0-1	2-20	20-181	181-299	300-301	301-480	482-650	650-551
TEMP. °F	337	334-346	342	94-85	343	344-347	322	301-290
PRES. PSIG	65	50-48	48	0	65	51-46	46	25-26
R.H.	100							
OP. TIME DEMO	92 Hrs				ACC/PERF DEMO	N/A		

RAD B

T/P 22

RADIATION AGING (R: TARGET ROCK 2199A)

(PRIOR TO ENV. TEST)

DOSE RATE 1×10^6 RAD/HR

DOSE PRIOR TO
ENV. TEST 1.9×10^7 RADS

DOSE DURING
ENV. TEST 1.3×10^7 RADS

TOTAL DOSE 3.2×10^7 RADS

THERMAL AGING (R: EDS C.6 No 0630-001-020)

AGED TO SIMULATED
LIFE OF NONE YRS.

BASED ON AMBIENT
TEMP OF 150 °F

AGING TEMP./
DURATION NONE

REL. HUMIDITY NONE

NOT AGED-JUSTIFIED
BY ANALYSIS TO 40 YRS YRS.

CYCLE AGING (R: TARGET ROCK 2199A)

CYCLES REQUIRED NOT DETERMINED

CYCLES PERFORMED 8000
(Electro-Mechanical Equip. only)

REVIEWER: William P. Givanni

DATE: 12/31/81

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 3906
SHOREHAM NUCLEAR POWER STATION-UNIT 1

Revision 1

SPEC. TITLE

SPEC. NO. SH-003 P.O. 310010 VENDOR GENERAL ELECTRIC

TEST ITEM DESC. TEMPERATURE ELEMENT

MAKE PYCO

MODEL 102-3171

VENDOR TEST REPORT NO. PYCO QUALIFICATION TEST REPORT DOCUMENT NO. 770831

APPLICABLE STANDARDS

TEST REPORT NO. 310-A

IEEE 323-1974

TEST METHOD SEQUENTIAL

IEEE 344-1975

DOCUMENTATION ACCEPTABILITY

IEEE 382-1972 / 383-1974

ACCEPTABLE

NUREG 0588 CAT. II

QUALIFIED LIFE 28.9 Yrs BY ANALYSIS

TEST SEQUENCE (R: PYCO DOCUMENT NO. 770831)

1. THERMAL & RADIATION AGING

6.

2. DEVELOPMENTAL

7.

3. SEISMIC / VIBRATION

8.

4. LOCA SIMULATION

9.

5.

10.

TEST ENVIRONMENT (R: PYCO DOCUMENT NO. 770831)

APPLICABLE
ENV. ZONES

TIME

3 Hrs 2 Hrs 3 Hrs 3 Hrs 4 Hrs 81 Hrs 528

TEMP. °F

346 140 346 335 315 265 215

PRES. PSIG

113 — 113 95 69 28 —

R.H.

100 %

OP. TIME DEMO

720 Hrs / Test ACC/PERF DEMO

WITH ANALYSIS: 21.7 years

NONE REPORTED

RAD G, H, K, P, ST

T/P 01, 05, 13, 14,
15, 16, 18, 19, ST, 02

RADIATION AGING (R: PYCO #770831)

DOSE RATE 5×10^5 RAD/HR

DOSE PRIOR TO

ENV. TEST 2×10^8 RADS

DOSE DURING

ENV. TEST NONE RADS

TOTAL DOSE 2×10^8 RADS

CYCLE AGING (R:)

CYCLES REQUIRED N/A

CYCLES PERFORMED N/A

(Electro-Mechanical Equip. only)

THERMAL AGING (R: PYCO #770831)

EDS CAC. No 0630-001-017

AGED TO SIMULATED

LIFE OF NOT GIVEN YRS.

BASED ON AMBIENT

TEMP OF 704 °F

AGING TEMP./

DURATION 121°C / 7 DAYS

REL. HUMIDITY 85-95 %

NOT AGED-JUSTIFIED

BY ANALYSIS TO 28.9 YRS.

REVIEWER: Walter P. Gorman

DATE: 5/13/82

ENVIRONMENTAL QUALIFICATION SUMMARY NO. 3909 Revision 1
SHOREHAM NUCLEAR POWER STATION-UNIT 1

SPEC. TITLE _____
SPEC. NO. SHI-003 P.O. 310010 VENDOR GENERAL ELECTRIC
TEST ITEM DESC. SOLENOID VALVE
MAKE ASCO MODEL NP8316E36E
VENDOR TEST REPORT NO. Automatic Switch Co. TEST REPORT No. AQS21678/TR REV. A
APPLICABLE STANDARDS _____ TEST REPORT NO. 3909-A
IEEE 323-1974 / 382/ANSI N278.2.1 TEST METHOD SEQUENTIAL TESTS
IEEE 382-1972 _____ DOCUMENTATION ACCEPTABILITY _____
IEEE 344-1975 _____ ACCEPTABLE
NUREG 0588 CAT. -II QUALIFIED LIFE 22.93 YRS BY ANALYSIS

TEST SEQUENCE (R: ASCO Report No. AQS21678/TR)

- | | |
|-------------------------|----------------------------------|
| 1. <u>THERMAL AGING</u> | 6. <u>ACCIDENT RADIATION</u> |
| 2. <u>RADIATION</u> | 7. <u>30-DAY LOCA SIMULATION</u> |
| 3. <u>WEAR AGING</u> | 8. _____ |
| 4. <u>SEISMIC</u> | 9. _____ |
| 5. <u>VIBRATION</u> | 10. _____ |

TEST ENVIRONMENT (R: <u>ASCO Report No. AQS21678/TR</u>)							APPLICABLE ENV. ZONES
FIGURE 2							
TIME	<u>4 HRS</u>	<u>1 Hr</u>	<u>3 Hr</u>	<u>3 Hr</u>	<u>25 Hr</u>	<u>26 DYS</u>	RAD <u>G</u>
TEMP. °F	<u>346</u>	<u>140</u>	<u>346</u>	<u>320</u>	<u>250</u>	<u>200</u>	T/P <u>25</u>
PRES. PSIG	<u>110</u>	<u>AMBIENT</u>	<u>110</u>	<u>75</u>	<u>15</u>	<u>10</u>	
R.H.	<u>100</u>						
OP. TIME DEMO	<u>30 DAYS</u>		ACC/PERF DEMO		<u>N/A</u>		

RADIATION AGING (R: ASCO AQS21678/TR)

DOSE RATE < 1 x 10⁶ RAD/HR
DOSE PRIOR TO ENV. TEST 5 x 10⁷ RADS
DOSE DURING ENV. TEST 1.5 x 10⁸ RADS
TOTAL DOSE 2 x 10⁸ RADS

CYCLE AGING (R: AQS21678/TR)

CYCLES REQUIRED UNDETERMINED
CYCLES PERFORMED 40,000
(Electro-Mechanical Equip. only)

THERMAL AGING (R: ASCO AQS21678/TR)

AGED TO SIMULATED EDSCALC No 0630-001-021
LIFE OF 4 YRS.

BASED ON AMBIENT
TEMP OF 150 °F

AGING TEMP./
DURATION 268°F, 12 DYS

REL. HUMIDITY NOT GIVEN

NOT AGED-JUSTIFIED
BY ANALYSIS TO 22.93 YRS.

REVIEWER: Wayne P. Furrman

DATE: 5/13/82

SPEC. TITLE _____
SPEC. NO. SHI-003 P.O. 310010 VENDOR GENERAL ELECTRIC
TEST ITEM DESC. PRESSURE TRANSMITTER
MAKE ROSEMOUNT MODEL 11521
VENDOR TEST REPORT NO. ROSEMOUNT REPORT NO. 117415, REV. B
APPLICABLE STANDARDS TEST REPORT NO. 3915-A
IEEE 323-1971 TEST METHOD SEQUENTIAL
IEEE 344-1975 DOCUMENTATION ACCEPTABILITY _____
IEEE _____ ACCEPTABLE
NUREG 0598 CAT. II QUALIFIED LIFE 1.4 YRS

TEST SEQUENCE (R: ROSEMOUNT 117415, Pg 3)

- | | |
|------------------------------|-----------|
| 1. <u>THERMAL AGING</u> | 6. _____ |
| 2. <u>RADIATION EXPOSURE</u> | 7. _____ |
| 3. <u>SEISMIC</u> | 8. _____ |
| 4. <u>STEAM-PRESSURE</u> | 9. _____ |
| 5. _____ | 10. _____ |

TEST ENVIRONMENT (R: ROSEMOUNT 117415, Pg 9)

APPLICABLE
ENV. ZONES

TIME	<u>10 MIN</u>	<u>1 HR</u>	<u>7 HRS</u>	<u>42 HRS</u>	RAD <u>G, H</u>
TEMP. °F	<u>350</u>	<u>316</u>	<u>303</u>	<u>230</u>	
PRES. PSIG	<u>60</u>	<u>70</u>	<u>55.4</u>	<u>6</u>	T/P <u>10, 12</u>
R.H.	<u>100 %</u>				
OP. TIME DEMO	<u>50 HRS</u>	ACC/PERF DEMO	<u>2.0 % FS</u>		

RADIATION AGING (R: ROSEMOUNT 117415, Pg 5)

DOSE RATE 1×10^6 RAD/HR
DOSE PRIOR TO ENV. TEST NONE RADS
DOSE DURING ENV. TEST 5×10^6 RADS
TOTAL DOSE 5×10^6 RADS

THERMAL AGING (R: WKE: 1746A-0902)

AGED TO SIMULATED LIFE OF 1.4 YRS.
BASED ON AMBIENT TEMP OF 104 °F
AGING TEMP./ DURATION 350°F/17hr; 316°F/1hr; 303°F/7hr; 230°F/39hr
REL. HUMIDITY 100
NOT AGED-JUSTIFIED BY ANALYSIS TO N/A YRS.

CYCLE AGING (R: _____)

CYCLES REQUIRED N/A
CYCLES PERFORMED N/A
(Electro-Mechanical Equip. only)

REVIEWER: W.P. Jurnani

DATE: 11/6/82

APPENDIX C

ENVIRONMENTAL ZONE MAPS

The drawings which follow define the areas of the plant determined to be in a potentially harsh environment. The drawings divide the plant into spatial zones. Radiation zones are identified with letters while pressure/temperature zones are identified with numbers. The radiation zones shown on Figures C-1 through C-15 are the same as Figures II.B.2-1 through 15 in the NUREG-0737 NRC submittal, and are included herein for convenience. Temperature and pressure zones are shown on Figures C-16 through C-22. These drawings are intended to show zone boundaries only and are not necessarily accurate regarding locations of specific equipment items which may appear on the drawings. 2

APPENDIX D

RADIATION, TEMPERATURE, AND PRESSURE DATA

The normal and accident service conditions are tabulated and graphed with respect to time as shown on the following sheets. The normal service conditions for secondary containment temperatures, pressures, and levels of humidity are listed in Table D-1 as taken from FSAR Table 3.11.2-1. The reactor building primary containment environmental service conditions and the secondary containment radiation conditions are tabulated on Figures D-1 and D-2, respectively. Radiation curves are shown on Figures D-3 through D-20. Temperature curves are shown on Figures D-21 through D-40. Pressure curves are shown on Figures D-41 and D-42. Curve D-43 indicates the pressure transient in the secondary containment due to a LOCA and is reproduced from an FSAR figure.

INDEX OF ENVIRONMENTAL TABLES AND FIGURES

Title

Table No.

Normal Pressure, Temperature and
Humidity Conditions, Secondary Containment

D-1

Title

Figure No.

Reactor Building, Primary Containment
Environmental Zones

D-1

Reactor Building, Secondary Containment
Normal and Accident Radiation Zones

D-2

Reactor Building, Primary Containment
Radiation Level for Zone A

D-3

Reactor Building, Primary Containment
Radiation Level for Zone B

D-4

Reactor Building, Primary Containment
Radiation Level for Zone C

D-5

Reactor Building, Primary Containment
Radiation Level for Zone D

D-6

Reactor Building, Primary Containment
Radiation Levels for Zones E and F

D-7

Reactor Building, Secondary Containment
Radiation Level for Zone G

D-8

Reactor Building, Secondary Containment
Radiation Level for Zone H

D-9

Reactor Building, Secondary Containment
Radiation Level for Zone J

D-10

Reactor Building, Secondary Containment
Radiation Level for Zone K

D-11

Reactor Building, Secondary Containment
Radiation Level for Zone L

D-12

Reactor Building, Secondary Containment
Radiation Level for Zone M

D-13

Reactor Building, Secondary Containment
Radiation Level for Zone N

D-14

<u>Title</u>	<u>Figure No.</u>
Reactor Building, Secondary Containment Radiation Level for Zone P	D-15
Reactor Building, Secondary Containment Radiation Level for Zone Q	D-16
Reactor Building, Secondary Containment Radiation Level for Zone R	D-17
Reactor Building, Secondary Containment Radiation Level for Zone S	D-18
Reactor Building, Secondary Containment Radiation Level for Zone T	D-19
Reactor Building, Secondary Containment Radiation Level	D-20
Reactor Building, Secondary Containment Temperature Levels for Zone 1	D-21
Reactor Building, Secondary Containment Temperature Levels for Zone 2	D-22
Reactor Building, Secondary Containment Temperature Levels for Zone 3	D-23
Reactor Building, Secondary Containment Temperature Levels for Zone 4	D-24
Reactor Building, Secondary Containment Temperature Levels for Zone 5	D-25
Reactor Building, Secondary Containment Temperature Levels for Zone 6	D-26
Reactor Building, Secondary Containment Temperature Levels for Zone 7	D-27
Reactor Building, Secondary Containment Temperature Levels for Zone 8	D-28
Reactor Building, Secondary Containment Temperature Levels for Zone 9	D-29
Reactor Building, Secondary Containment Temperature Levels for Zone 10	D-30
Reactor Building, Secondary Containment Temperature Levels for Zone 11	D-31

<u>Title</u>	<u>Figure No.</u>
Reactor Building, Secondary Containment Temperature Levels for Zone 12	D-32
Reactor Building, Secondary Containment Temperature Levels for Zone 13	D-33
Reactor Building, Secondary Containment Temperature Levels for Zone 14	D-34
Reactor Building, Secondary Containment Temperature Levels for Zone 15	D-35
Reactor Building, Secondary Containment Temperature Levels for Zone 16	D-36
Reactor Building, Secondary Containment Temperature Levels for Zone 17	D-37
Reactor Building, Secondary Containment Temperature Levels for Zone 18	D-38
Reactor Building, Secondary Containment Temperature Levels for Zone 19	D-39
Reactor Building, Secondary Containment Temperature Levels for Zone 20	D-40
Reactor Building, Secondary Containment Pressure Levels for Zones 1-12 and 15-20	D-41
Reactor Building, Secondary Containment Pressure Levels for Zones 13 and 14	D-42
Simulated Pressure Transient in Secondary Containment	D-43

TABLE D-1
NORMAL PRESSURE, TEMPERATURE,
AND HUMIDITY CONDITIONS
SHOREHAM NUCLEAR POWER STATION - UNIT 1
SECONDARY CONTAINMENT

<u>Area</u>	<u>Pressure</u>	<u>Temperature °F</u>	<u>Relative Humidity %</u>
1. All areas except steam tunnel and MCC cubicles*	-0.5 to 0 inches water gage, static pressure	60 to 104	50
2. Main steam tunnel (Zone ST) (Turbine Bldg. side)*	Same as above	120 to 135	50
3. MCC rooms El. 112' (Zone N-21)	Atmospheric**	80 to 104**	90**

*The pressure, temperature and humidity conditions in these areas during LOCA are designed to be the same as normal since any additional heat gains are dissipated by the Reactor Building Standby Ventilation Unit Coolers.

**The pressure, temperature and humidity are maintained at these levels during accident conditions due to environmental protection of rooms and dedicated safety grade ventilation systems.

ZONE	PRIMARY	NORMAL			
		RADIATION	TEMPERATURE	HUMIDITY	PRESSURE
A-22	AREA ABOVE SHIELD WALL TO TOP OF DRYWELL	8.8 X 10 ⁶ RAD γ 6.3 X 10 ¹³ NEUT/CM ²	150°F MAX 127°F AVG.	40-55% 100% FOR EXTENDED PERIODS	-3 TO 2 PSIA
B-22	REGION ADJACENT TO CORE OUTSIDE OF SHIELD WALL	7.0 X 10 ⁷ RAD γ 8.3 X 10 ¹⁴ NEUT/CM ²	150°F MAX		
C-22	UNDER RPV INSIDE OF SHIELD WALL AND REACTOR PEDESTAL	2.5 X 10 ⁶ RAD γ 1.3 X 10 ⁹ NEUT/CM ²			
D-22	VICINITY OF RECIRC. PUMP MOTORS	1.8 X 10 ⁷ RAD γ 2.5 X 10 ¹² NEUT/CM ²			
E-23	SUPPRESSION CHAMBER AIR SPACE	3.5 X 10 ⁴ RAD γ 2.5 X 10 ¹¹ NEUT/CM ²			
F-23	SUPPRESSION POOL	3.5 X 10 ⁴ RAD γ 2.5 X 10 ¹¹ NEUT/CM ²			

ZONE	NEUTRON FLUENCE	EQUIVALENT RADS γ	NEW TOTAL RADS γ
A	6.3 X 10 ¹³ NEUT/CM ²	4.0 X 10 ⁵ RADS γ	1.1 X 10 ⁸ RAD γ
B	8.3 X 10 ¹⁴ NEUT/CM ²	5.5 X 10 ⁶ RADS γ	1.76 X 10 ⁸ RAD γ
C	1.3 X 10 ⁹ NEUT/CM ²	8.68 X 10 ⁰ RADS γ	1.0 X 10 ⁸ RAD γ
D	2.5 X 10 ¹² NEUT/CM ²	1.67 X 10 ⁴ RAD γ	1.2 X 10 ⁸ RAD γ
E	2.5 X 10 ¹¹ NEUT/CM ²	1.67 X 10 ³ RAD γ	1.0 X 10 ⁸ RAD γ
F	2.5 X 10 ¹¹ NEUT/CM ²	1.67 X 10 ³ RAD γ	1.0 X 10 ⁸ RAD γ

NOTES:

1. "NORMAL RADIATION" IS CUMULATIVE 40-YR T
 2. "ACCIDENT RADIATION" IS CUMULATIVE 6-MO
 3. CONSIDER "NEW TOTAL RAD" COLUMN FOR γ RA
 4. THE EFFECTS OF THE NEUTRON FLUENCE IS NE
 5. THE ZONE E-23 AND F-23 LOCA TEMPERATU
- INCLUDE THE EFFECT OF STEAM BY-PASS
ACCORDANCE WITH INFORMATION SUBMITTED
VIA LILCO LETTER SNRC 577- DATED MAY

ACCIDENT (LOCA)					TOTAL
RADIATION	TEMPERATURE	HUMIDITY	PRESSURE		RADIATION
$1 \times 10^8 \text{ RAD } \gamma$ $1 \times 10^9 \text{ RAD } \beta$	340°F - 0-3 HRS 320°F - 3-6 HRS 250°F - 6 HRS-1 DAY 200°F - 1-4 DAYS 150°F - 5-180 DAYS	100% (SUPERHEATED) (STEAM FOR FIRST DAY)	48 PSIG MAX-0 TO 6 HRS 15 PSIG MAX-6 HRS TO 4 DAYS 10 PSIG MAX-4 DAYS TO 180 DAYS		$1.1 \times 10^8 \text{ RAD } \gamma$ $1 \times 10^9 \text{ RAD } \beta$ 6.3×10^{13} NEUT/CM ²
$1 \times 10^8 \text{ RAD } \gamma$ $1 \times 10^9 \text{ RAD } \beta$					$1.7 \times 10^8 \text{ RAD } \gamma$ $1 \times 10^9 \text{ RAD } \beta$ 8.3×10^{14} NEUT/CM ²
					$1 \times 10^8 \text{ RAD } \gamma$ $1 \times 10^9 \text{ RAD } \beta$ 1.3×10^9 NEUT/CM ²
					$1.2 \times 10^8 \text{ RAD } \gamma$ $1 \times 10^9 \text{ RAD } \beta$ 2.5×10^{12} NEUT/CM ²
	250°F - 0-30 MIN. 225°F - 30 MIN-12 HRS 212°F - 12 HRS-1 DAY 170°F - 1 DAY-7 DAYS 120°F - 7 DAYS-25 DAYS 90°-25 DAYS-180 DAYS				$1 \times 10^8 \text{ RAD } \gamma$ $1 \times 10^9 \text{ RAD } \beta$ 2.5×10^{11} NEUT/CM ²
					$1 \times 10^8 \text{ RAD } \gamma$ $1 \times 10^9 \text{ RAD } \beta$ 2.5×10^{11} NEUT/CM ²

DTAL
 NTH TOTAL
 DIATION
 GLIGIBLE
 RE VALUES
 ANALYSIS IN
 TO NRC
 27, 1981.

FIG. D-1
 REACTOR BUILDING PRIMARY
 CONTAINMENT ENVIRONMENTAL ZONES
 SHOREHAM NUCLEAR POWER STATION-UNIT I
 ENVIRONMENTAL QUALIFICATION REPORT
 FOR CLASS IE ELECTRICAL EQUIPMENT

REVISION 2 - MAY 21, 1982

ZONES	G		H		J		K		L		M	
NORMAL RADIATION (RADS%) (40YR)	1.8 x 10 ³		1.8 x 10 ³		1.8 x 10 ³		1.8 x 10 ³		1.8 x 10 ³		1.8 x 10 ³	
ACCIDENT RADIATION (6 MO)	SUPPRESSION POOL WATER		REACTOR BLDG (AIRBORNE)		HYDROGEN RECOMBINER		RBSVS FILTER		24 INCH RHR PIPE		8 FT 4 IN PCA PIPE	
			LOCA PBOC									
TIME (HR)	RAD/HR	RAD	RAD/HR	RAD	RAD/HR	RAD	RAD/HR	RAD	RAD/HR	RAD	RAD/HR	RAD
0.0	1.96+5	0.00	0.00	0.00	1.40+4	0.00	0.00	0.00	1.43+5	0.00	1.87+4	0.00
0.1	1.60+5	1.77+4	2.32+1	1.24+0	1.05+4	1.22+3	3.14+1	1.24+0	1.18+5	1.30+4	1.33+4	1.50+3
			7.40+3	8.21+2								
0.5	1.42+5	7.81+4	8.80+1	2.41+1	8.04+3	4.90+3	2.60+2	5.19+1	1.05+5	5.76+4	9.54+3	6.00+2
			5.63+3	3.35+3								
1.0	1.16+5	1.42+5	1.45+2	8.32+1	6.52+3	8.53+3	7.23+2	2.78+2	8.65+4	1.05+5	7.61+3	1.00+3
			4.57+3	5.88+3								
5.0	4.51+4	4.20+5	2.89+2	1.05+3	2.74+3	2.76+4	6.14+3	1.34+4	3.34+4	3.11+5	2.46+3	2.00+2
			1.78+3	1.70+4								
8.0	3.27+4	5.36+5	3.01+2	1.94+3	2.06+3	3.47+4	1.08+4	3.86+4	2.40+4	3.97+5	2.20+3	3.00+2
			1.14+3	2.13+4								
24.0	1.36+4	8.74+5	2.76+2	6.55+3	1.06+3	5.81+4	3.36+4	3.90+5	9.60+3	6.41+5	1.07+3	5.00+2
			2.65+2	3.03+4								
720.0	1.00+3	4.29+6	8.42+0	4.87+4	4.36+1	2.10+5	9.52+4	9.48+7	6.95+2	2.02+6	2.77+1	1.50+2
			9.48-4	3.45+4								
2160.0	3.34+2	5.18+6	4.48-2	5.08+4	7.14+0	2.34+5	1.40+3	1.27+8	2.43+2	2.64+6	1.30-1	2.00+2
			5.42-6	3.45+4								
4380.0	1.60+2	5.75+6	9.19-3	5.08+4	3.37+0	2.45+5	7.91-1	1.27+8	1.17+2	3.06+6	9.24-2	2.00+2
			1.89-9	3.45+4								
8760.0 (1 YEAR)	5.97+1	6.20+6	2.25-3	5.08+4	1.58+0	2.45+5	2.25-3	1.27+8	4.35+1	3.38+6	7.25-2	2.00+2
			≈ 0	3.45+4								

BETA DOSE RATE AND INTEGRATED DOSE-ALL SECONDARY

TIME (HRS)	0.0	0.1	0.5	1.0	4.0	8.0	24.0	72.0	2160	4380
DOSE RATE (RADS/HR)	0.0	1.01+2	3.18+02	5.31+2	1.22+3	1.68+3	2.26+3	8.10+1	1.07+1	5.75+0
INTEGRATED DOSE (RADS)	0.0	5.79+0	9.14+1	3.06+2	3.09+3	8.46+3	4.18+4	4.81+5	5.13+5	5.30+5

NOTE

FOR PBOC CASE, USE ZONE H VALUES FOR ENTIRE REACTOR SECONDARY CONTAINMENT

	N		P		Q		R		S		T	
0 ³	1.8 x 10 ³		1.1 x 10 ⁵		1.3 x 10 ⁸		2.1 x 10 ⁵		1.8 x 10 ⁶		4.9 x 10 ⁵	
NCH C E	MCC CUBICLE		RWCU PUMP ROOM		RWCU FILTERS & TANKS		RWCU HEAT EXCHANGERS		FPC & CU ROOM		STEAM TUNNEL	
RAD	RAD/HR	RAD	RAD/HR	RAD	RAD/HR	RAD	RAD/HR	RAD	RAD/HR	RAD	RAD/HR	RAD
0.00	0.00	0.00	SAME AS ZONE H								SAME AS ZONE L	
58+3	2.32+1	1.24+0										
11+3	8.84+1	2.41+1										
04+4	1.46+2	8.36+1										
35+4	3.02+2	1.10+3										
55+4	3.24+2	2.02+3										
96+4	3.46+2	7.37+3										
99+5	2.00+2	2.39+5										
05+5	2.85+0	3.05+5										
06+5	1.08-2	3.06+5										
6+5	2.25-3	3.06+5										

CONTAINMENT ZONES

380	6570	8760	10950	13140	15330	17520
8+0	3.20+0	1.77+0	9.78-1	5.42-1	3.00-1	1.60-1
1+5	5.41+5	5.46+5	5.49+5	5.50+5	5.51+5	5.52+5

FIG. D-2
REACTOR BUILDING SECONDARY
CONTAINMENT NORMAL AND ACCIDENT
RADIATION ZONES

SHOREHAM NUCLEAR POWER STATION-UNIT 1
ENVIRONMENTAL QUALIFICATION REPORT
FOR CLASS 1E ELECTRICAL EQUIPMENT

APPENDIX E

ENVIRONMENTAL PROFILE CALCULATIONS

E.1 INTRODUCTION

This appendix describes the environmental profile calculations methodology, as indicated in Section 3 of the text.

E.2 SHORT TERM RESPONSE TO HIGH ENERGY LINE BREAKS (HELB)

In the HELB analysis, the following specific breaks are considered:

1. Six inch RWCU break in RWCU pump room, "B" pump, elevation 112 ft.
2. Four inch RWCU break in RWCU heat exchanger room, elevation 126 ft.
3. Ten inch HPCI steam line break, elevation 8 ft.
4. Three inch RCIC steam line and three inch Main Steam Drain (MSD) breaks in steam tunnel, elevation 76 ft.

Appendix 3C of the FSAR defines and justifies the Reactor Building main steam tunnel to be a break exclusion zone for certain high energy lines, including main steam lines. Therefore no further consideration of a mainstream line break in the Reactor Building is required. A main steam line break (MSLB) in the turbine building main steam tunnel is not relevant since there is no equipment located in this area required for MSLB mitigation. The reactor building environment is not significantly affected by a MSLB in this area due to the presence of a steel bulkhead separating the turbine building main steam tunnel from the reactor building.

Blowdown due to breaks is calculated by using the Moody critical flow model, from "Maximum Flow Rate of a Single Component, Two-Phase Mixture," by F.J. Moody, Transactions of the ASME, February 1965. This model states that the mass release rate is equal to the mass flux times the cross-sectional area of the break.

$$\dot{m} = GA_1, \text{ (eq-1)}$$

where \dot{m} = mass release rate,

G = mass flux based on a pressure of
1055 psia, and

A_1 = cross-sectional area of the pipe.

A_1 is the area of the smallest restriction in the pipe upstream of the break. To include the volume of pipe between the smallest restriction and the break with the volume of piping downstream from the break in the blowdown determination requires the following equations (from GE Mark III Pressure Suppression Containment System Analytical Model, June 1974, Appendix B):

for liquid breaks

$$\dot{m} = 0.5 GA_2 \text{ (eq-2A)}$$

for steam breaks:

$$\dot{m} = 0.75 GA_2 \text{ (eq-2B)}$$

where A_2 = cross sectional area of the
break pipe

These volumes are assumed to blowdown in this manner at a constant pressure until the mass initially contained in the pipe is depleted. The blowdown continues in accordance with eq-1 until blowdown isolation occurs.

The following assumptions are made concerning blowdown duration:

1. For the 6 inch RWCU, 4 inch RWCU, 10 inch HPCI, and 3 inch MSD breaks, the blowdown is isolated automatically on area high temperature.
2. For the 10 inch HPCI and 3 inch MSD breaks, the blowdown is assumed to end abruptly upon isolation valve closure due to the relatively small size of the isolation valves.
3. For the 6 inch RWCU and 4 inch RWCU breaks, the isolation valve is a large gate valve which causes the blowdown rate to ramp down as the valve closes.
4. Blowdown duration is determined as follows:
 - a. The pipe break node reaches setpoint temperature of the automatic closure system followed by a 10 second "soak" time for the detector to respond, followed by the isolation valve closure time.
 - b. Simultaneously with the pipe break, a loss of offsite power is assumed which requires an additional 10 second delay until power is restored via the diesel generator.

- c. For some breaks the area high temperature setpoint is achieved almost instantaneously. In these cases, the time to reach the setpoint temperature and the detector "soak" time are assumed to occur during the 10 second duration of power loss. Therefore, isolation valve closure starts 10 seconds after the break occurs.
- d. The 3 inch RCIC break does not have automatic isolation. Thus, blowdown duration includes all other time delays in addition to a ten minute operator response time to manually initiate blowdown isolation due to area high temperature alarm.

For pipe breaks which cause a plant trip and an assumed loss of power or for cases where normal ventilation is unavailable, the reactor building RBSVS would be initiated automatically and operate throughout the duration of the analysis. However, credit is taken for only one train of RBSVS (the other train is assumed to be a single failure).

Heat sinks are modeled in the short-term analyses but only concrete heat sinks were considered and no energy transfer out of the secondary containment is assumed through the heat sinks. Metal heat sinks are neglected for conservatism.

A 20 zone model of the Reactor Building secondary containment is used (see environmental zone maps in Appendix D).

This 20 zone model with blowdown data, ventilation data, and heat sink data are input into a computer code (called THREED) which calculates peak temperatures and pressures. This computer code was developed by S&W and used in previous Section 6.2 FSAR analyses.

E.3 SHORT TERM RESPONSE TO MODERATE ENERGY LINE CRACKS (MELB)

The blowdown rate is based on Bernoulli's theorem. The crack postulated consists of a sub-cooled liquid and is modeled as an orifice with an area of:

$$A = D/2 \times th/2$$

where A = area of crack,

D = Diameter of cracked pipe, and
th = wall thickness of the cracked pipe.

The blowdown is assumed to be frictionless and an orifice discharge coefficient of 1.0 is used. The following equation represents the mass blowdown rate in lbm/sec:

$$\dot{m} = 0.525d^2\sqrt{C \Delta P \delta} \text{ (eq-3)}$$

where \dot{m} = mass release rate,

d = effective diameter of the crack,

C = orifice discharge coefficient,

ΔP = difference in pressure between
RHR system pressure and atmospheric
pressure, and

δ = density of the system water.

d is determined from the following:

$$d = 2 \sqrt{A/\pi}$$

The energy release rate \dot{Q} is determined by multiplying the mass release rate \dot{m} by the enthalpy h of the fluid.

$$\dot{Q} = \dot{m} h$$

The RHR crack is assumed to be isolated in 11 minutes after the crack occurs. The 11 minutes includes time for water to accumulate at the 8 ft elevation for a high water alarm followed by the time required for an operator to initiate isolation and time for the isolation valves to close.

The model of the Reactor Building secondary containment used for an RHR crack is a 24 zone model, similar to the 20 zone model mentioned earlier except that El. 8 ft is subdivided into two zones and El. 40 ft is subdivided into four zones.

Heat sinks are modeled in 20 of the 24 zones. Heat sinks for the smallest zones are neglected.

No part of the ventilation system is considered in the RHR crack short-term analysis.

The 24 zone model data, blowdown data, and heat sink data are input into a computer code (called THREEED VER12 LEV01) which calculates peak temperatures and pressures.

E.4 RADIATION CALCULATIONS

A. Source Term

Radioactive Source Release and Distribution assumptions are as follows:

1. Radioactive Source Release

The percents of core inventory radioactive fission products assumed to be released from the fuel rods for LOCA events are:

noble gases (Kr, Xe)	100%
iodine	50%
others	1%

This entire release is assumed to occur instantaneously at the start of the accident.

2. Radioactive Source Distribution

In order to envelope the full spectrum of break sizes and depressurization rates, two bounding events and source distributions are considered.

The first event considered is a LOCA (both pressurized and depressurized events).

In this event, the following fission products are considered to be uniformly mixed in the following volumes:

a. Suppression Pool

noble gases	0%
iodine	50%
others	1%

b. Combined Drywell/Wetwell Air Space

noble gases	100%
iodine	25%
others	0%

c. Reactor Coolant System Steam Space

The following distribution is used for determining reactor building pipe shine doses due to HPCI, RCIC and MSIV-LCS operation

noble gases	100%
iodine	25%
others	0%

Using the above distribution, time history radiation zones are established within the primary containment and within the secondary containment as follows:

1. Primary Containment - Previously described accident radiation levels (FSAR Table 3.11.2-1) adequately bound all LOCA events for equipment within the primary containment and no new analyses are required.
2. Secondary Containment - Time history radiation zones are established for the secondary containment using the above sources distributed in the steam and liquid piping in the following fluid systems which are conservatively assumed to operate concurrently:
 - a. High Pressure Coolant Injection (HPCI)
 - b. Reactor Core Isolation Cooling (RCIC)
 - c. Residual Heat Removal (RHR - all essential modes)
 - d. Core Spray
 - e. Reactor Building Standby Ventilation System (RBSVS)
 - f. Main Steam Isolation Valve - Leakage Control (MSIV-LCS)
 - g. Primary Containment Atmospheric Control (PCAC)

In addition to the radiation shine from the above system piping and components, the primary containment is assumed to leak at technical specification limits resulting in an airborne source term which is included in the radiation zoning. As provided by NUREG 0737, no additional leakage is assumed.

3. Excluded Systems

- a. All piping which could potentially carry undiluted reactor coolant into the secondary containment is isolated and is nonessential (e.g., RWCU, shutdown cooling mode of RHR). Accordingly, the undiluted reactor coolant liquid source

discussed above is excluded. Adequate means are provided (Post Accident Sampling System) to insure safe radiation levels exist prior to use of any of these nonessential systems.

- b. The post accident sampling lines are excluded from specific evaluation due to their size (typically 3/8 in. tubing) and because they are flushed after each use. Sufficient conservatism in integrated dose calculations exists to bound any effects of these small sources.
 - c. The gaseous radwaste system lines are also excluded because they do not act as sources for any safety-related equipment. They are also located outside the reactor building and are isolated.
4. Outside Reactor Building - the calculated dose rates and integrated dose values for components located in buildings other than the Reactor Building are derived from the following sources:
- a. Direct shine from radioactivity within the Reactor Building which is both airborne and contained in specific components.
 - b. Airborne activity in the respective building due to ventilation intake.
 - c. Semi-infinite radioactive cloud which surrounds the respective building.
 - d. Skyshine from radiation originating in the Reactor Building and air-scattered to a receptor.
 - e. Direct shine from airborne activity in drywell. | 2

The pipe break inside primary containment and nonpipe break events are bounded by the LOCA event above.

The other event considered is a high energy pipe break in secondary containment. This event provides the bounding values in some zones within the secondary containment in the short term (i.e., less than 30 days). However, the LOCA doses provide the bounding values for doses for times longer than 30 days. | 2

2

As specified in NUREG 0737, the airborne radioactivity levels in the secondary containment from the high energy line break result from the release of reactor coolant containing 10 percent of the noble gas core inventory and 10 percent of the iodine core inventory. The dose and dose rates are calculated as a function of time following the event.

APPENDIX F

ENVIRONMENTAL QUALIFICATION STATUS REPORT

The following is a sample of an entry into the Environmental Qualification Status Report (EQSR):

REPORT NO. PES-001 JOB 1160002 05/20/82		ENVIRONMENTAL QUALIFICATION STATUS REPORT	
REPORT NO. PES-001	STONE AND WEBSTER ENGINEERING CORPORATION	REPORT DATE 05/20/82	PAGE 124
JOB NUMBER 1160002	PROJECT EQUIPMENT SYSTEM - (115-129)	RESET NO. 004	
JOB NAME SHOREHAM - UNIT 1	ENVIRONMENTAL QUALIFICATION STATUS REPORT	RESET DATE 05/12/82	
JOB CLIENT LILCO	SORTED BY - SPEC / /		

EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	NAME / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
***** MARK NO. REPRESENTS 6 SWITCHES *****						
.1746*PNS039B	PRI CONTAINMENT PURGE VALVE	1E	K-15		*H,H	*B
	FISHER CONTROLS					*160 DYS
	NAHCO	RBS	00112	RR		
	EA740-20001	172	310574			
					*L	*A
						*070 MIN

Definitions of the entry headings are given below. An alphabetized list of equipment type abbreviations is provided in Appendix H.

Data definitions for entry headings are as follows:

EQUIPMENT ID
VENDOR ID

The first line identifies the Stone & Webster unique identification or mark number for each equipment. The first four characters represent the system number followed by an asterisk, "*", to indicate the equipment is safety-related or a dash "-", to indicate the equipment was not originally safety-related but is now identified by NRC Regulatory Guide 1.97 or other requirements. The key to the system code is described in Section 2.

The succeeding characters indicate the equipment type using the equipment identification symbol as documented in the Shoreham Project Procedures. The key to the equipment type symbol is provided in Appendix H. Additional characters provide a unique alpha-numeric identification for identical or redundant equipment. The second line indicates the General Electric identification code (the Master Parts List number) if the item is in the NSSS design.

2 | EQUIPMENT DESCRIPTION
VENDOR NAME
MAKE/MANUFACTURER
MODEL/CATALOG NO.

2 | The top line provides an abbreviated functional or application description of the equipment identified. IT DOES NOT GENERALLY INDICATE THE EQUIPMENT TYPE. The second line is the equipment supplier. The third line identifies the equipment manufacturer. The fourth line provides the manufacturer's model or catalog number, or any other identifying number for the equipment.

QAC
NU-CAT
SPEC

2 | The upper line is the Quality Assurance Category of the equipment, which is Class "1E" or "2E". The second line indicates "RG" if the equipment is required to be qualified in accordance with Nuclear Regulatory Guide 1.97. The third line is the specification number under which the equipment is procured; the specifications are identified by the specification numbers listed in Section 2.

ZONE
BLDG ELEV

2 | The first line provides an alpha-numeric code for the environmental zone in which the equipment is located in a format of "letter - two digit number." The radiation zone is designated by the first (letter) character. The two digits after "-" designate the temperature/pressure zone. Radiation zones and temperature/pressure zones do not necessarily coincide. The second line provides building and elevation (feet above sea level) to describe equipment location. The key to the building abbreviations is as follows:

<u>Building Code</u>	<u>Building Name</u>
RBD	Reactor Building Drywell
RBS	Reactor Building Secondary
RBP	Reactor Building Primary
YD	Yard
ST	Steam Tunnel

2 | EQ SHEET
QUAL STAT

The first line identifies the Environmental Qualification Summary Sheet (EQSS). Each EQSS for BOP equipment is identified by the specification number, summary sheet number, and revision level if not the original issue. For NSSS equipment, each EQSS is

identified with a four digit number. The first digit is "3" representing Specification SH1-003 with the equipment group designated by the succeeding digits. The second line lists the qualification status of equipment in an abbreviated form as follows:

- EQ - Equipment is qualified
- QG - Equipment is qualified except for aging
- FT - Documentation has been reviewed, further test/analysis recommended
- MR - Modification of equipment is recommended for qualification
- RR - Replacement is recommended, test report for qualified replacement will be evaluated
- DR - Documentation is in review
- TA - Testing/analysis program has been initiated
- IJ - Qualification documentation not expected to be completed prior to fuel load, refer to Appendix G of this report for justification of interim operation.

EMG COND
SUBMG

2

The first line indicates for which design basis event(s) the equipment must be qualified, with abbreviations as follows:

- L - Loss of Coolant Accident (LOCA)
- H - High Energy Line Break (HELB)
- M - Moderate Energy Line Crack (MELB)
- ALL - LOCA, HELB, MELB

The second line indicates whether the equipment is exposed to containment spray or mist conditions. The following abbreviations are used:

2

- SPR - Containment spray
- MST - Mist Conditions

OP CODE
OP TIME
ACC/PERF

2

The first line indicates operability code with letter A or B referring to the equipment categories defined in Section 4. Equipment designated as operability code A with operability time

2 | less than 180 days revert to operability code B for the remainder of the 180 days unless otherwise noted. The second line indicates the time required, including the margins applied, for the equipment to be operable or unfailed during and subsequent to a design basis event. The time is indicated by a number followed by one of the following abbreviations to record the units of time:

CON	-	Continuous
YRS	-	Years
MON	-	Months
DYS	-	Days
HRS	-	Hours
MIN	-	Minutes

2 | The third line indicates the accuracy specification of instruments for trip functions and post accident monitoring. Where not applicable to the specific equipment, "N/A" is entered.

REPORT NO. PES-801

STONE AND WEBSTER ENGINEERING CORPORATION
PROJECT EQUIPMENT SYSTEM - (IS-129)JOB NUMBER 1160002
JOB NAME SHOREHAM - UNIT 1
JOB CLIENT LILCOENVIRONMENTAL QUALIFICATION STATUS REPORT
SORTED BY - MAK / MOD / SPECREPORT DATE 05/21/82 PAGE 1
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LEGEND ***

CHANGES TO THE DATA ITEMS ON THIS REPORT WILL BE INDICATED BY STATUS CODES.

A. DATA ITEMS PRECEDED BY AN ASTERISK HAVE BEEN CHANGED SINCE THE LAST CALENDAR QUARTER.

B. AN ASTERISK BEFORE THE EQUIPMENT ID INDICATES ADDITION OR DELETION FOR THAT EQUIPMENT ID.
THE WORD ADDED OR DELETED WILL APPEAR UNDER THE EQUIPMENT ID.

C. A PERIOD BEFORE THE EQUIPMENT ID INDICATES DATA ITEMS HAVE CHANGED SINCE THE LAST CALENDAR QUARTER.

D. RESETTING OF THE STATUS CODES TO EQUAL BLANKS WILL BE DONE ON A CALENDAR QUARTER AND THE RESET NUMBER
AND RESET DATE WILL BE RECORDED.

ITEM SELECTION CRITERIA *** (DATA FIELDS MUST MATCH ON ALL SELECTED KEYWORDS FOR EQUIPMENT ITEM TO BE SELECTED.)

KEYWORD:	DESCRIPTION:	SELECT VALUES:
QAC	Q A CATEGORY	1 2 1E 2E
BLDG	BUILDING	ALL
CAQ	NU-REG QUAL CATEGORY	ALL
ENG	ACCIDENT CONDITION	ALL
OPC	OPERABILITY CODE	A B
EQD	ENVIRON QUALIF STATUS	ALL
EC	ELECTRICAL CONNECTION	ALL

QUALIFICATION INDICATOR SELECTION CRITERIA ***

(INDICATOR FIELDS NEED MATCH FOR ONLY ONE SELECTED KEYWORD FOR EQUIPMENT ITEM TO BE SELECTED.)

KEYWORD:	DESCRIPTION:	SELECT VALUES:
EQIND	ENVIRON QUAL INDICATOR	ALL
SQIND	SEISMIC QUAL INDICATOR	ALL
HTIND	HYDRODYNAMIC TEST IND	ALL

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	=					

.1T46*PNS048A	FLT 1A	*1E	.	.	*H,M	. *A
			RBS	.		. *180 DYS
			.	.		.
			.	.	*L	. *A
			.	.		. *070 MIN
			.	.		.
.1T46*PNS048B	FLT 1B	*1E	.	.	*H,M	. *A
			RBS	.		. *180 DYS
			.	.		.
			.	.	*L	. *A
			.	.		. *180 DYS
			.	.		.
.1C51*EV801A	1C51*TIP-004A SHEAR VLV	.	.	.	H,M	. B
	*GENERAL ELECT	*1E	. *H-12	.		. 180 DYS
			. *RBS *00073.	.		.
		*003	. *310010	.		.
			.	.	L	. A
			.	.		. 070 MIN
			.	.		.
.1C51*EV801B	1C51*TIP-004B SHEAR VLV	.	.	.	H,M	. B
	*GENERAL ELECT	*1E	. *H-12	.		. 180 DYS
			. *RBS *00073.	.		.
		*003	. *310010	.		.
			.	.	L	. A
			.	.		. 070 MIN
			.	.		.

1C51*EV801C

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

MAKE / MANUFACTURER

MODEL / CATALOG NO

QAC

ZONE

EQ SHEET

EMG COND

OPER CODE

NU-CAT

BLDG ELEV

QUAL STAT

SPEC

PO NUMBER

SUBMG

.1C51*EV801C

1C51*TIP-004C SHEAR VLV

*GENERAL ELECT

*1E

.*H-12

.*RBS *00073.

*003 . *310010

H,M

. B

. 180 DYS

L

. A

. 070 MIN

.1C51*EV801D

1C51*TIP-004D SHEAR VLV

*GENERAL ELECT

*1E

.*H-12

.*RBS *00073.

*003 . *310010

H,M

. B

. 180 DYS

L

. A

. 070 MIN

.1E51*HOV051

TURBINE CONTROL VALVE

1E

. G-01

. RBS 00008.

003 . 310010

*H,M

.*B

.*180 DYS

*L

.*B

.*180 DYS

.1T46*TE006

UNIT COOLER 1T46*UC-023 INLET

CONAX

*1E

.*L-02

.*406A-01

. RBS *00040.*DR

406A . 10114

*L

.*A

.*180 DYS

.1P41*FS151A

RHR SERV WTR-RAD MON SAMPLE

BAILEY

1E

.*G-01

.*FT/IJ

421 . 310395

*H,M

.*B

.*180 DYS

.1P41*FS151B

RHR SERV WTR-RAD MON SAMPLE

BAILEY

1E

.*G-01

.*FT/IJ

421 . 310005

*H,M

.*B

.*180 DYS

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EQUIPMENT ID	EQUIPMENT DESCRIPTION
VENDOR ID	VENDOR NAME

OAC	ZONE	EQ SHEET
MU-CAT	BLDG	ELEV
SPEC	PO NUMBER	QUAL STAT

ENG	COND	OPER	CODE
1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4
5	5	5	5
6	6	6	6
7	7	7	7
8	8	8	8
9	9	9	9
10	10	10	10
11	11	11	11
12	12	12	12
13	13	13	13
14	14	14	14
15	15	15	15
16	16	16	16
17	17	17	17
18	18	18	18
19	19	19	19
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21	21	21	21
22	22	22	22
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89	89	89	89
90	90	90	90
91	91	91	91
92	92	92	92
93	93	93	93
94	94	94	94
95	95	95	95
96	96	96	96
97	97	97	97
98	98	98	98
99	99	99	99
100	100	100	100

REPORT GROUP HAK = AIR MONITOR CORP

.1D11*FT066	RB EXH TO 1D11*PML066	.		H,M	A
	PONERS REG	1E . 2	.*319-01	.	180 DYS
	AIR MONITOR CORP	* . RBS	00151.*FT/IJ	.	.
	*VELTRON JACGHS	319 . 310738	.	.	.
	.	.	.	L	A
	.	.	.	.	180 DYS

.1D11*FT069	STA VENT EXH TO 1D11*PML-069	.		H,M	A
	PONERS REG	1E . NONE	.*319-01	.	180 DYS
	AIR MONITOR CORP	* . *RBS	00164.*FT/IJ	.	.
	*VELTRON JACGHS	319 . 310738	.	.	.
	.	.	.	L	A
	180 DYS

1T46*FT004A

REPORT NO. PES-801 JOB 1160002 05/21/82

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EQUIPMENT ID EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

EMG COND

OPER CODE

MAKE / MANUFACTURER

NU-CAT

BLOG ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC

PO NUMBER

SUBMG

 REPORT GROUP MAK = AIR MONITOR CORP. *****

.1T46*FT004A

RBSVS EXH AIR FLOW

*COPES VULCAN

AIR MONITOR CORP.

VELTRON 800

1E . H-18 . *319-01 .
 RG . RBS 00150.*FT/IJ .
 319 . 310738 .

*H,M

. *A

. *180 DYS

*L

. *A

. *180 DYS

.1T46*FT004B

RBSVS EXH AIR FLOW

*COPES VULCAN

AIR MONITOR CORP.

VELTRON 800

1E . H-18 . *319-01 .
 RG . RBS 00150.*FT/IJ .
 319 . 310738 .

*H,M

. *A

. *180 DYS

*L

. *A

. *180 DYS

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STONE AND WEBSTER ENGINEERING CORPORATION
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 RESET NO. 004
 RESET DATE 05/12/82

EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= AMERICAN INST. CO.					

.1T46*HIT002A	FLT 1A MOISTER	1E	K-15	.#319-01	*H,M	.#B
	POWERS REGUL	1E	RBS	00112.*FT/IJ		.#180 DYS
	AMERICAN INST. CO.	319	310738			
	L15-6371B					

*L	.#B
	.#180 DYS

.1T46*HIT002B	FLT 1B MOISTER	1E	K-15	.#319-01	*H,M	.#B
	POWERS REGUL	1E	RBS	00112.*FT/IJ		.#180 DYS
	AMERICAN INST. CO.	319	310738			
	L15-6371B					

*L	.#B
	.#180 DYS

.1T46*HE002A	FLT-1A MOISTURE	1E	K-15	.#319-01	*H,M	.#B
	POWERS REGUL	1E	RBS	00112.*FT/IJ		.#180 DYS
	AMERICAN INST. CO.	319	310738			
	15-1818D(MOD)					

*L	.#B
	.#180 DYS

.1T46*HE002B	FLT-1B MOISTURE	1E	K-15	.#319-01	*H,M	.#B
	POWERS REGUL	1E	RBS	00112.*FT/IJ		.#180 DYS
	AMERICAN INST. CO.	319	310738			
	15-1818D(MOD)					

*L	.#B
	.#180 DYS

1E32*FT037B REPORT NO. PES-801 JOB 1160002 05/21/82

ENVIRONMENTAL QUALIFICATION STATUS REPORT

REPORT NO. PES-801

STONE AND WEBSTER ENGINEERING CORPORATION

JOB NUMBER 1160002

PROJECT EQUIPMENT SYSTEM - (IS-129)

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JOB NAME SHOREHAM - UNIT 1

ENVIRONMENTAL QUALIFICATION STATUS REPORT

RESET NO. 004

JOB CLIENT LILCO

SORTED BY - MAK / MOD / SPEC

RESET DATE 05/12/82

EQUIPMENT ID EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

EMG COND

OPER CODE

MAKE / MANUFACTURER

NU-CAT

BLDG

ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC

PO NUMBER

SUBMG

REPORT GROUP MAK

= AMETER

.1E32*FT037B

E32-N053F

MSIV B LEAK TO LPH

GENERAL ELEC

1E

G-05

3128

H,M

B

*AMETER

RBS

00063. DR/IJ

180 DYS

*078-50041-001-10

003

310010

L

A

100 DYS

OP CODE B FOR HELB & MELB

.1E32*FT037C

E32-N053H

MSIV C LEAK TO LPH

GENERAL ELEC

1E

G-05

3128

H,M

B

*AMETER

RBS

00063. DR/IJ

180 DYS

*078-50041-001-3

003

310010

L

A

100 DYS

.1E32*FT037A

E32-N053B

MSIV A LEAK TO LPH

GENERAL ELEC

1E

G-05

3128

H,M

B

*AMETER

RBS

00063. DR/IJ

180 DYS

*078-50041-001-6

003

310010

L

A

100 DYS

OP CODE B FOR HELB & MELB

.1E32*FT037D

E32-N053P

MSIV D LEAK TO LPH

GENERAL ELEC

1E

G-05

3128

H,M

B

*AMETER

RBS

00063. DR/IJ

180 DYS

*078-50041-001-7

003

310010

L

A

100 DYS

1E32*FE037A

REPORT NO. PES-801 JOB 1160002 05/21/82

ENVIRONMENTAL QUALIFICATION STATUS REPORT

REPORT NO. PES-801
 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
 PROJECT EQUIPMENT SYSTEM - (IS-129)
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE ELOG PO NUMBER	EQ SHEET QUAL STAT	ENG COND	OPER CODE

1E32*FE037A E32-N006B	MSIV A LEAK TO LPM GENERAL ELEC *ANETEK *1.03K-16HZ-177 OP CODE B FOR HELB & MELB	1E 003	G-06 RBS 310010	3128 00065. DR/IJ	L	A 100 DYS
1E32*FE037B E32-N006F	MSIV B LEAK TO LPM GENERAL ELEC *ANETEK *1.03K-16HZ-177 OP CODE B FOR HELB & MELB	1E 003	G-06 RBS 310010	3128 00065. DR/IJ	L	A 100 DYS
1E32*FE037C E32-N006K	MSIV C LEAK TO LPM GENERAL ELEC *ANETEK *1.03K-16HZ-177 OP CODE B FOR HELB & MELB	1E 003	G-06 RBS 310010	3128 00065. DR/IJ	L	A 100 DYS

REPORT NO. PES-801

JOB NUMBER 1160002

JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

PROJECT EQUIPMENT SYSTEM - (IS-129)

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND SUBMG	OPER CODE
***** REPORT GROUP MAK	***** = ASCO	*****	*****	*****	*****	*****

.1B31*PS023C B31-N010C	RECIRC SUC PR RHR VLV INTLK *AUTO SWITCH *ASCO	1E 348	. *G-02 . RBS . 10072	. *348-01 . *TA/IJ	L	. A . 007 DYS
.1B21*SOV081AX B21-F022A	1B21*AOV081A CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	. D-22 . RBP . 310010	. 3096 . 00082. IJ	*H,M	. *A . *070 MIN
					*L	. *A . *070 MIN
.1B21*SOV081AY B21-F022A	1B21*AOV081A CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	. D-22 . RBP . 310010	. 3096 . 00082. IJ	*H,M	. *A . *070 MIN
					*L	. *A . *070 MIN
.1B21*SOV081AZ B21-F022A	1B21*AOV081A CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	. D-22 . RBP . 310010	. 3096 . 00082. IJ	*H,M	. *A . *070 MIN
					*L	. *A . *070 MIN
.1B21*SOV081BX B21-F022B	1B21*AOV081B CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	. D-22 . RBP . 310010	. 3096 . 00082. IJ	*H,M	. *A . *070 MIN

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PROJECT EQUIPMENT SYSTEM - (IS-129)

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JOB NAME SHOREHAM - UNIT 1

ENVIRONMENTAL QUALIFICATION STATUS REPORT

RESET NO. 004

JOB CLIENT LILCO

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE ELDG PO NUMBER	EQ SHEET QUAL STAT	ENG COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					*L	.wA .w070 MIN
						.
						.
.1B21*SOV81BY B21-F022B	1B21*AOV081B CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	D-22 RBP 310010	3096 IJ	*H,M	.wA .w070 MIN
					*L	.wA .w070 MIN
						.
						.
.1B21*SOV81BZ B21-F022B	1B21*AOV081B CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	D-22 RBP 310010	3096 IJ	*H,M	.wA .w070 MIN
					*L	.wA .w070 MIN
						.
						.
.1B21*SOV81CX B21-F022C	1B21*AOV081C CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	D-22 RBP 310010	3096 IJ	*H,M	.wA .w070 MIN
					*L	.wA .w070 MIN
						.
						.
.1B21*SOV81CY B21-F022C	1B21*AOV081C CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	D-22 RBP 310010	3096 IJ	*H,M	.wA .w070 MIN
					*L	.wA .w070 MIN
						.
						.

REPORT NO. PES-801
 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
 PROJECT EQUIPMENT SYSTEM - (IS-129)
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	ELEV	EQ SHEET QUAL STAT	EHG COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****	*****
.1B21*SOV81CZ B21-F022C	1B21*AOV081C CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	D-22 RBP 310010		3096 IJ	*H,M	.wA .w070 MIN
						*L	.wA .w070 MIN
.1B21*SOV81DX B21-F022D	1B21*AOV081D CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	D-22 REP 310010		3096 IJ	*H,M	.wA .w070 MIN
						*L	.wA .w070 MIN
.1B21*SOV81DY B21-F022D	1B21*AOV081D CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	D-22 REP 310010		3096 IJ	*H,M	.wA .w070 MIN
						*L	.wA .w070 MIN
.1B21*SOV81DZ B21-F022D	1B21*AOV081D CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	D-22 REP 310010		3096 IJ	*H,M	.wA .w070 MIN
						*L	.wA .w070 MIN
.1B21*SOV82AX B21-F028A	1B21*AOV082A CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	T-08 ST 310010		3096 IJ	*H,M	.wA .w070 MIN

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 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					WL	.WA .W070 MIN
.1B21*SOV82AY B21-F028A	1B21*AOV082A CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	T-08 ST 310010	3096 IJ	WH,H	.WA .W070 MIN
					WL	.WA .W070 MIN
.1B21*SOV82AZ B21-F028A	1B21*AOV082A CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	T-08 ST 310010	3096 IJ	WH,H	.WA .W070 MIN
					WL	.WA .W070 MIN
.1B21*SOV82BX B21-F028B	1B21*AOV082B CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	T-08 ST 310010	3096 IJ	WH,H	.WA .W070 MIN
					WL	.WA .W070 MIN
.1B21*SOV82BY B21-F028B	1B21*AOV082B CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	T-08 ST 310010	3096 IJ	WH,H	.WA .W070 MIN
					WL	.WA .W070 MIN

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 JOB NAME SHCREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	ELEV ELEV ELEV	EQ SHEET QUAL STAT	EMG COND SUBMG	OPER CODE
1B21*SOV82BZ B21-F028B	1B21*AOV082B CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	T-08 310010	3096 00082	IJ	*H,H *L	.#A .#070 MIN
1B21*SOV82CX B21-F028C	1B21*AOV082C CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	T-08 310010	3096 00082	IJ	*H,H *L	.#A .#070 MIN
1B21*SOV82CY B21-F028C	1B21*AOV082C CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	T-08 310010	3096 00082	IJ	*H,H *L	.#A .#070 MIN
1B21*SOV82CZ B21-F028C	1B21*AOV082C CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	T-08 310010	3096 00082	IJ	*H,H *L	.#A .#070 MIN
1B21*SOV82DX B21-F028D	1B21*AOV082D CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	T-08 310010	3096 00082	IJ	*H,H *L	.#A .#070 MIN

REPORT NO. PES-801
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 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
 PROJECT EQUIPMENT SYSTEM - (IS-129)
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC MU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	EMG COND SUBHG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					*L	.#A .*070 MIN
.1B21*SOV02DY B21-F028D	1B21*AOV082D CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	T-08 ST 310010	3096 IJ	*H,M	.#A .*070 MIN
					*L	.#A .*070 MIN
.1B21*SOV02DZ B21-F028D	1B21*AOV082D CONTROL GENERAL ELECT ASCO HT-X-8320A20	1E 003	T-08 ST 310010	3096 IJ	*H,M	.#A .*070 MIN
					*L	.#A .*070 MIN
.1T46*SOV035A	OPERATES 1T46*AOV035A FISHER CONT. ASCO HV200-926-1F-EP	1E 111	G-01 RES 310655	. .*RR	*H,M	.#A .*070 MIN
					*L	.#A .*070 MIN
.1T46*SOV035B	OPERATES 1T46*AOV035B FISHER CONT. ASCO HV200-926-1F-EP	1E 111	G-01 RES 310655	. .*RR	*H,M	.#A .*070 MIN
					*L	.#A .*070 MIN

REPORT NO. PES-801
 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND SUBMG	OPER CODE

.1T46*SOV037A	OPERATES 1T46*AOV037A FISHER CONT. ASCO HV200-926-1F-EP	1E 111	. . H-12 . RBS . 310655	. . 00095.*RR . .	*H,H . . .	. *A . *070 MIN
			. . . . . . .	. . . . . . .	*L . . .	. *A . *070 MIN
.1T46*SOV037B	OPERATES 1T46*AOV037B FISHER CONT. ASCO HV200-926-1F-EP	1E 111	. . H-12 . RBS . 310655	. . 00095.*RR . .	*H,H . . .	. *A . *070 MIN
			. . . . . . .	. . . . . . .	*L . . .	. *A . *070 MIN
.1T46*SOV038A	OPERATES 1T46*AOV038A FISHER CONT. ASCO HV200-926-1F-EP	1E 172	. . D-22 . RBP . 373023	. . 00078.*RR . .	*H,H . . .	. *B . *180 DYS
			. . . . . . .	. . . . . . .	*L . . .	. *A . *070 MIN
.1T46*SOV038B	OPERATES 1T46*AOV038B FISHER CONT. ASCO HV200-926-1F-EP	1E 172	. . H-10 . RBS . 373023	. . 00078.*RR . .	*H,H . . .	. *B . *180 DYS
			. . . . . . .	. . . . . . .	*L . . .	. *A . *070 MIN
.1T46*SOV038C	OPERATES 1T46*AOV038C FISHER CONT. ASCO HV200-926-1F-EP	1E 172	. . L-02 . RBS . 310574	. . 00040.*RR . .	*H,H *B . *180 DYS

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 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND SUDMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					*L	.#A .*070 MIN
.1T46*SOV038D	OPERATES 1T46*AOV038D FISHER CONT. ASCO HV200-926-1F-EP	1E 172	L-02 RBS 310574	. 00040.*RR .	*H,M	.#B .*180 DYS
					*L	.#A .*070 MIN
.1T46*SOV039A	OPERATES 1T46*AOV039A FISHER CONT. ASCO HV200-926-1F-EP	1E 172	B-22 RBP 310574	. 00112.*RR .	*H,M	.#B .*180 DYS
					*L	.#A .*070 MIN
.1T46*SOV039B	OPERATES 1T46*AOV039B FISHER CONT. ASCO HV200-926-1F-EP	1E 172	K-15 RES 310574	. 00112.*RR .	*H,M	.#B .*180 DYS
					*L	.#A .*070 MIN
.1T46*SOV039C	OPERATES 1T46*AOV039C FISHER CONT. ASCO HV200-926-1F-EP	1E 172	G-02 RES 373023	. 00040.*RR .	*H,M	.#B .*180 DYS
					*L	.#A .*070 MIN

REPORT NO. PES-801
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 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	EMG COND SUENG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
.1T46*SOV039D	OPERATES 1T46*AOV039D FISHER CONT. ASCO HV200-926-1F-EP	1E 172	. G-02 . RBS 00040. . 373023	. *RR .	*H,M .	. *B *180 DYS .
					*L	. *A *070 MIN .
.1C11*SOV048A	BACK UP SCRAM SYSTEM *AUTOMATIC SWITCH CO. *ASCO *NP8316C37	1E * *FIELD.	. G-05 . RBS 00063. *FIELD.	. *DR .	H,M .	. A . 070 MIN .
					L	. A . 070 MIN .
.1C11*SOV048B	BACK UP SCRAM SYSTEM *AUTOMATIC SWITCH CO. *ASCO *NP8316C37	1E *RG *FIELD.	. G-05 . RBS 00063. *FIELD.	. *DR .	H,M .	. A . 070 MIN .
					L	. A . 070 MIN .
.1C11*SOV042A	BACK UP SCRAM SYSTEM *GENERAL ELECT ASCO NP8316C37	1E RG 003	. *G-05 . RBS 00063. . 310010	. 3909 EQ .	H,M .	. A . 070 MIN .
					L	. A . 070 MIN .
.1C11*SOV042B	BACK UP SCRAM SYSTEM *GENERAL ELECT ASCO NP8316C37	1E RG 003	. *G-05 . RBS 00063. . 310010	. 3909 EQ .	H,M .	. A . 070 MIN .

REPORT NO. PES-801
 JOB NUMBER 1160002
 JOB NAME SHORENAH - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG ELEV PO NUMBER	EQ SHEET QUAL STAT	EMG COND SUBNG	OPER CODE

.1P42*PS022A	PUMP 1P42*P005A DISCH	1E	H-18	.*	*H,H	.#A
	AUTO SWITCH					.#070 MIN
	ASCO		RBS	150.*TA/IJ		
	SB11AKR/TF10A32B	348	10072			*1% SP
					*L	.#A
						.#070 MIN
						*1% SP
.1P42*PS022B	PUMP 1P42*P005B DISCH	1E	H-18	.*	*H,H	.#A
	AUTO SWITCH					.#070 MIN
	ASCO		RBS	150.*TA/IJ		
	SB11AKR/TF10A32B	348	10072			*1% SP
					*L	.#A
						.#070 MIN
						*1% SP
.1P42*PS022C	PUMP 1P42*P005C DISCH	1E	H-18	.*	*H,H	.#A
	AUTO SWITCH					.#070 MIN
	ASCO		RBS	150.*TA/IJ		
	SB11AKR/TF10A32B	348	10072			*1% SP
					*L	.#A
						.#070 MIN
						*1% SP
.1P42*PS046A	PUMP 1P42*P005A DISCH	1E	H-18	.*	*H,H	.#A
	AUTO SWITCH					.#180 DYS
	ASCO		RBS	150.*TA/IJ		
	SB11AKR/TF10A32B	348	10072			*1% SP
					*L	.#A
						.#180 DYS
						*1% SP
.1P42*PS046B	PUMP 1P42*P005B DISCH	1E	H-18	.*	*H,H	.#A
	AUTO SWITCH					.#180 DYS
	ASCO		RBS	150.*TA/IJ		
	SB11AKR/TF10A32B	348	10072			*1% SP

REPORT NO. PES-801

JOB NUMBER 1160002

JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

PROJECT EQUIPMENT SYSTEM - (IS-129)

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	ENG COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					*L	. *A .*180 DYS . .*1% SP
.1P42*P5046C	PUMP 1P42*P005C DISCH AUTO SWITCH ASCO SB11AKR/TF10A32B	1E 348	. H-18 . RBS . 10072	. * 150.*TA/IJ .	*H,M	. *A .*180 DYS . .*1% SP
					*L	. *A .*180 DYS . .*1% SP
1P50*PS105A 04450008	SERV AIR HDR A PRESS AUTO SWITCH ASCO SB11AKR/TG10A32B	1E 348	. G-10 . RBS . 10072	. 151. TA/IJ .	H,M	. A . 070 MIN . 1% SPAN
					L	. A . 180 DYS . .
	OP CODE B FOR LOCA					
1P50*PS105B 04470009	SERV AIR HDR B PRESS AUTO SWITCH ASCO SB11AKR/TG10A32B	1E 348	. H-18 . RBS . 10072	. 151. TA/IJ .	H,M	. A . 070 MIN . 1% SPAN
					L	. A . 180 DYS . .
	OP CODE B FOR LOCA					
.1P50*PS113A 04490008	SERV AIR HDR A NORM SUP AUTO SWITCH ASCO SB11AKR/TG10A32B	1E 348	. H-18 . RBS . 10072	. * 151.*TA/IJ .	H,M	. A . 070 MIN . 1% SPAN
					L	. A . 180 DYS . 1% SPAN

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EQUIPMENT ID	VENDOR ID	EQUIPMENT DESCRIPTION						EMG COND	OPER CODE
		VENDOR NAME	QAC	ZONE	BUILDING	ELEV	EQ SHEET		
		MAKE / MANUFACTURER	NU-CAT	BLDG			QUAL STAT		
		MODEL / CATALOG NO	SPEC	PO NUMBER				SUBMG	
***** OP CODE B FOR LOCA *****									
.1P50*	PS113B 04510008	SERV AIR HDR B NORM SUP	.					H,H	. A
		AUTO SWITCH	1E .	G-12		. *	.		. 070 MIN
		ASCO	.	RDS	151.	*TA/IJ	.		.
		SB11AKR/TG10A32B	348 .	10072	.	.	.		. 1% SPAN
			.					L	. A
			.						. 180 DYS
			.						.
			.						. 1% SPAN
***** OP CODE B FOR LOCA *****									
1B21*	SOV036B	REACTOR FW INLET ADV036A	.					H,H	. B
		VELAN	1E .	T-08		. 232-01	.		. 180 DYS
		ASCO	.	ST	00087.	EQ	.		.
		WJHDX-8320-A89E	232 .	310595	.	.	.		.
			.					L	. A
			.						. 070 MIN
			.						.
			.						.
***** OP CODE B FOR HELB & MELB *****									
1E21*	SOV081A	FOR 1E21*ADV081A	.					H,H	. B
		VELAN	1E .	B-22		. 232-01	.		. 180 DYS
		ASCO	.	RBP	00126.	EQ	.		.
		WJHDX-8320-A89E	232 .	310595	.	.	.		.
			.					L	. B
			.						. 180 DYS
			.						.
			.					MST	.
.1B31*	SOV081	OPERATES 1B31*ADV081	.					H,M	. B
		COPES VULCAN	1E .	B-22		. 318-01	.		. 180 DYS
		ASCO	.	RBS	00133.	EQ	.		.
		WJHDX-8320-A89E	318 .	310735
			.					L	. A
			.						. 070 MIN
			.						.
			.						.

1B21*SOV036A REPORT NO. PES-801 JOB 1160002 05/21/82

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLOG PO NUMBER	EQ SHEET QUAL STAT	EMG COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
1B21*SOV036A	OPERATES 1B21*AOV036A					
	VELAN	1E	T-08	232-01	H,H	B
	ASCO		ST	00087. EQ		180 DYS
	WJHKX-8320-A89E	232	310595			
					L	A
						070 MIN
	OP CODE B FOR HELB & MELB					
.1E11*SOV081A	ON 1E11*AOV081A				ALL	B
	*VELAN	1E	D-22	232-01		180 DYS
	ASCO		RBP	00079. EQ		
	WJHKX-8320-A89E	232	310595		MST	
1E11*SOV081B	FOR 1E11*AOV081B				ALL	B
	VELAN	1E	D-22	232-01		180 DYS
	ASCO		RBP	00079. EQ		
	WJHKX-8320-A89E	232	310595		MST	
1E21*SOV081B	FOR 1E21*AOV081B				H,H	B
	VELAN	1E	B-22	232-01		180 DYS
	ASCO		RBP	00126. EQ		
	WJHKX-8320-A89E	232	310595			
					L	B
						180 DYS
					MST	
.1P42*SOV282	RBCLN RETURN CHECK VLV				*H,H	*B
	VELAN	1E	G-01	232-01		*180 DYS
	ASCO		RBS	00016. EQ		
	WJHKX-8320-A89E	232	310595			
					*L	*A
						*070 MIN
.1P42*SOV293	RBCLN RETURN CHECK VLV				*H,H	*B
	VELAN	1E	G-01	232-01		*180 DYS
	ASCO		RBS	00039. EQ		
	WJHKX-8320-A89E	232	310595			

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VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
					*L	. *A
						. *070 MIN
						.
						.
.1P42*SOV294	RBCLCH RETURN CHECK VLV				*H,H	. *B
	VELAN	1E	G-01	232-01		. *180 DYS
	ASCO		RDS	00039. EQ		.
	WJHKX-8320-A09E	232	310595			.
						.
					*L	. *A
						. *070 MIN
						.
						.
.1B31*SOV082	OPERATES 1B31*AOV082				H,H	. B
	COPEES VULCAN	1E	H-18	318-01		. 180 DYS
	ASCO		RDS	00155. EQ		.
	WJHKX-8320-A89E	318	310735			.
						.
					L	. A
						. 070 MIN
						.
						.
1E11*SOV003A	STM TO RHR HX SHELL				ALL	. B
	COPEES VULCAN	1E	G-03	318-01		. 180 DYS
	ASCO		RDS	65. EQ		.
	WJHKX-8320-A09E	318	310735			. NA
						.
1E11*SOV003B	STM TO RHR HX SHELL				ALL	. B
	COPEES VULCAN	1E	G-07	318-01		. 180 DYS
	ASCO		RDS	65. EQ		.
	WJHKX-8320-A09E	318	310735			. NA
						.
1E11*SOV007A	STM TO RHR HX SHELL				ALL	. B
	COPEES VULCAN	1E	G-01	318-01		. 180 DYS
	ASCO		RDS	12. EQ		.
	WJHKX-8320-A09E	318	310735			. NA
						.
1E11*SOV007B	STM TO RHR HX SHELL				ALL	. B
	COPEES VULCAN	1E	G-01	318-01		. 180 DYS
	ASCO		RDS	10. EQ		.
	WJHKX-8320-A09E	318	310735			. NA
						.

1E11*SOV061A REPORT NO. PES-801 JOB 1160002 05/21/82

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1E11*SOV061A	RHR SAMPLE LINE VALVE COPES VULCAN ASCO WJHKX-8320-A89E	1E 318	. G-01 RDS 310735	. 318-01 8. EQ .	ALL	. A . 070 MIN . NA
1E11*SOV061B	RHR SAMPLE LINE VALVE COPES VULCAN ASCO WJHKX-8320-A89E	1E 318	. G-01 RDS 310735	. 318-01 8. EQ .	ALL	. A . 070 MIN . NA
1E11*SOV062A	RHR SAMPLE LINE VALVE COPES VULCAN ASCO WJHKX-8320-A89E	1E 318	. G-01 RDS 310735	. 318-01 8. EQ .	ALL	. A . 070 MIN . NA
1E11*SOV062B	RHR SAMPLE LINE VALVE COPES VULCAN ASCO WJHKX-8320-A89E	1E 318	. G-01 RDS 310735	. 318-01 8. EQ .	ALL	. A . 070 MIN . NA
1E41*SOV081	OPERATES 1E41*AOV081 COPES VULCAN ASCO WJHKX-8320-A89E	1E 318	. G-01 RDS 310735	. 318-01 00008. EQ .	H,M	. A . 070 MIN . NA
					L	. A . 070 MIN
	MARK NO. REPRESENTS 4 SWITCHES					
1E41*SOV082	OPERATES 1E41*AOV082 COPES VULCAN ASCO WJHKX-8320-A89E	1E 318	. G-01 RDS 310735	. 318-01 00008. EQ .	H,M	. A . 070 MIN . NA
					L	. A . 070 MIN
	MARK NO. REPRESENTS 4 SWITCHES					
1E41*SOV083	OPERATES 1E41*AOV083 COPES VULCAN ASCO WJHKX-8320-A89E	1E 318	. G-01 RDS 310735	. 318-01 00008. EQ .	H,M	. A . 070 MIN . NA

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
					L	. A
						. 070 MIN
						.
						.
1E41*SOV091	OPERATES 1E41*LCV091				H,M	. B
	COPIES VULCAN	1E	. G-01	. 318-01		. 180 DYS
	ASCO		. RBS	00008. EQ		.
	WJHKX-8320-A89E	318	. 310735	.		.
						.
					L	. B
						. 180 DYS
						.
						.
1E41*SOV095	OPERATES 1E41*LCV095				ALL	. A
	COPIES VULCAN	1E	. G-01	. 318-01		. 070 MIN
	ASCO		. RBS	00008. EQ		.
	WJHKX-8320-A89E	318	. 310735	.		. NA
						.
					H,M	. A
						. 070 MIN
						.
						.
					L	. A
						. 070 MIN
						.
						.
1E51*SOV081	OPERATES 1E51*AOV081				*H,M	. *B
	COPIES VULCAN	1E	. G-01	. 318-01		. *180 DYS
	ASCO		. RBS	00008. EQ		.
	WJHKX-8320-A89E	318	. 310735	.		.
						.
					*L	. *B
						. *180 DYS
						.
						.
1E51*SOV082	OPERATES 1E51*AOV082				*H,M	. *B
	COPIES VULCAN	1E	. G-01	. 318-01		. *180 DYS
	ASCO		. RBS	00008. EQ		.
	WJHKX-8320-A89E	318	. 310735	.		.
						.

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	ENG COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
			.		*L	.#B
			.	.		.#180 DYS
			.	.		.
			.	.		.
.1E51*SOV083	OPERATES 1E51*AOV083 COPEL VULCAN ASCO WJHKK-8320-A89E	1E 318	G-01 RBS 310735	318-01 EQ	*H,M	.#B .#180 DYS
			.	.	*L	.#B
			.	.		.#180 DYS
			.	.		.
			.	.		.
.1E51*SOV091	OPERATES 1E51*LCV091 COPEL VULCAN ASCO WJHKK-8320-A89E	1E 318	G-01 RBS 310735	318-01 EQ	*H,M	.#B .#180 DYS
			.	.	*L	.#B
			.	.		.#180 DYS
			.	.		.
			.	.		.
.1E51*SOV095	OPERATES 1E51*LCV095 COPEL VULCAN ASCO WJHKK-8320-A89E	1E 318	G-01 RBS 310735	318-01 EQ	*H,M	.#B .#180 DYS
			.	.	*L	.#B
			.	.		.#180 DYS
			.	.		.
			.	.		.
.1T46*SOV040A	OPERATES ADD040A POMERS REGUL ASCO WJHKK-8320-A89E	1E 319	H-18 RBS 310738	319-03 EQ	*H,M	.#A .#070 MIN
			.	.	*L	.#A
			.	.		.#070 MIN
			.	.		.
			.	.		.

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT	ZONE BLDG	ELEV	EQ SHEET QUAL STAT	ENG COND	OPER CODE
***** SUBMG *****							
.1T46*SOV040B	OPERATES A00040B POWERS REGUL ASCO WJHKX-8320-A89E	1E 319	H-18 310738		319-03 EQ	*H,M	.WA *070 MIN
						*L	.WA *070 MIN
.1T46*SOV041A	OPERATES A00041A POWERS REGUL ASCO WJHKX-8320-A89E	1E 319	K-15 310738		319-03 EQ	*H,M	.WA *070 MIN
						*L	.WA *070 MIN
.1T46*SOV041B	OPERATES A00041B POWERS REGUL ASCO WJHKX-8320-A89E	1E 319	K-15 310738		319-03 EQ	*H,M	.WA *070 MIN
						*L	.WA *070 MIN
.1P42*SOV001W	RDCLCH HX E-11A BYPASS FISHER CONTR ASCO WJHKX-8320-A89E	1E 423	G-01 310772		423-01 EQ	*H,M	.WA *180 DYS
						*L	.WA *070 MIN
LOCA IS OP CODE B AFTER 70 MIN							
.1P42*SOV001X	RDCLCH HX E-11A BYPASS FISHER CONTR ASCO WJHKX-8320-A89E	1E 423	G-01 310772		423-01 EQ	*H,M	.WA *180 DYS

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMS COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	FO NUMBER			
*****	*****	*****	*****	*****	*****	*****
					*L	*A
						*070 MIN
	LOCA IS OP CODE B AFTER 70 MIN					
.1P42*SOV001Y	RBCLCH HX E-11B BYPASS				*H,M	*A
	FISHER CONTRO	1E	G-01	423-01		*180 DYS
	ASCO		RBS	00008. EQ		
	WJHKX-8320-A89E	423	310772			
					*L	*A
						*070 MIN
	LOCA IS OP CODE B AFTER 70 MIN					
.1P42*SOV001Z	RBCLCH HX E-11B BYPASS				*H,M	*A
	FISHER CONTRO	1E	G-01	423-01		*180 DYS
	ASCO		RBS	00008. EQ		
	WJHKX-8320-A89E	423	310772			
					*L	*A
						*070 MIN
	LOCA IS OP CODE B AFTER 70 MIN					
1T24*SOV001A	DRYHELL ISOL VLV 1T24*AV0001A				H,M	B
	COPEL VULCAN	1E	G-02	318-02		180 DYS
	ASCO		RBS	00040. EQ		
	WJK206-380-6F	318	310735			
					L	A
						180 DYS
	OPCODE A 180DYS FOR LOCA, NOT REQUIRED DURING PBO C					NA
1T24*SOV001B	DRYHELL ISOL VLV 1T24*AV0001B				H,M	B
	COPEL VULCAN	1E	G-02	318-02		180 DYS
	ASCO		RBS	00040. EQ		
	WJK206-380-6F	318	310735			

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	EMG COND	OPER CODE
*****	*****	*****	*****	*****	SUBMG	*****
					L	. A . 180 DYS . NA
OPCODE A 180DYS FOR LOCA, NOT REQUIRED DURING PBO C						
.1T24*SOV004A	SUPP CHB ISL VLVE 1T24*AOV004A. COPEL VULCAN ASCO WJK206-380-6F	1E * *318	G-02 *RBS *310735		H,H	. B . 180 DYS
					L	. A . 180 DYS
OPCODE A 180DYS FOR LOCA, NOT REQUIRED DURING PBO C						
.1T24*SOV004B	SUPP CHB ISL VLVE 1T24*AOV004B. COPEL VULCAN ASCO WJK206-380-6F	1E * *318	G-02 *RBS *310735		H,H	. B . 180 DYS
					L	. A . 180 DYS
OPCODE A 180DYS FOR LOCA, NOT REQUIRED DURING PBO C						
.1T46*SOV078A	NR MOV 078A COPEL VULCAN ASCO WJK206-380-6F	1E * 318	G-12 RBS 310735	318-02 00090. EQ	*H,H	. *B . *180 DYS
					*L	. *A . *070 MIN
.1T46*SOV078B	DRYWELL VENT TO PRIM CNT COPEL VULCAN ASCO WJK206-380-6F	1E * 318	G-12 RBS 310735	318-02 00090. EQ	*H,H	. *B . *180 DYS

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*****	*****	*****	*****	*****	*****	*****
					*L	. *A . *070 MIN
.1T46*SOV079A	OPERATES 1T46*AOV079A COPES VULCAN ASCO WJK206-380-6F	1E 318	G-06 RBS 310735	318-02 EQ	*H,M	. *B . *180 DYS
					*L	. *A . *070 MIN
.1T46*SOV079B	OPERATES 1T46*AOV079B COPES VULCAN ASCO WJK206-380-6F	1E 318	G-06 RBS 310735	318-02 EQ	*H,M	. *B . *180 DYS
					*L	. *A . *070 MIN
1R24*TRS111X	480V AUTO TRANSFER SWITCH ASCO ASCO 307A66C	1E 438	N-21 RBS 310922	112. TA/IJ	ALL	. A . 180 DYS
1R24*TRS112Y	480V AUTO TRANSFER SWITCH ASCO ASCO 307A66C	1E 438	N-21 RBS	112. TA/IJ	ALL	. A . 180 DYS

1T48*RC002A

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EQUIPMENT ID
VENDOR ID

EQUIPMENT DESCRIPTION

VENDOR NAME

MAKE / MANUFACTURER

MODEL / CATALOG NO

QAC

ZONE

EQ SHEET

ENG COND

OPER CODE

NU-CAT

BLDG ELEV

QUAL STAT

SPEC

PO NUMBER

SUBMG

 REPORT GROUP MAK = ATOMICS INT *****

.1T48*RC002A

HYDROGEN RECOMB

ATOMICS INT

ATOMICS INT

N/A

1E

J-16

.

RBS 00112. TA/IJ

289

310624

H,M

B

180 DYS

L

A

180 DYS

1T48*RC002B

HYDROGEN RECOMB

ATOMICS INT

ATOMICS INT

N/A

1E

J-16

.

RBS 00112. TA/IJ

289

310624

H,M

B

180 DYS

L

A

180 DYS

.1T48*PNL048A

HYD RECOMBINER EQUIP

ATOMICSINT

ATOMICS INT

N/A

1E

J-16

.*

RBS 00112. TA/IJ

*344

*310737

H,M

B

180 DYS

L

A

180 DYS

.1T48*PNL048B

HYD RECOMBINER EQUIP

ATOMICSINT

ATOMICS INT

N/A

1E

J-16

.*

RBS 00112. TA/IJ

*344

*310737

H,M

B

180 DYS

L

A

180 DYS

1E11*PT003A REPORT NO. PES-801 JOB 1160002 05/21/82

ENVIRONMENTAL QUALIFICATION STATUS REPORT

REPORT NO. PES-801
 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
 PROJECT EQUIPMENT SYSTEM - (IS-129)
 ENVIRONMENTAL QUALIFICATION STATUS REPORT
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
*****	*****	*****	*****	*****	SUBMG	*****
REPORT GROUP MAK	= BAILEY					

1E11*PT003A	STM TO RHR HX SHELL	1E	G-01	3094	H,M	B
E11-N026A	GENERAL ELEC					180 DYS
	BAILEY		RBS	00008. RR/IJ		
	KG55610DAAA1HEM	003	310010			2%

					L	B
						180 DYS
						2%

1E11*PT003B	STM TO RHR HX SHELL	1E	G-01	3094	H,M	B
E11-N026B	GENERAL ELEC					180 DYS
	BAILEY		RBS	00008. RR/IJ		
	KG55610DAAA1HEM	003	310010			2%

					L	B
						180 DYS
						2%

1E11*PT005	RHR HX SHELL TO RCIC	1E	G-01	3094	H,M	B
E11-N028	GENERAL ELEC					180 DYS
	BAILEY		RBS	00008. RR/IJ		
	KG556110CAAA1HEL	003	310010			2%

					L	B
						180 DYS
						2%

1E21*PT001A	CORE SPRAY PUMP DISCH	1E	G-01	3094	H,M	B
E21-N001A	GENERAL ELEC					180 DYS
	BAILEY		RBS	00008. RR/IJ		
	KG556110DAAA1HEM	003	310010			

					L	B
						180 DYS

1E21*PT001B

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JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	EMG COND SUDHG	OPER CODE
1E21*PT001B E21-N001B	CORE SPRAY PUMP DISCH GENERAL ELEC BAILEY KG556110DAAA1WEN	1E 003	G-01 RBS 310010	3094 RR/IJ	H,M	B 180 DYS
					L	B 180 DYS
.1E41-PT002 E41-N009	HPCI PUMP DISCHARGE GENERAL ELEC *BAILEY *KG556110EAAA1WEN	1E 1E 003	G-01 RBS 310010	00008. IJ	H,M	B 180 DYS
					L	B 180 DYS
.1E41-PT004 E41-N013	HPCI STM TO TURBINE GENERAL ELEC *BAILEY *KG556110EAAA1WEN	1E 1E 003	G-01 RBS 310010	00008. IJ	H,M	B 180 DYS
					L	B 180 DYS
.1E41-PT005 E41-N016	TURBINE DISCH GENERAL ELEC *BAILEY *KG556110EAAA1WEN	1E 1E 003	G-01 RBS 310010	00008. IJ	H,M	B 180 DYS
					L	B 180 DYS
.1C61*PT006 C61-N006	NUCLEAR PRESSURE GENERAL ELEC BAILEY 556100EAAA1WEN	1E 003	G-09 RBS 310010	3094 RR/IJ	H,M	B 180 DYS

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JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATIO

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PD NUMBER	EQ SHEET QUAL STAT	ENG COND SUBNG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					L	.B .180 DYS
.1E51*PT001 E51-N005	RCIC PUMP SUCTION GENERAL ELEC BAILEY 556110EAAA1HEN	1E 003	G-01 RBS 310010	.3094 RR/IJ	*H,M	*B *180 DYS *1%
					*L	*B *180 DYS *1%
.1E51*PT002 E51-N004	RCIC PUMP DISCHARGE GENERAL ELEC BAILEY 556110EAAA1HEN	1E 003	G-01 RBS 310010	.3094 RR/IJ	*H,M	*B *180 DYS *1%
					*L	*B *180 DYS *1%
.1E51*PT004 E51-N007	RCIC STM TO TURBINE GENERAL ELEC BAILEY 556110EAAA1HEN	1E 003	G-01 RBS 310010	.3094 RR/IJ	*H,M	*B *180 DYS *1%
					*L	*B *180 DYS *1%
.1E51*PT005 E51-N008	TURBINE DISCHARGE GENERAL ELEC BAILEY 556110EAAA1HEN	1E 003	G-01 RBS 310010	.3094 RR/IJ	*H,M	*B *180 DYS *1%
					*L	*B *180 DYS *1%

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 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC MU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	ENG COND SUBMG	OPER CODE
1E32*FS037A E32-N653B	MSIV A LEAK TO LPM GENERAL ELEC BAILEY 745110AAAE1	1E 003	G-06 310010	3017 00065.	H,M L	B 180 DYS A 100 DYS
1E32*FS037B E32-N0653F	MSIV B LEAK TO LPM GENERAL ELEC BAILEY 745110AAAE1	1E 003	G-06 310010	3017 00065.	H,M L	B 180 DYS A 100 DYS
1E32*FS037C E32-N0653K	MSIV C LEAK TO LPM GENERAL ELEC BAILEY 745110AAAE1	1E 003	G-06 310010	3017 00065.	H,M L	B 180 DYS A 100 DYS
1E32*FS037D E32-N0653P	MSIV D LEAK TO LPM GENERAL ELEC BAILEY 745110AAAE1	1E 003	G-06 310010	3017 00065.	H,M L	B 180 DYS A 100 DYS

10-1*PS022B

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JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

QAC ZONE

EQ SHEET

ENG COND

OPER CODE

MAKE / MANUFACTURER

NU-CAT BLDG FLEV

QUAL STAT

MODEL / CATALOG NO

SPEC PO NUMBER

SUBNG

REPORT GROUP MAK

= BARKSDALE

.1B21*PS022B

B21-N020B

MAIN STEAM LINE ISO

GENERAL ELEC

BARKSDALE

BIT-M12SS

1E

G-10

3018

RBS

00078. EQ

003

310010

*H,M

.*B

.*180 DYS

L

.*B

.*180 DYS

1.5%

OP CODE B FOR HELB & HELB

.1B21*PS022D

B21-N020D

MAIN STEAM LINE ISO

GENERAL ELEC

BARKSDALE

BIT-M12SS

1E

G-12

3018

RBS

00078. EQ

003

310010

*H,M

.*B

.*180 DYS

L

.*B

.*180 DYS

1.5%

OP CODE B FOR HELB & HELB

.1B21*PS022A

B21-N020A

MAIN STEAM LINE ISO

GENERAL ELEC

BARKSDALE

*BIT-M12SS-GE

1E

G-10

3018

RBS

00078. EQ

003

310010

*H,M

.*B

.*180 DYS

L

.*B

.*180 DYS

1.5%

OP CODE B FOR HELB & HELB

.1B21*PS022C

B21-N020C

MAIN STEAM LINE ISO

GENERAL ELEC

BARKSDALE

*BIT-M12SS-GE

1E

G-12

3018

RBS

00078. EQ

003

310010

*H,M

.*B

.*180 DYS

L

.*B

.*180 DYS

1.5%

OP CODE B FOR HELB & HELB

1E11*PS134A

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JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG FO NUMBER	EQ SHEET QUAL STAT	ENG COND SUBMG	OPER CODE

.1E11*PS134A E11-N016A	RHR PUMP DISCHARGE GENERAL ELEC BARKSDALE *B1T-M12SS-GE	1E 003	. G-01 . RBS . 310010	. 3018 8. EQ .	H,M .	. A . 007 DYS . 0.8%
					L	. A . 007 DYS . 0.8%
.1E11*PS134B E11-N016B	RHR PUMP DISCHARGE GENERAL ELEC BARKSDALE *B1T-M12SS-GE	1E 003	. G-01 . RBS . 310010	. 3018 8. EQ .	H,M .	. A . 007 DYS . 0.8%
					L	. A . 007 DYS . 0.8%
.1E11*PS134C E11-N016C	RHR PUMP DISCHARGE GENERAL ELEC BARKSDALE *B1T-M12SS-GE	1E 003	. G-01 . RBS . 346838	. 3018 8. EQ .	H,M .	. A . 007 DYS . 0.8%
					L	. A . 007 DYS . 0.8%
.1E11*PS134D E11-N016D	RHR PUMP DISCHARGE GENERAL ELEC BARKSDALE *B1T-M12SS-GE	1E 003	. G-01 . RBS . 310010	. 3018 8. EQ .	H,M .	. A . 007 DYS . 0.8%
					L	. A . 007 DYS . 0.8%
.1E11*PS135A E11-N020A	RHR PUMP DISCHARGE GENERAL ELEC BARKSDALE *B1T-M12SS-GE	1E 003	. G-01 . RBS . 310010	. 3018 8. EQ .	H,M .	. A . 007 DYS . 0.8%

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	EMG COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					L	. A . 007 DYS . 0.8%
.1E11*PS135B E11-N020B	RHR PUMP DISCHARGE GENERAL ELEC BARKSDALE *B1T-M12SS-GE	1E 003	. G-01 . RBS . 310010	. 3018 8. EQ	H,M	. A . 007 DYS . 0.8%
					L	. A . 007 DYS . 0.8%
.1E11*PS135C E11-N020C	RHR PUMP DISCHARGE GENERAL ELEC BARKSDALE *B1T-M12SS-GE	1E 003	. G-01 . RBS . 348938	. 3018 8. EQ	H,M	. A . 007 DYS . 0.8%
					L	. A . 007 DYS . 0.8%
.1E11*PS135D E11-N020D	RHR PUMP DISCHARGE GENERAL ELEC BARKSDALE *B1T-M12SS-GE	1E 003	. G-01 . RBS . 310010	. 3018 8. EQ	H,M	. A . 007 DYS . 0.8%
					L	. A . 007 DYS . 0.8%
.1E51*PS002 E51-N020	RCIC PUMP DISCHARGE GENERAL ELEC BARKSDALE *B1T-M12SS-GE	1E 003	. G-01 . RBS . 310010	. 3018 00008. EQ	*H,M	. *B . *180 DYS
					*L	. *B . *180 DYS

1E41*PS002

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 JOB CLIENT LILCO

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	ENG COND	OPER CODE

.1E41*PS002 E41-N027	HPCI PUMP DISCHARGE GENERAL ELEC BARKSDALE *B1T-H12SS-GE801	1E 003	. G-01 . RBS . 310010	. 3018 . EQ	H,M	. A . 012 HRS
					L	. A . 012 HRS
.1E41*PS026A E41-N017A	HIGH EXHAUST LINE PRESS G.E. BARKSDALE *B1T-12SS-GE	1E 003	. G-01 . RBS . 310010	. *3018 . EQ	H,M	. A . 012 HRS 10%
					L	. A . 012 HRS 10%
.1E41*PS026B E41-N017B	HIGH EXHAUST LINE PRESS G.E. BARKSDALE *B1T-12SS-GE	1E 003	. G-01 . RBS . 310010	. *3018 . EQ	H,M	. A . 012 HRS 10%
					L	. A . 012 HRS 10%
.1E51*PS025A E51-N012A	DRAIN POT VENT GENERAL ELEC BARKSDALE D2H-A150SS	1E 003	. G-01 . RBS . 310010	. 3021 . EQ	*H,M	. *B . *180 DYS *2.7%
					*L	. *B . *180 DYS *2.7%
.1E51*PS025B E51-N012B	DRAIN POT VENT GENERAL ELEC BARKSDALE D2H-A150SS	1E 003	. G-01 . RBS . 310010	. 3021 . EQ	*H,M	. *B . *180 DYS *2.7%

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	ENG COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					*L	. *B *180 DYS *2.7%
.1E51*PS025C E51-N012C	DRAIN POT VENT GENERAL ELEC BARKSDALE D2H-A150SS	1E 003	G-01 RBS 310010	3021 EQ	*H,M	. *B *180 DYS *2.7%
					*L	. *B *180 DYS *2.7%
.1E51*PS025D E51-N012D	DRAIN POT VENT GENERAL ELEC BARKSDALE D2H-A150SS	1E 003	G-01 RBS 310010	3021 EQ	*H,M	. *B *180 DYS *2.7%
					*L	. *B *180 DYS *2.7%
.1E41*PS025A E41-N012A	DRAIN POT VENT G.E. BARKSDALE *D2H-M150SS	1E 003	G-01 RBS 310010	3021 EQ	H,M	. A . 012 HRS
					L	. A . 012 HRS
.1E41*PS025B E41-N012B	DRAIN POT VENT G.E. BARKSDALE *D2H-M150SS	1E 003	G-01 RBS 310010	3021 EQ	H,M	. A . 012 HRS
					L	. A . 012 HRS

1E41*PS025C

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	ENG COND	OPER CODE

1E41*PS025C E41-N012C	DRAIN POT VENT G.E. BARKSDALE *D2H-M150SS	1E 003	. G-01 . RBS . 310010	. 3021 . EQ . EQ	H,M	. A . 012 HRS . 012 HRS
					L	. A . 012 HRS
1E41*PS025D E41-N012D	DRAIN POT VENT G.E. BARKSDALE *D2H-M150SS	1E 003	. G-01 . RBS . 310010	. 3021 . EQ . EQ	H,M	. A . 012 HRS . 012 HRS
					L	. A . 012 HRS
1E11*PS138A E11-N010A	PRIMARY CONTAINMENT HP GENERAL ELEC BARKSDALE D2H-M185S	1E 003	. G-10 . RBS . 310010	. 3021 . EQ . EQ	H,M	. A . 007 DYS . 0.7%
					L	. A . 007 DYS . 0.7%
QUALED FOR LOCA ENG COND OP CD A FOR 070 MIN						
1E11*PS138B E11-N010B	PRIMARY CONTAINMENT HP GENERAL ELEC BARKSDALE D2H-M185S	1E 003	. H-12 . RBS . 310010	. 3021 . EQ . EQ	H,M	. A . 007 DYS . 0.7%
					L	. A . 007 DYS . 0.7%
QUALED FOR LOCA ENG COND OP CD A FOR 070 MIN						
1E11*PS138C E11-N010C	PRIMARY CONTAINMENT HP GENERAL ELEC BARKSDALE D2H-M185S	1E 003	. G-10 . RBS . 310010	. 3021 . EQ . EQ	H,M	. A . 007 DYS . 0.7%

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 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
					L	. A
						. 007 DYS
						. 0.7%
	QUALED FOR LOCA EMG COND OP CD A FOR 070 MIN					
1E11*PS138D	PRIMARY CONTAINMENT HP	1E	H-12	3021	H,M	. A
E11-N010D	GENERAL ELEC		RBS	00078. EQ		. 007 DYS
	BARKSDALE	003	310010			. 0.7%
	D2H-M18SS					
					L	. A
						. 007 DYS
						. 0.7%
	QUALED FOR LOCA EMG COND OP CD A FOR 070 MIN					
1E11*PS139A	PRIMARY CONT HP	1E	G-10	3021	H,M	. A
E11-N011A	GENERAL ELEC		RBS	00078. IJ		. 070 MIN
	BARKSDALE	003	310010			
	D2H-M18SS					
					L	. A
						. 070 MIN
						. 1%
1E11*PS139B	PRIMARY CONT HP	1E	G-10	3021	H,M	. A
E11-N011B	GENERAL ELEC		RBS	00078. IJ		. 070 MIN
	BARKSDALE	003	310010			
	D2H-M18SS					
					L	. A
						. 070 MIN
						. 1%
1E11*PS139C	PRIMARY CONT HP	1E	G-10	3021	H,M	. A
E11-N011C	GENERAL ELEC		RBS	00078. IJ		. 070 MIN
	BARKSDALE	003	310010			
	D2H-M18SS					
					L	. A
						. 070 MIN
						. 1%

1E11*PS139D

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JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

PROJECT EQUIPMENT SYSTEM - (IS-129)

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND SUBHG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
1E11*PS139D E11-N011D	PRIMARY CONT HP GENERAL ELEC BARKSDALE D2H-M18SS	1E 003	G-12 RBS 310010	3021 IJ	H,M	A 070 MIN
					L	A 070 MIN 1%
1E51*PS026A E51-N009A	HIGH EXHAUST LINE PRESS GENERAL ELEC BARKSDALE D2H-M80SS	1E 003	G-01 RBS 310010	3021 EQ	H,M	B 180 DYS 2.7%
					L	B 180 DYS 2.7%
1E51*PS026B E51-N009B	HIGH EXHAUST LINE PRESS GENERAL ELEC BARKSDALE D2H-M80SS	1E 003	G-01 RBS 310010	3021 EQ	H,M	B 180 DYS 2.7%
					L	B 180 DYS 2.7%
1E21*PS012A E21-N008A	CORE SPRAY PUMP DISCH GENERAL ELEC BARKSDALE PIH-M34SS	1E 003	G-01 RBS 310010	3025 EQ	H,M	B 180 DYS
					L	A 002 DYS 1.5%
1E21*PS012B E21-N008B	CORE SPRAY PUMP DISCH GENERAL ELEC BARKSDALE PIH-M34SS	1E 003	G-01 RBS 310010	3025 EQ	H,M	B 180 DYS

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
					L	. A
						. 002 DYS
						. 1.5%
1E21*PS013A	CORE SPRAY PUMP DISCH	1E	G-01	. 3025	H,M	. B
E21-N009A	GENERAL ELEC		RBS	8. EQ		. 180 DYS
	BARKSDALE	003	310010			
	PIH-M34SS					
					L	. A
						. 002 DYS
						. 1.5%
1E21*PS013B	CORE SPRAY PUMP DISCH	1E	G-01	. 3025	H,M	. B
E21-N009B	GENERAL ELEC		RBS	8. EQ		. 180 DYS
	BARKSDALE	003	310010			
	PIH-M34SS					
					L	. A
						. 002 DYS
						. 1.5%

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= BARTON					

1B21*PDS02A1	MAIN STM LINE A FLOW DET	.	.	.	H,M	. A
B21-N006A	GENERAL ELEC	1E	. G-02	. 3027	.	. 070 MIN
	BARTON		. RBS	00040. EQ	.	.
	288A	003	. 310010	.	.	. 2%

.	.	.	.	.	L	. B
.	.	.	.	.	.	. 180 DYS
.	.	.	.	.	.	. 2%

1B21*PDS02A2	MAIN STM LINE A FLOW DET	.	.	.	H,M	. A
B21-N006B	GENERAL ELEC	1E	. G-02	. 3027	.	. 070 MIN
	BARTON		. RBS	00040. EQ	.	.
	288A	003	. 310010	.	.	. 2%

.	.	.	.	.	L	. B
.	.	.	.	.	.	. 180 DYS
.

1B21*PDS02A3	MAIN STM LINE A FLOW DET	.	.	.	H,M	. A
B21-N006C	GENERAL ELEC	1E	. *L-02	. 3027	.	. 070 MIN
	BARTON		. RBS	00040. EQ	.	.
	288A	003	. 310010	.	.	. 2%

.	.	.	.	.	L	. B
.	.	.	.	.	.	. 180 DYS
.

1B21*PDS02A4	MAIN STM LINE A FLOW DET	.	.	.	H,M	. A
B21-N006D	GENERAL ELEC	1E	. G-02	. 3027	.	. 070 MIN
	BARTON		. RBS	00040. EQ	.	.
	288A	003	. 310010	.	.	. 2%

.	L	. B
. 180 DYS
.

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	SUBMG	*****
1B21*PDS02B1	MAIN STM LINE B FLOW DET	.	.	.	H,M	. A
B21-N007A	GENERAL ELEC	1E	G-02	3027	.	. 070 MIN
	BARTON	.	RBS	00040.	EQ	.
	288A	003	310010	.	.	. 2%
	.	.	.	.	L	. B
	.	.	.	.	.	. 180 DYS

1B21*PDS02B2	MAIN STM LINE B FLOW DET	.	.	.	H,M	. A
B21-N007B	GENERAL ELEC	1E	G-02	3027	.	. 070 MIN
	BARTON	.	RBS	00040.	EQ	.
	288A	003	310010	.	.	. 2%
	.	.	.	.	L	. B
	.	.	.	.	.	. 180 DYS

1B21*PDS02B3	MAIN STM LINE B FLOW DET	.	.	.	H,M	. A
B21-N007C	GENERAL ELEC	1E	L-02	3027	.	. 070 MIN
	BARTON	.	RBS	00040.	EQ	.
	288A	003	310010	.	.	. 2%
	.	.	.	.	L	. B
	.	.	.	.	.	. 180 DYS

1B21*PDS02B4	MAIN STM LINE B FLOW DET	.	.	.	H,M	. A
B21-N007D	GENERAL ELEC	1E	G-02	3027	.	. 070 MIN
	BARTON	.	RBS	00040.	EQ	.
	288A	003	310010	.	.	. 2%
	.	.	.	.	L	. B
	.	.	.	.	.	. 180 DYS

1B21*PDS02C1	MAIN STM LINE C FLOW DET	.	.	.	H,M	. A
B21-N008A	GENERAL ELEC	1E	G-02	3027	.	. 070 MIN
	BARTON	.	RBS	00040.	EQ	.
	288A	003	310010	.	.	. 2%

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*****	*****	*****	*****	*****	*****	*****
					L	. B . 180 DYS
1B21*PDS02C2 B21-N008B	MAIN STM LINE C FLOW DET GENERAL ELEC BARTON 288A	1E 003	. G-02 . RBS 00040 . 310010	. 3027 EQ	H,M	. A . 070 MIN . 2%
					L	. B . 180 DYS
1B21*PDS02C3 B21-N008C	MAIN STM LINE C FLOW DET GENERAL ELEC BARTON 288A	1E 003	. L-02 . RBS 00040 . 310010	. 3027 EQ	H,M	. A . 070 MIN . 2%
					L	. B . 180 DYS
1B21*PDS02C4 B21-N008D	MAIN STM LINE C FLOW DET GENERAL ELEC BARTON 288A	1E 003	. G-02 . RBS 00040 . 310010	. 3027 EQ	H,M	. A . 070 MIN . 2%
					L	. B . 180 DYS
1B21*PDS02D1 B21-N009A	MAIN STM LINE D FLOW DET GENERAL ELEC BARTON 288A	1E 003	. G-02 . RBS 00040 . 310010	. 3027 EQ	H,M	. A . 070 MIN . 2%
					L	. B . 180 DYS

1B21*PDS02D2 REPORT NO. PES-801 JOB 1160002 05/21/82

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	ELEV ELEV	EQ SHEET QUAL STAT	EMG COND	OPER CODE
1B21*PDS02D2 B21-N009B	MAIN STM LINE D FLOW DET GENERAL ELEC BARTON 288A	1E 003	G-02 RBS 310010	3027 00040.	EQ	H,M	A 070 MIN 2%
						L	B 180 DYS
1B21*PDS02D3 B21-N009C	MAIN STM LINE D FLOW DET GENERAL ELEC BARTON 288A	1E 003	L-02 RBS 310010	3027 00040.	EQ	H,M	A 070 MIN 2%
						L	B 180 DYS
1B21*PDS02D4 B21-N009D	MAIN STM LINE D FLOW DET GENERAL ELEC BARTON 288A	1E 003	G-02 RBS 310010	3027 00040.	EQ	H,M	A 070 MIN 2%
						L	B 180 DYS
1C71*PS004 C71-N004	PRIMARY CONTAINMENT HP GENERAL ELEC BARTON 288A	1E 003	G-10 RBS 310010	3027 00078.	EQ	ALL	B 180 DYS 1% FS
1E21*PDS033A E21-N005A	CORE SPRAY PUMP DISCH GENERAL ELEC BARTON 288A	1E 003	G-01 RBS 310010	3027 00009.	EQ	H,M	B 180 DYS
						L	A 180 DYS

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PC NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND SUBMG	OPER CODE
1E21*PDS033B E21-N005B	CORE SPRAY PUMP DISCH GENERAL ELEC BARTON 208A	1E 003	. G-01 . RBS . 310010	. 3027 . EQ . EQ	H,M L	. B . 180 DYS . A . 180 DYS
1E41*PDS022A E41-N004	HPCI AUTO ISOLATION GENERAL ELEC BARTON 208A	1E 003	. G-01 . RBS . 310010	. 3027 . EQ . EQ	H,M L	. A . 012 HRS . 0.8% . A . 012 HRS . 0.8%
1E41*PDS022B E41-N005	HPCI AUTO ISOLATION GENERAL ELEC BARTON 208A	1E 003	. G-01 . RBS . 310010	. 3027 . EQ . EQ	H,M L	. A . 012 HRS . 0.8% . A . 012 HRS . 0.8%
1E41*PS023A E41-N001A	HPCI AUTO ISOLATION GENERAL ELEC BARTON 208A	1E 003	. G-01 . RBS . 310010	. 3027 . EQ . EQ	H,M L	. A . 012 HRS . 0.5% . A . 012 HRS . 0.5%
1E41*PS023B E41-N001B	HPCI AUTO ISOLATION GENERAL ELEC BARTON 208A	1E 003	. G-01 . RBS . 310010	. 3027 . EQ . EQ	H,M	. A . 012 HRS . 0.5%

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	ENG COND SUDMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					L	. A . 012 HRS . 0.5%
1E41*PS023C E41-N001C	HPCI AUTO ISOLATION GENERAL ELEC BARTON 288A	1E 003	. G-01 . RBS 00008 . 310010	. 3027 . EQ . .	H,M	. A . 012 HRS . 0.5%
					L	. A . 012 HRS . 0.5%
1E41*PS023D E41-N001D	HPCI AUTO ISOLATION GENERAL ELEC BARTON 288A	1E 003	. G-01 . RBS 00008 . 310010	. 3027 . EQ . .	H,M	. A . 012 HRS . 0.5%
					L	. A . 012 HRS . 0.5%
1E51*FS003 E51-N002	RCIC PUMP DISCHARGE GENERAL ELEC BARTON 288A	1E 003	. G-01 . RBS 00008 . 310010	. 3027 . IJ . .	*H,M	. *B . *180 DYS . *5 % FS
					*L	. *B . *180 DYS . *5 % FS
1E51*PDS022A E51-N017	RCIC AUTO ISOLATION GENERAL ELEC BARTON 288A	1E 003	. L-02 . RBS 00040 . 310010	. 3027 . IJ . .	*H,M	. *B . *180 DYS . .
					*L	. *B . *180 DYS . .

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	EMS COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
1E51*PDS022B E51-N018	RCIC AUTO ISOLATION GENERAL ELEC BARTON 289A	1E 003	. L-02 . RBS 310010	. 3027 . IJ 00040	*H,M	. *B . *180 DYS
					*L	. *B . *180 DYS
1E11*PDS001A E11-N021A	VALVE INTERLOCK GENERAL ELEC BARTON 289A	1E 003	. G-01 . RBS 310010	. 3027 . EQ 00008	H,M	. A . 180 DYS . 16 GPM
					L	. A . 180 DYS . 1.5%
1E11*PDS001B E11-N021B	VALVE INTERLOCK GENERAL ELEC BARTON 289A	1E 003	. G-01 . RBS 310010	. 3027 . EQ 00008	H,M	. A . 180 DYS . 16 GPM
					L	. A . 180 DYS . 1.5%
1E21*FIS002A E21-N006A	CORE SPRAY PUMP DISCH GENERAL ELEC BARTON 289A	1E 003	. G-01 . RBS 310010	. 3027 . EQ 00008	H,M	. B . 180 DYS
					L	. A . 180 DYS
1E21*FIS002B E21-N006B	CORE SPRAY PUMP DISCH GENERAL ELEC BARTON 289A	1E 003	. G-01 . RBS 310010	. 3027 . EQ 00008	H,M	. B . 180 DYS

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*****	*****	*****	*****	*****	*****	*****
					L	. A . 180 DYS
1E41*FS003 E41-N006	HPCI PUMP DISCHARGE GENERAL ELEC BARTON 289A	1E 003	. G-01 . RBS . 310010	. 3027 EQ	H,M	. A . 012 HRS
					L	. A . 012 HRS
1E11*LT002A E11-N008A	RHR HX SHELL GENERAL ELEC BARTON 368	1E 003	. G-01 . RBS . 310010	. 3144 8. RR/IJ	H,M	. B . 180 DYS 0.5%SPAN
					L	. B . 180 DYS 0.5%SPAN
1E11*LT002B E11-N008B	RHR HX SHELL GENERAL ELEC BARTON 368	1E 003	. G-01 . RBS . 310010	. 3144 8. RR/IJ	H,M	. B . 180 DYS 0.5%SPAN
					L	. B . 130 DYS 0.5%SPAN
1B21*LT004A B21-N026A	WIDE RANGE GENERAL ELEC BARTON 760	1E 003	. G-10 . RBS . 310010	. 3129 00078. RR	L	. B . 180 DYS
1B21*LT004B B21-N026B	WIDE RANGE GENERAL ELEC BARTON 760	1E 003	. G-10 . RBS . 310010	. 3129 00078. RR	H,M	. B . 180 DYS

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND SUBMS	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					L	B 180 DYS 7.5 IN.
OP CODE B FOR HELB & HELB						
.1B21*LIT007A B21-N037A	FUEL ZONE GENERAL ELEC BARTON 760	1E RG 003	G-09 RBS 310010	3129 RR/IJ	H,M	A 180 DYS
					L	A 180 DYS
.1B21*LIT007B B21-N037B	FUEL ZONE GENERAL ELEC BARTON 760	1E RG 003	G-11 RBS 310010	3129 RR/IJ	H,M	A 180 DYS
					L	A 180 DYS
.1B21*PT004A B21-N055A	REACTOR PRESSURE GENERAL ELEC BARTON 760	1E RG 003	G-10 RBS 310010	3129 RR/IJ	H,M	A 180 DYS
					L	A 180 DYS
.1B21*PT004B B21-N055B	REACTOR PRESSURE GENERAL ELEC BARTON 760	1E RG 003	G-10 RBS 310010	3129 RR/IJ	H,M	A 180 DYS
					L	A 180 DYS

1C61*LIT107 REPORT NO. PES-801 JOB 1160002 05/21/82

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****

.1C61*LIT107	BACK-UP RCTR LEVEL INDICATION .				H,M	. B
*GENERAL ELECTRIC	1	.*G-13	.	.		. 180 DYS
*BARTON		.*RDS	*00078.	.		.
*760	*003	.*310010	.	.		.
	.		.	.	L	. B
 180 DYS

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= BECK					

.1E41*PCV142	TO LUBE OIL COOLER				H,M	. A
E41-F035	FISHER CONTRL	1E	G-01	. 310-01		. 012 HRS
	BECK		RBS	16.*FT/IJ		
	14-101-023645(ES)	310	310736			
					L	. A
						. 012 HRS
.1E51*PCV142	TO LUBE OIL COOLER				*H,M	.*B
E51-F015	FISHER CONTRL	1E	G-01	. 310-01		.*180 DYS
	BECK		RBS	00008.*FT/IJ		
	14-101-023645(ES)	310	310736			
					*L	.*B
						.*180 DYS
.1T46*TCV022A	RB STANDBY VENT UC 2A				*H,M	.*A
	FISHER CONTRL	1E	G-01	. 310-01		.*180 DYS
	BECK		RBS	00008.*FT/IJ		
	14-101-023645(ES)	310	310736			
					*L	.*A
						.*180 DYS
.1T46*TCV022B	RB STANDBY VENT UC 2B				*H,M	.*A
	FISHER CONTRL	1E	G-01	. 310-01		.*180 DYS
	BECK		RBS	00040.*FT/IJ		
	14-101-023645(ES)	310	310736			
					*L	.*A
						.*180 DYS

1T46*TCV023A REPORT NO. PES-801 JOB 1160002 05/21/82

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.1T46*TCV023A	RB STANDBY VENT UC 3A FISHER CONTRL BECK 14-101-023645(ES)	1E 310	. G-01 . RBS . 310736	. 310-01 . 00008.*FT/IJ . .	*H,M *A . *180 DYS
					*L	. *A . *180 DYS
.1T46*TCV023B	RB STANDBY VENT UC 3B FISHER CONTRL BECK 14-101-023645(ES)	1E 310	. G-02 . RBS . 310736	. 310-01 . 00040.*FT/IJ . .	*H,M . . . . . .	. *A . *180 DYS
					*L	. *A . *180 DYS
.1T46*TCV024A	RB STANDBY VENT UC-4A FISHER CONTRL BECK 14-101-023645(ES)	1E 310	. H-20 . RBS . 310736	. 310-01 . 175.*FT/IJ . .	*H,M . . . . . .	. *A . *180 DYS
					*L	. *A . *180 DYS
.1T46*TCV024B	RB STANDBY VENT UC-4B FISHER CONTRL BECK 14-101-023645(ES)	1E 310	. H-20 . RBS . 310736	. 310-01 . 175.*FT/IJ . .	*H,M . . . . . .	. *A . *180 DYS
					*L	. *A . *180 DYS
.1T46*TCV025A	RB STANDBY VENT UC-5A FISHER CONTRL BECK 14-101-023645(ES)	1E 310	. H-20 . RBS . 310736	. 310-01 . 175.*FT/IJ . .	*H,M *A . *180 DYS

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 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					

.1T46*TCV025B	RB STANDBY VENT UC-5B	1E	H-20	310-01	*H,M	.WA
	FISHER CONTRL					.W180 DYS
	BECK		RBS	175.*FT/IJ		
	14-101-023645(ES)	310	310736			
.1T46*TCV026A	RB STANDBY VENT UC-6A	1E	K-15	310-01	*H,M	.WA
	FISHER CONTRL					.W180 DYS
	BECK		RBS	00112.*FT/IJ		
	14-101-023645(ES)	310	310736			
					*L	.WA
						.W180 DYS
.1T46*TCV026B	RB STANDBY VENT UC-6B	1E	K-15	310-01	*H,M	.WA
	FISHER CONTRL					.W180 DYS
	BECK		RBS	00112.*FT/IJ		
	14-101-023645(ES)	310	310736			
					*L	.WA
						.W180 DYS
.1T46*TCV028A	MCC RM UNIT COOLER	1E	N-16	310-01	*H,M	.WA
	FISHER CONTRL					.W180 DYS
	BECK		RBS	00112.*FT/IJ		
	14-101-023645(ES)	310	310736			
					*L	.WA
						.W180 DYS
.1T46*TCV028B	MCC RM UNIT COOLER	1E	K-15	310-01	*H,M	.WA
	FISHER CONTRL					.W180 DYS
	BECK		RBS	00112.*FT/IJ		
	14-101-023645(ES)	310	310736			
					*L	.WA
						.W180 DYS

1T46*TCV059A

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	EMG COND SUBNG	OPER CODE

.1T46*TCV059A	UC-21A UNIT CLEAR FISHER CONTRL BECK 14-101-023645(ES)	1E 310	. H-18 . RBS . 310736	. 310-01 . 00150.*FT/IJ . .	*H,M . . . . . .	.#A .*180 DYS
.1T46*TCV059B	UC-21B UNIT CLEAR FISHER CONT. BECK 14-101-023645(ES)	1E 310	. H-18 . RBS . 310736	. 310-01 . 00150.*FT/IJ . .	*H,M . . . . . .	.#A .*180 DYS
.1T46*TCV060A	UC-22A UNIT CLEAR FISHER CONT. BECK 14-101-023645(ES)	1E 310	. H-18 . RBS . 310736	. 310-01 . 00150.*FT/IJ . .	*H,M . . . . . .	.#A .*180 DYS
.1T46*TCV060B	UC-22B UNIT CLEAR FISHER CONT. BECK 14-101-023645(ES)	1E 310	. H-18 . RBS . 310736	. 310-01 . 00150.*FT/IJ . .	*H,M#A .*180 DYS

1E51*P015

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

ENG COND

OPER CODE

MAKE / MANUFACTURER

NU-CAT

BLDG

ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC

PO NUMBER

SUBMG

 REPORT GROUP MAK = BINGHAM PUMP

.1E51*P015

RCIR TURB TU-005 PUMP

*GENERAL ELECT

*1E

.*G-01

*H,M

.*B

*BINGHAM PUMP

.RBS

8.

.*180 DYS

003

.*310010

*L

.*B

.*180 DYS

1R32WNP-63

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

EMG COND

OPER CODE

MAKE / MANUFACTURER

NU-CAT BLDG

ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC

PO NUMBER

SUDMG

REPORT GROUP MAK

= BRAND REX

1R32WNP-63

INST CABLE

BRAND REX

1E

. ALL

. 455-01

ALL

. A

BRAND REX

. RB

. EQ

. 180 DYS

LOW CAP INST CABLE

455

. 310965

SPR

. N/A

REPRESENTS ALL CABLE PURCHASED UNDER SH1-455

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	SUBMG
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= CALIF. ALLOY					

1G33*TE071A	RX WTR CLN UP AMB	1E	P-14	3110	H,M	A
G33-N016A	GENERAL ELEC		RBS	112. EQ		. 070 MIN
	CALIF. ALLOY					
	145C3224P2	003	310010			

L . B
 . 180 DYS

1G33*TE071B	RX WTR CLN UP AMB	1E	P-13	3110	H,M	A
G33-N016B	GENERAL ELEC		RBS	112. EQ		. 070 MIN
	CALIF. ALLOY					
	145C3224P2	003	310010			

L . B
 . 180 DYS

1G33*TE071C	RX WTR CLN UP AMB	1E	K-15	3110	H,M	A
G33-N016C	GENERAL ELEC		RBS	140. EQ		. 070 MIN
	CALIF. ALLOY					
	145C3224P2	003	310010			

L . B
 . 180 DYS

1G33*TE071D	RX WTR CLN UP AMB	1E	H-16	3110	H,M	A
G33-N016D	GENERAL ELEC		RBS	140. EQ		. 070 MIN
	CALIF. ALLOY					
	145C3224P2	003	310010			

L . B
 . 180 DYS

1633*TE071E

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*****	*****	*****	*****	*****	*****	*****
1633*TE071E G33-N016E	RX WTR CLN UP AMB GENERAL ELEC CALIF. ALLOY 145C3224P2	1E 003	. H-18 . RBS . 310010	. 3110 173. EQ . .	H,M L	. A . 070 MIN . . . B . 180 DYS . .
1633*TE071F G33-N016F	RX WTR CLN UP AMB GENERAL ELEC CALIF. ALLOY 145C3224P2	1E 003	. H-19 . RBS . 310010	. 3110 173. EQ . .	H,M L	. A . 070 MIN . . . B . 180 DYS . .

1B21*TE43AX

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	SUBMG
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= CALIFORNIA ALLOY					

.1B21*TE43AX	MAIN STM TUNNEL INLET	1E	ST	3110	*H,M	*A
B21-N016A	GENERAL ELEC					*070 MIN
	CALIFORNIA ALLOY		*TB	00078. EQ		
	145C3224P001	003	310010			*ANSI C96.1

*L
 *B
 *180 DYS

.1B21*TE43BX	MAIN STM TUNNEL INLET	1E	ST	3110	*H,M	*A
B21-N016B	GENERAL ELEC					*070 MIN
	CALIFORNIA ALLOY		*TB	00078. EQ		
	145C3224P001	003	310010			*ANSI C96.1

*L
 *B
 *180 DYS

.1B21*TE43CX	MAIN STM TUNNEL INLET	1E	ST	3110	*H,M	*A
B21-N016C	GENERAL ELEC					*070 MIN
	CALIFORNIA ALLOY		*TB	00078. EQ		
	145C3224P001	003	310010			*ANSI C96.1

*L
 *B
 *180 DYS

.1B21*TE43DX	MAIN STM TUNNEL INLET	1E	ST	3110	*H,M	*A
B21-N016D	GENERAL ELEC					*070 MIN
	CALIFORNIA ALLOY		*TB	00078. EQ		
	145C3224P001	003	310010			*ANSI C96.1

*L
 *B
 *180 DYS

1E51*TE052A REPORT NO. PES-001 JOB 1160002 05/21/82

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC MU-CAT	ZONE BLDG	ELEV	EQ SHEET QUAL. STAT	EMG COND SUBMG	OPER CODE

.1E51*TE052A E51-N011A	RCIC EQUIP AREA AMB *GENERAL ELECT *CALIFORNIA ALLOY *145C3224P1	*1E 003	*G-01 RBS		*00020.*IJ 310010	*H,M *L	*A *070 MIN *B *180 DYS
.1E51*TE052B E51-N011B	RCIC EQUIP AREA AMB *GENERAL ELECT *CALIFORNIA ALLOY *145C3224P1	*1E 003	*G-01 RBS		*00020.*IJ 310010	*H,M *L	*A *070 MIN *B *180 DYS
.1E51*TE053A E51-N022A	RCIC EQUIP AREA AMB *GENERAL ELECT *CALIFORNIA ALLOY *145C3224P1	*1E 003	*G-01 RBS		*00020.*IJ 310010	*H,M *L	*A *070 MIN *B *180 DYS
.1E51*TE053B E51-N022B	RCIC EQUIP AREA AMB *GENERAL ELECT *CALIFORNIA ALLOY *145C3224P1	*1E 003	*G-01 RBS		*00020.*IJ 310010	*H,M *L	*A *070 MIN *B *180 DYS
.1E51*TE054A E51-N023A	RCIC EQUIP AREA AMB *GENERAL ELECT *CALIFORNIA ALLOY *145C3224P1	*1E 003	*G-01 RBS		*00020.*IJ 310010	*H,M	*A *070 MIN

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME NAME / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG ELEV PO NUMBER	EQ SHEET QUAL STAT	EMG COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
			.		*L	.#B
			.	.		.#180 DYS
			.	.		.
			.	.		.
.1E51*TE054B E51-N023B	RCIC EQUIP AREA AMB *GENERAL ELECT *CALIFORNIA ALLOY *145C3224P1	1 003	.#G-01 RBS 310010	. 63.*IJ .	*H,H	.#A .#070 MIN . .
			.	.	*L	.#B
			.	.		.#180 DYS
			.	.		.
			.	.		.
.1E51*TE055A E51-N025A	RCIC EQUIP AREA AMB *GENERAL ELECT *CALIFORNIA ALLOY *145C3224P1	1E 003	.#G-01 RBS 370969	. 00017.*IJ .	*H,H	.#A .#070 MIN . .
			.	.	*L	.#B
			.	.		.#180 DYS
			.	.		.
			.	.		.
.1E51*TE055B E51-N025B	RCIC EQUIP AREA AMB *GENERAL ELECT *CALIFORNIA ALLOY *145C3224P1	1E 003	.#G-01 RBS 310010	. 00022.*IJ .	*H,H	.#A .#070 MIN . .
			.	.	*L	.#B
			.	.		.#180 DYS
			.	.		.
			.	.		.
.1E51*TE055C E51-N025C	RCIC EQUIP AREA AMB *GENERAL ELECT *CALIFORNIA ALLOY *145C3224P1	1E 003	.#G-01 RBS 310010	. 00031.*IJ .	*H,H	.#A .#070 MIN . .
			.	.	*L	.#B
			.	.		.#180 DYS
			.	.		.
			.	.		.

1E51*TE055D

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND SUSMS	OPER CODE

.1E51*TE055D E51-N025D	RCIC EQUIP AREA AMB *GENERAL ELECT *CALIFORNIA ALLOY *145C3224P1	1E 003	. . *G-01 . RBS . 310010	. . 00031.*IJ . .	*H,H . .	.wA .w070 MIN . .
					*L	.wB .w180 DYS . .
.1E51*TE056A E51-N026A	RCIC EQUIP AREA AMB *GENERAL ELECT *CALIFORNIA ALLOY *145C3224P1	*1E 003	. . *G-05 . . 310010	. . *00063.*IJ . .	*H,H . .	.wA .w070 MIN . .
					*L	.wB .w180 DYS . .
.1E51*TE056B E51-N026B	RCIC EQUIP AREA AMB *GENERAL ELECT *CALIFORNIA ALLOY *145C3224P1	*1E 003	. . *G-05 . . 310010	. . *00063.*IJ . .	*H,H . .	.wA .w070 MIN . .
					*L	.wB .w180 DYS . .
.1E51*TE056C E51-N026C	RCIC EQUIP AREA AMB *GENERAL ELECT *CALIFORNIA ALLOY *145C3224P1	*1E 003	. . *G-05 . . 310010	. . *00063.*IJ . .	*H,H . .	.wA .w070 MIN . .
					*L	.wB .w180 DYS . .
.1E51*TE056D E51-N026D	RCIC EQUIP AREA AMB *GENERAL ELECT *CALIFORNIA ALLOY *145C3224P1	*1E 003	. . *G-05 . . 310010	. . *00063.*IJ . .	*H,H . .	.wA .w070 MIN . .

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EHG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV		
	MAKE / MANUFACTURER	SPEC	PO NUMBER	QUAL STAT		
	MODEL / CATALOG NO				SUBMG	
*****	*****	*****	*****	*****	*****	*****
					*L	*B
						*180 DYS

1T46*A0D040A

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= CENTERLINE					

.1T46*A0D040A	RB REFUEL LEVEL EXHAUST				ALL	. A
	POMERS REGUL	1E	. H-18	. 319-01		. 070 MIN
	CENTERLINE		. RBS	00150. EQ		
	32046-6	319	. 310738			
.1T46*A0D040B	RB REFUEL LEVEL EXHAUST				ALL	. A
	POMERS REGUL	1E	. H-18	. 319-01		. 070 MIN
	CENTERLINE		. RBS	00150. EQ		
	32046-6	319	. 310738			

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MODEL / CATALOG NO	SPEC	PO NUMBER			

REPORT GROUP MAK = CONSIP INC

.1T48*H2Z115A AE/1	DRYHELL HYDROGEN ANALYZER DELPHI INDUST *CONSIP INC B	1E 344	J-15 RBS 310737	344-01 EQ .	H,M .	.#B .*180 DYS .
					L	. A . 180 DYS . 2%FS
.1T48*H2Z115B AE/1	DRYHELL HYDROGEN ANALYZER DELPHI INDUST *CONSIP INC B	1E 344	J-16 RBS 310737	344-01 EQ .	H,M .	.#B .*180 DYS .
					L	. A . 180 DYS . 2%FS
.1T48*H2Z116A AE/1	SUPP CHBR/RECOM DISCH ANALYZER DELPHI INDUST *CONSIP INC B	1E 344	J-15 RBS 310737	344-01 EQ .	H,M .	.#B .*180 DYS .
					L	. A . 180 DYS . 2%FS
.1T48*H2Z116B AE	SUPP CHBR/RECOM DISCH ANALYZER DELPHI INDUST *CONSIP INC B	1E 344	J-16 RBS 310737	344-01 EQ .	H,M .	.#B .*180 DYS .
					L	. A . 180 DYS . 2%FS

1T48*02Z123A REPORT NO. PES-801 JCB 1160002 05/21/82

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					

.1T48*02Z123A	PRIMARY CONT OXYGEN					
	DELPHI INDUST.	1E	J-15	344-01	H,M	B
	CONSIP INC		RBS	00112.*EQ		180 DYS
	J	344	310737			
					L	A
						180 DYS
						2%FS
1T48*02Z123B	PRIMARY CONT OXYGEN					
	DELPHI INDUST.	1E	J-15	344-01	H,M	B
	CONSIP INC		RBS	00112. EQ		180 DYS
	J	344	310737			
					L	A
						180 DYS
						2%FS
1T48*PNL68A	GAS ANALYZER DRYWELL					
	DELPHI INDUST.	1E	J-15	344-01	H,M	B
	CONSIP INC	RG	RBS	112. EQ		180 DYS
	K-IV	344	310737			
					L	A
						180 DYS
						N/A
SAMPLE PUMP IS BEING RETESTED.ALL OTHER COMPONENTS ARE EQ.						
1T48*PNL68B	GAS ANALYZER DRYWELL					
	DELPHI INDUST.	1E	J-16	344-01	H,M	B
	CONSIP INC	RG	RBS	112. EQ		180 DYS
	K-IV	344	310737			
					L	A
						180 DYS
						N/A
SAMPLE PUMP IS BEING RETESTED.ALL OTHER COMPONENTS ARE EQ.						
.1T48*PNL69A	GAS ANALYZER SUPPR CHAMBER					
	DELPHI INDUST.	1E	J-15	344-01	H,M	B
	CONSIP INC	RG	RBS	112. EQ		180 DYS
	K-IV	344	310737			

REPORT NO. PES-801
JOB NUMBER 1160002
JOB NAME SHOREHAM - UNIT 1
JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
PROJECT EQUIPMENT SYSTEM - (IS-129)
ENVIRONMENTAL QUALIFICATION STATUS REPORT
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLOG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	FO NUMBER			
*****	*****	*****	*****	*****	*****	*****

SAMPLE PUMP IS BEING RETESTED, ALL OTHER COMPONENTS ARE EQ.

.1T48*PNL69B

GAS ANALYZER SUPPR CHAMBER	.	.	.	.
DELPHI INDUST.	1E	J-16	344-01	.
CONSIP INC	RG	RBS	112. EQ	.
R-IV	344	310737	.	.

SAMPLE PUMP IS BEING RETESTED, ALL OTHER COMPONENTS ARE EQ.

1T23*Z-EB1

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JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

PROJECT EQUIPMENT SYSTEM - (IS-129)

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

ENG COND

OPER CODE

MAKE / MANUFACTURER

NU-CAT

BLDG ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC

PO NUMBER

SUBMG

 REPORT GROUP MAK = CONAX

.1T23*Z-EB1

REACTOR CONT ELEC PENET

GEN ELEC CO

1E

D-22

456-02

H,M

. A

CONAX

1

REP

00078.*FT

. 180 DYS

LOW VOLT POWER CONT

456

310578

L

. A

. 180 DYS

MST

N/A

GE HEADER PLATES WITH CONAX FEEDTHROUGH MODULES. VENDOR TO SUBMIT FURTHER DOCUMENTATION

1T23-Z-HC1

REACTOR CONT ELEC PENET

CONAX

1E

H-10

456-01

H,M

. A

CONAX

1

REP

00078. EQ

. 180 DYS

LOW VOLT POWER CONT

456

310967

L

. A

. 180 DYS

MST

N/A

.1T23*Z-WB3

REACTOR CONT ELEC PENET

GEN ELEC CO

1E

D-22

456-02

H,M

. A

CONAX

1

REP

00078.*EQ

. 180 DYS

LOW VOLT POWER CONT.

456

310578

L

. A

. 180 DYS

MST

N/A

GE HEADER PLATES WITH CONAX FEEDTHROUGH MODULES. VENDOR TO SUBMIT FURTHER DOCUMENTATION

1C41*EV010A

C41-F009A

EXPLOSIVE VALVE

GENERAL ELEC

1E

J-15

3146

H,M

. B

CONAX

003

RDS

00120. DR/IJ

. 180 DYS

1832-159-01

344953

L

. B

. 180 DYS

1C41*EV010B

REPORT NO. PES-001 JOB 1160002 05/21/82

ENVIRONMENTAL QUALIFICATION STATUS REPORT

REPORT NO. PES-001

JOB NUMBER 1160002

JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

PROJECT EQUIPMENT SYSTEM - (IS-129)

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

ENG COND

OPER CODE

MAKE / MANUFACTURER

NU-CAT BLDG

ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC

PG NUMBER

SUBMG

1C41*EV010B

EXPLOSIVE VALVE

C41-F004B

GENERAL ELEC

1E

J-15

3146

H,M

. B

CONAX

RBS

00120. DR/IJ

. 180 DYS

1832-159-01

003

344953

L

. B

. 180 DYS

1E41*LCV091 REPORT NO. PES-001 JOB 1160002 05/21/82

ENVIRONMENTAL QUALIFICATION STATUS REPORT

REPORT NO. PES-001
JOB NUMBER 1160002
JOB NAME SHOREHAM - UNIT 1
JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
PROJECT EQUIPMENT SYSTEM - (IS-122)
ENVIRONMENTAL QUALIFICATION STATUS REPORT
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER		SUBMG	
	MODEL / CATALOG NO					

REPORT GROUP MAK	= COPE5					

1E41*LCV091	HPCI STM DRN POT DRN				H,M	. B
E41-F054	G.E.	1E	G-01	.		. 180 DYS
	COPE5		RBS	00008.*DR		.
	D-100-60	003	310735	.		.
					L	. B
						. 180 DYS
						.
						.

MECH. ITEM ONLY BUT HAS SOV AND PMS W/O SEPARATE MARK NOS.

REPORT NO. PES-801
 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
 PROJECT EQUIPMENT SYSTEM - (IS-129)
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= DELPHI					

.1T48*02Z124A	PRIMARY CONT OXYGEN	1E	. *J-15	. *344-01	H,M	. B
	DELPHI INDUST		. RBS	00112.*EQ		. 180 DYS
	DELPHI	344	. 310737			.
	B5-3					.
					L	. A
						. 180 DYS
						.
						.
.1T48*02Z124B	PRIMARY CONT OXYGEN	1E	. *J-16	. *344-01	H,M	. B
	DELPHI INDUST		. RBS	00112.*EQ		. 180 DYS
	DELPHI	344	. 310737			.
	B5-3					.
					L	. A
						. 180 DYS
						.
						.
						.

1011-FI041

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JOB NAME SHOREHAM - UNIT 1

ENVIRONMENTAL QUALIFICATION STATUS REPORT

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JOB CLIENT LILCO

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EQUIPMENT ID EQUIPMENT DESCRIPTION

ENG COND

OPER CODE

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

MAKE / MANUFACTURER

NU-CAT BLDG

ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC

PO NUMBER

SUBMG

 REPORT GROUP MAK = DNYER

.1011-FI041

STATION VENT EXHAUST

N.H.C.

2E

H-20

.

H,M

. A

*DNYER

*

RBS

00175. ND

. 180 DYS

*SERIES 3000

332

310782

.

L

. A

. 180 DYS

CAT. II EQUIPMENT NOT 1E POWERED

.1011-FS041

STATION VENT EXHAUST

N.H.C.

2E

H-20

.

H,M

. A

*DNYER

*

RBS

00175. ND

. 180 DYS

*SERIES 3000

332

310782

.

L

. A

. 180 DYS

CAT. II EQUIPMENT NOT 1E POWERED

.1T46*PDS045A

FN-3B DIFF PRESSURE

*POMERS REGUL

1E

K-15

. 319-01

*H,M

.*A

DNYER

.

RBS

00112.*FT/IJ

.*180 DYS

1627

319

310738

.

*L

.*A

.*180 DYS

.1T46*PDS045B

FN-3A DIFF PRESSURE

*POMERS REGUL

1E

K-15

. 319-01

*H,M

.*A

DNYER

.

RBS

00112.*FT/IJ

.*180 DYS

1627

319

310738

.

*L

.*A

.*180 DYS

REPORT NO. PES-001
 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
 PROJECT EQUIPMENT SYSTEM - (IS-129)
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND SUCMG	OPER CODE

.1T46*PDS045C	FN-3A DIFF PRESSURE *COPIES VULCAN DHYER 1627	1E 319	. K-15 . RBS 310738	. 319-01 . 00112.*FT/IJ .	*H,M .	.*A .*180 DYS .
					*L	.*A .*180 DYS .
.1T46*PDS046A	FN-3C DIFF PRESSURE *COPIES VULCAN DHYER 1627	1E 319	. K-15 . RBS 310738	. 319-01 . 00112.*FT/IJ .	*H,M .	.*A .*180 DYS .
					*L	.*A .*180 DYS .
.1T46*PDS046B	FN-3C DIFF PRESSURE *POMERS REGUL DHYER 1627	1E 319	. K-15 . RBS 310738	. 319-01 . 00112.*FT/IJ .	*H,M .	.*A .*180 DYS .
					*L	.*A .*180 DYS .
.1T46*PDS046C	FN-3B DIFF PRESSURE *POMERS REGUL DHYER 1627	1E 319	. K-15 . RBS 310738	. 319-01 . 00112.*FT/IJ .	*H,M .	.*A .*180 DYS .
					*L	.*A .*180 DYS .

1T46*FLT01A

REPORT NO. PES-801 JOB 1160002 05/21/82

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JOB NUMBER 1160002

JOB NAME SHCREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

PROJECT EQUIPMENT SYSTEM - (IS-129)

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

ENG COND

OPER CODE

MAKE / MANUFACTURER

NU-CAT

BLDG ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC

PO NUMBER

SUBNG

 REPORT GROUP MAK = FARR

.1T46*FLT01A

FILTER TRAIN REHEAT COIL RBSVS.

FARR CO

1E

K-15

.*

*H,M

.*A

.*180 DYS

FARR

RBS

112. IJ

N-240

105

310599

*L

.*A

.*180 DYS

.1T46*FLT01B

FILTER TRAIN REHEAT COIL RBSVS.

FARR CO

1E

K-15

.*

*H,M

.*A

.*180 DYS

FARR

RBS

112. IJ

N-240

105

310599

*L

.*A

.*180 DYS

REPORT NO. PES-001
 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
 PROJECT EQUIPMENT SYSTEM - (IS-129)
 ENVIRONMENTAL QUALIFICATION STATUS REPORT
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= FISHER GOVERNOR					

1E11*E/P007A	5TH TO RHR HX SHELL	1E	G-01	3122	H,M	B
E11-K001A	GENERAL ELEC		RBS	8. DR/IJ		180 DYS
	FISHER GOVERNOR	003	310010			
	546					
					L	B
						180 DYS
1E11*E/P007B	RHR HX SHELL TO RCIC	1E	G-01	3122	H,M	B
E11-K001B	GENERAL ELEC		RBS	8. DR/IJ		180 DYS
	FISHER GOVERNOR	003	310010			
	546					
					L	B
						180 DYS

1G11*LE642C

REPORT NO. PES-801 JOB 1160002 05/21/82

ENVIRONMENTAL QUALIFICATION STATUS REPORT

REPORT NO. PES-801

JOB NUMBER 1160002

JOB NAME SMOOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

PROJECT EQUIPMENT SYSTEM - (IS-129)

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EQUIPMENT ID EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

NAME / MANUFACTURER

MODEL / CATALOG NO

QAC

ZONE

EQ SHEET

MU-CAT

BLDG

ELEV

QUAL STAT

SPEC

PO NUMBER

ENG COND

OPER CODE

REPORT GROUP MAK

= GEN5

.1G11*LE642C

REACT BLDG FLOOR DRN SUMP 056C.

DELEVAL

1E

G-01

GEN5

RG

RBS

00008.*TA/IJ

XN1-54854

473

10091

H,H

. B

. 180 DYS

.

. 2%

L

. *B

. *180 DYS

.

. 2%

OP CODE B FOR HELB & MELB

.1G11*LE645A

REACT BLD FLOOD LEVEL

DELEVAL

1E

G-01

GEN5

RG

RBS

00008.*TA/IJ

XN1-54854

473

10091

H,H

. A

. 180 DYS

.

. 2%

L

. A

. 180 DYS

.

. 2%

.1G11*LE645B

REACT BLD FLOOD LEVEL

DELEVAL

1E

G-01

GEN5

RG

RBS

00008.*TA/IJ

XN1-54854

473

10091

H,H

. A

. 180 DYS

.

. 2%

L

. A

. 180 DYS

.

. 2%

REPORT NO. PES-001

JOB NUMBER 1160002

JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

PROJECT EQUIPMENT SYSTEM - (IS-129)

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EQUIPMENT ID EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

NAME / MANUFACTURER

MODEL / CATALOG NO

QAC

ZONE

EQ SHEET

NU-CAT BLDG ELEV

QUAL STAT

SPEC PO NUMBER

EMG COND

OPER CODE

REPORT GROUP MAK = GENERAL ELECT

.1H21*PNL61

ELEC ANAL INST RACK

*GENERAL ELECT

*GENERAL ELECT

1E

003

.

.

RBS

310010

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.

112.DR

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H,M

. A

. 180 DYS

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L

. A

. 180 DYS

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.1C11-P017A

CONT ROD DR PUMP

GE-UNION PUMP

*GENERAL ELECT

2E

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003

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H,M

. B

. 180 DYS

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L

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. 180 DYS

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.1C11-P017B

CONT ROD DR PUMP

GE-UNION PUMP

*GENERAL ELECT

2E

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003

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H,M

. B

. 180 DYS

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L

. B

. 180 DYS

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.1H21*PNL23

RMCU SAMPLE RK

*GENERAL ELECT

*GENERAL ELECT

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003

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H,M

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. 180 DYS

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1H21*PML25

REPORT NO. PES-001 JOB 1160002 05/21/82

ENVIRONMENTAL QUALIFICATION STATUS REPORT

REPORT NO. PES-001

JOB NUMBER 1160002

JOB NAME SNOGEMAN - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

PROJECT EQUIPMENT SYSTEM - (IS-129)

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	EMG COND SUBNG	OPER CODE

.1H21*PML25 H21-P025	MAIN STEAM FLOW RK B *GENERAL ELECT *GENERAL ELECT	1E 003	. . *L-02 . RDS . 310010	. 3912 40. DR/IJ .	H,M .	. A . 180 DYS .
					L	. A . 180 DYS .
.1H21*PML26 H21-P026	RV LEVEL & PRESS INST *GENERAL ELECT *GENERAL ELECT	1E 003	. . H-12 . RDS . 310010	. 3912 78. DR/IJ .	H,M .	. A . 180 DYS .
					L	. A . 180 DYS .
.1H21*PML30	SRM IRM PREAMP RK RPS CH-A1 *GENERAL ELECT *GENERAL ELECT	1 003	. . G-10 . RDS . 310010	. 78. *DR/IJ .	H,M .	. A . 180 DYS .
					L	. A . 180 DYS .
.1H21*PML31	SRM IRM PREAMP RK RPS CH-B1 *GENERAL ELECT *GENERAL ELECT	1 003	. . G-10 . RDS . 310010	. 78. *DR/IJ .	H,M .	. A . 180 DYS .
					L	. A . 180 DYS .
.1H21*PML32	SRM IRM PREAMP RK RPS CH-A2 *GENERAL ELECT *GENERAL ELECT	1 003	. . G-10 . RDS . 310010	. 78. *DR/IJ .	H,M .	. A . 180 DYS .

REPORT NO. PES-001
 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
 PROJECT EQUIPMENT SYSTEM - (IS-129)
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG ELEV PO NUMBER	EQ SHEET QUAL STAT	ENG COND SUDHG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
			.		L	. A
			.	.		. 180 DYS
			.	.		.
			.	.		.
.1H21*PNL33	SRM IRM PREAMP RK RPS CH-B2	1	.	.	H,M	. A
	*GENERAL ELECT	003	. 2BS	78.*DR/IJ		. 180 DYS
	*GENERAL ELECT		. 310010	.		.
			.	.		.
			.	.	L	. A
			.	.		. 180 DYS
			.	.		.
			.	.		.
.1H21*PNL34	HPCI LEAK DET RK A	1	. G-10	.	H,M	. A
	*GENERAL ELECT		. RBS	8.*DR/IJ		. 180 DYS
	*GENERAL ELECT	003	. 310010	.		.
			.	.		.
			.	.	L	. A
			.	.		. 180 DYS
			.	.		.
			.	.		.
.1H21*PNL35	CS/RCIC LEAK DET RK B	1E	. L-02	. 3912	H,M	. A
H21-P035	*GENERAL ELECT		. RDS	40. DR/IJ		. 180 DYS
	*GENERAL ELECT	003	. 310010	.		.
			.	.		.
			.	.	L	. A
			.	.		. 180 DYS
			.	.		.
			.	.		.
.1H21*PNL36	HPCI LEAK DET RK B	1E	. G-01	. 3912	H,M	. A
H21-P036	*GENERAL ELECT		. RBS	8. DR/IJ		. 180 DYS
	*GENERAL ELECT	003	. 310010	.		.
			.	.		.
			.	.	L	. A
			.	.		. 180 DYS
			.	.		.
			.	.		.

1H21*PML37

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ENVIRONMENTAL QUALIFICATION STATUS REPORT

REPORT NO. PES-001

JOB NUMBER 1160002

JOB NAME SUCREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

PROJECT EQUIPMENT SYSTEM - (IS-129)

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME NAME / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG ELEV PD NUMBER	EQ SHEET QUAL STAT	ENG COND	OPER CODE

.1H21*PML37 H21-P037	RCIC LEAK DET RK A *GENERAL ELECT *GENERAL ELECT	1E 003	. G-01 . RDS . 310010	. 3912 . DR/IJ	H,M	. A . 180 DYS
					L	. A . 180 DYS
.1H21*PML38 H21-P038	RCIC LEAK DET RK B *GENERAL ELECT *GENERAL ELECT	1E 003	. L-02 . RDS . 310010	. 3912 . DR/IJ	H,M	. A . 180 DYS
					L	. A . 180 DYS
.1H21*PML41 H21-P041	MAIN STM FLOW SYS C *GENERAL ELECT *GENERAL ELECT	1E 003	. L-02 . RDS . 310010	. 3912 . DR/IJ	H,M	. A . 180 DYS
					L	. A . 180 DYS
.1D11*RE017A D11-N010A	REAC BLDG REFUEL LVL VENT EXH GENERAL ELEC *GENERAL ELECT *190N027C011	1E 003	. H-20 . RDS . 310010	. *00150.*DR/IJ	H,M	. B . 180 DYS
					L	. A . 070 MIN
.1D11*RE017B D11-N010B	REAC BLDG REFUEL LVL VENT EXH GENERAL ELEC *GENERAL ELECT *190N027C011	1E 003	. H-20 . RDS . 310010	. *00150.*DR/IJ	H,M	. B . 180 DYS

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 J03 NUMBER 1160002
 J03 NAME SUCREHAM - UNIT 1
 J03 CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLOS	ELEV	SUBING	
	NAME / MANUFACTURER	SPEC	PD NUMBER	QUAL STAT		
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
					L	A
						: 070 MIN

1H21*PNL01

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 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	ELDG	ELEV	QUAL STAT	
	NAME / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= GENERAL ELECTRIC					

1H21*PNL01	CORE SPRAY RACK CH 4				H,M	A
H21-P001	GENERAL ELEC	1E	G-01	3912		180 DYS
	GENERAL ELECTRIC		RBS	8. DR/IJ		
		003	310010			
EQUIPMENT LOCATED IN A NON HARSH ENVIRONMENT						

1H21*PNL02	RNCU SYSTEM INST RACK				H,M	A
H21-P002	GENERAL ELEC	1E	H-16	3912		180 DYS
	GENERAL ELECTRIC		RBS	112. DR/IJ		
		003	310010			
					L	A
						180 DYS
EQUIPMENT LOCATED IN A NON HARSH ENVIRONMENT						

1H21*PNL04	RX VES L&P RACK A				H,M	A
H21-P004	GENERAL ELEC	1E	G-10	3912		180 DYS
	GENERAL ELECTRIC		RBS	78. DR/IJ		
		003	310010			
					L	A
						180 DYS

1H21*PNL05	RX VES L&D PACK B				H,M	A
H21-P005	GENERAL ELEC	1E	G-12	3912		180 DYS
	GENERAL ELECTRIC		RBS	78. DR/IJ		
		003	310010			
					L	A
						180 DYS

1H21*PNL06	RECIRC PUMP A RACK				H,M	A
H21-P006	GENERAL ELEC	1E	L-02	3912		180 DYS
	GENERAL ELECTRIC		RBS	40. DR/IJ		
		003	310010			

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 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

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*****	*****	*****	*****	*****	*****	*****
					L	. A . 180 DYS
.1H21*PNL09 H21-P009	JET PUMP INST RACK A *GENERAL ELECT GENERAL ELECTRIC	1E 003	. G-09 . RBS . 310010	. 3912 79. DR/IJ .	H,M	. A . 180 DYS
					L	. A . 180 DYS
.1H21*PNL10 H21-P010	JET PUMP INST RACK B *GENERAL ELECT GENERAL ELECTRIC	1E 003	. G-11 . RBS . 310010	. 3912 79. DR/IJ .	H,M	. A . 180 DYS
					L	. A . 180 DYS
.1H21*PNL14 H21-P014	HPCI INST RACK *GENERAL ELECT GENERAL ELECTRIC	1E 003	. G-01 . RBS . 310010	. 3912 6. DR/IJ .	H,M	. A . 180 DYS
					L	. A . 180 DYS
.1H21*PNL15 H21-P015	MAIN STEAM FLOW RACK A *GENERAL ELECT GENERAL ELECTRIC	1E 003	. *L-02 . RBS . 310010	. 3912 40. DR/IJ .	H,M	. A . 180 DYS
					L	. A . 180 DYS

1H21WNL16

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JOB NAME SURENAM - UNIT 1

JOB CLIENT LILCO

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.1H21WNL16 H21-P016	CS/INPCI LEAK DET I RK *GENERAL ELECT GENERAL ELECTRIC	1E 003	. G-01 . RDS . 310010	. 3912 8. DR/IJ .	H,M .	. A . 180 DYS .
					L	. A . 180 DYS .
.1H21WNL17 H21-P017	RCIC INST RACK *GENERAL ELECT GENERAL ELECTRIC	1E 003	. G-01 . RDS . 310010	. 3912 8. DR/IJ .	H,M .	. A . 180 DYS .
					L	. A . 180 DYS .
.1H21WNL18 H21-P018	RWT INST RK CH A *GENERAL ELECT GENERAL ELECTRIC	1E 003	. G-01 . RDS . 310010	. 3912 8. DR/IJ .	H,M .	. A . 180 DYS .
					L	. A . 180 DYS .
.1H21WNL19 H21-P019	CORE SPRAY RK CH B *GENERAL ELECT GENERAL ELECTRIC	1E 003	. G-01 . RDS . 310010	. 3912 8. DR/IJ .	H,M .	. A . 180 DYS .
					L	. A . 180 DYS .
.1H21WNL21 H21-P021	RWT INST RK CH B *GENERAL ELECT GENERAL ELECTRIC	1E 003	. G-01 . RDS . 310010	. 3912 8. DR/IJ .	H,M .	. A . 180 DYS .

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 JOB NUMBER 1160002
 JOB NAME SHOTENHAM - UNIT 1
 JOB CLIENT LILCO

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME NAME / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE ELDG PO NUMBER	EQ SHEET QUAL STAT	ENG COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					L	. A . 180 DYS
1H21*PNL22 H21-P022	RECIRC PUMP B RACK GENERAL ELECT GENERAL ELECTRIC	1E 003	. L-02 . RBS . 310010	. 3912 40. DR/IJ .	H,M	. A . 180 DYS
					L	. A . 180 DYS
1H21*PNL73 H21-P073	MSIV LEAKAGE INST RACK GENERAL ELEC GENERAL ELECTRIC	1E 003	. G-05 . RBS .	. 3912 63. DR/IJ .	H,M	. A . 180 DYS
					L	. A . 180 DYS
1H21*PNL74 H21-P074	MSIV LEAKAGE INST RACK GENERAL ELEC GENERAL ELECTRIC	1E 003	. G-05 . RBS . 310010	. 3912 63. DR/IJ .	H,M	. A . 180 DYS
					L	. A . 180 DYS
1E41*P127 E-036	HPCI TURB HYD & BEP OIL AUX PP. GE-TERRY TURB GENERAL ELECTRIC CD 050A7	1E 003	. G-01 . RBS . 310010	. 8. TA/IJ .	H,M	. A . 012 HRS
					L	. A . 012 HRS

1R42WCC0A1

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JOB NUMBER 1160002

JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	ENG COND SUBHG	OPER CODE
1R42WCC0A1	125VDC MOTOR CONT CENTER GEN ELEC GENERAL ELECTRIC DC MTR CONT CENTER H,M-OP CODE B 1 DAY, C REM. (MCC REV.)	1E 168	L-02 RBS 310562	40. IJ	L	A 100 DYS
1R42WCC0A2	125VDC MOTOR CONT CENTER GEN ELEC GENERAL ELECTRIC DC MTR CONT CENTER	1E 168	N-21 RBS 310562	112. IJ	ALL	A 180 DYS
1R42WCC0B1	125VDC MOTOR CONT CENTER GEN ELEC GENERAL ELECTRIC DC MTR CONT CENTER	1E 168	N-21 RBS 310562	40. IJ	ALL	A 180 DYS
1R42WCC0B2	125VDC MOTOR CONT CENTER GEN ELEC GENERAL ELECTRIC DC MTR CONT CENTER	1E 168	N-21 RBS 310562	112. IJ	ALL	A 180 DYS
1E51WP076	RCIRC CONDENSER VAC PP GE-TERRY TURD GENERAL ELECTRIC #L106AY	1E 003	G-01 RDS 310010	8. IJ	*H,H *L	*B *180 DYS *B *180 DYS
1B31WCK001A	REAC RECIRC PP TRIP BKR (RED) GENERAL ELEC GENERAL ELECTRIC H06	1E 039	L-02 RBS 310057	00040. DR/IJ	H,H L	B 180 DYS B 100 DYS
1B31WCK001B	REAC RECIRC PP TRIP BKR (RED) GENERAL ELEC GENERAL ELECTRIC H06	1E 039	L-02 RBS 310057	00040. DR/IJ	H,H	B 100 DYS

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME NAME / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLUG PO NUMBER	EQ SHEET ELEV QUAL STAT	ENG COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					L	. B . 180 DYS
.1B31*DKR02A	REAC RECIRC PP TRIP BKR (BLUE). GENERAL ELEC GENERAL ELECTRIC M26	1E RDS 039	L-02 RDS 310057	. 00040. DR/IJ .	H,M	. B . 180 DYS
					L	. B . 180 DYS
.1B31*DKR02B	REAC RECIRC PP TRIP BKR (BLUE). GENERAL ELEC GENERAL ELECTRIC M26	1E RDS 039	L-02 RDS 310057	. 00040. DR/IJ .	H,M	. B . 180 DYS
					L	. B . 180 DYS
.1T23-Z-EA2	REACTOR CONT ELEC PENET GEN ELEC CO GENERAL ELECTRIC SERIES 100 MED VOLT	1E RDP 174	D-22 RDP 310578	. 134-02 00078.*EQ .	H,M	. A . 180 DYS
					L	. A . 180 DYS
	REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UP-22-F				MST	N/A
.1T23-Z-WA2	REACTOR CONT ELEC PENET GEN ELEC CO GENERAL ELECTRIC SERIES 100 MED VOLT	1E RDP 134	H-10 RDP 310578	. 134-02 00078.*EQ .	H,M	. A . 180 DYS
					L	. A . 180 DYS
	REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UP-22-F				MST	N/A

1T23-Z-HA3

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 JOB NUMBER 1160002
 JOB NAME SHUTDOWN - UNIT 1
 JOB CLIENT WACC

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG FO NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND SUBMG	OPER CODE

.1T23-Z-HA3	REACTOR CONT ELEC PENET GEN ELEC CO GENERAL ELECTRIC SERIES 100 MED VOLT	1E 134	H-10 RBP 310578	134-02 00078.*EQ	H,M	A 180 DYS
					L	A 180 DYS
					HST	N/A
REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F						
.1T23-Z-EA3	REACTOR CONT ELEC PENET GEN ELEC CO GENERAL ELECTRIC SERIES 200 LOW VOLT	1E 134	D-22 RBP 310578	134-01 00078.*EQ	H,M	A 180 DYS
					L	A 180 DYS
					HST	N/A
REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F						
.1T23-Z-EB3	REACTOR CONT ELEC PENET GEN ELEC CO GENERAL ELECTRIC SERIES 200 LOW VOLT	1E 134	H-11 RBP 310578	134-01 00078.*EQ	L	A 180 DYS
					HST	N/A
REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F						
.1T23-Z-EB5	REACTOR CONT ELEC PENET GEN ELEC CO GENERAL ELECTRIC SERIES 200 LOW VOLT	1E 134	D-22 RBP 310578	134-01 00078.*EQ	H,M	A 180 DYS
					L	A 180 DYS
					HST	N/A
REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F						
.1T23-Z-ED3	REACTOR CONT ELEC PENET GEN ELEC CO GENERAL ELECTRIC SERIES 200 LOW VOLT	1E 134	D-22 RBP 310578	134-01 00078.*EQ	H,M	A 180 DYS

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	NAME / MANUFACTURER	SPEC	FO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
					L	. A
						. 180 DYS
					MST	. N/A
	REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F					
.1T23-Z-EC5	REACTOR CONT ELEC PENET				H,M	. A
	GEN ELEC CO	1E	. D-22	. 134-01		. 180 DYS
	GENERAL ELECTRIC		. RDP	00078.*EQ		.
	SERIES 200 LOW VOLT	134	. 310578	.		.
					L	. A
						. 180 DYS
					MST	. N/A
	REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F					
.1T23-Z-EC6	REACTOR CONT ELEC PENET				H,M	. A
	GEN ELEC CO	1E	. D-22	. 134-01		. 180 DYS
	GENERAL ELECTRIC		. REP	00078.*EQ		.
	SERIES 200 LOW VOLT	134	. 310578	.		.
					L	. A
						. 180 DYS
					MST	. N/A
	REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F					
.1T23-Z-ND1	REACTOR CONT ELEC PENET				H,M	. A
	GEN ELEC CO	1E	. G-10	. 134-01		. 180 DYS
	GENERAL ELECTRIC		. RDP	00078.*EQ		.
	SERIES 200 LOW VOLT	134	. 310578	.		.
					L	. A
						. 180 DYS
					MST	. N/A
	REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F					
.1T23-Z-ND2	REACTOR CONT ELEC PENET				H,M	. A
	GEN ELEC CO	1E	. H-10	. 134-01		. 180 DYS
	GENERAL ELECTRIC		. RDP	00078.*EQ		.
	SERIES 200 LOW VOLT	134	. 310578	.		.

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 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
					L	. A
						. 180 DYS
					HST	. N/A
REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F						
.1T23-Z-WB5	REACTOR CONT ELEC PENET				H,M	. A
	GEN ELEC CO	1E	H-10	. 134-01		. 180 DYS
	GENERAL ELECTRIC		RBP	00078.*EQ		.
	SERIES 200 LOW VOLT	134	310578			.
					L	. A
						. 180 DYS
					HST	. N/A
REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F						
.1T23-Z-WB6	REACTOR CONT ELEC PENET				H,M	. A
	GEN ELEC CO	1E	H-10	. 134-01		. 180 DYS
	GENERAL ELECTRIC		RBP	00078.*EQ		.
	SERIES 200 LOW VOLT	134	310578			.
					L	. A
						. 180 DYS
					HST	. N/A
REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F						
.1T23-Z-WC5	REACTOR CONT ELEC PENET				H,M	. A
	GEN ELEC CO	1E	H-10	. 134-01		. 180 DYS
	GENERAL ELECTRIC		RBP	00078.*EQ		.
	SERIES 200 LOW VOLT	134	310578			.
					L	. A
						. 180 DYS
					HST	. N/A
REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F						
.1T23-Z-WC6	REACTOR CONT ELEC PENET				H,M	. A
	GEN ELEC CO	1E	H-10	. 134-01		. 180 DYS
	GENERAL ELECTRIC		RBP	00078.*EQ		.
	SERIES 200 LOW VOLT	134	310578			.

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JOB NAME SHOREHAM - UNIT 1
JOB CLIENT LILCO

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EQUIPMENT ID	VENDOR ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
		MAKE / MANUFACTURER	NJ-CAT	BLDG	ELEV	QUAL STAT	
		MODEL / CATALOG NO	SPEC	PO NUMBER			
*****	*****	*****	*****	*****	*****	*****	*****
						SUBHG	
			.			L	. A
		 180 DYS
		
			.	.	.	MST	. N/A
		REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F					
.1T23*Z-EA1		REACTOR CONT ELEC PENET	.			H,H	. A
		GEN ELEC CO	1E .	D-22	. 134-01		. 180 DYS
		GENERAL ELECTRIC	.	RBP	00078.*EQ		.
		SERIES 200, LOW VOLT	134 .	310578	.		.
			.			L	. A
		 180 DYS
		
			.	.	.	MST	. N/A
		REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F					
.1T23*Z-EB2		REACTOR CONT ELEC PENET	.			H,H	. A
		GEN ELEC CO	1E .	D-22	. 134-01		. 180 DYS
		GENERAL ELECTRIC	.	RBP	00078.*EQ		.
		SERIES 200, LOW VOLT	134 .	310578	.		.
			.			L	. A
		 180 DYS
		
			.	.	.	MST	. N/A
		REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F					
.1T23*Z-ED5		REACTOR CONT ELEC PENET	.			H,H	. A
		GEN ELEC CO	1E .	D-22	. 134-01		. 180 DYS
		GENERAL ELECTRIC	.	RBP	00078.*EQ		.
		SERIES 200, LOW VOLT	134 .	310578	.		.
			.			L	. A
		 180 DYS
		
			.	.	.	MST	. N/A
		REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F					
.1T23*Z-ED6		REACTOR CONT ELEC PENET	.			H,H	. A
		GEN ELEC CO	1E .	D-22	. 134-01		. 180 DYS
		GENERAL ELECTRIC	.	RBP	00078.*EQ		.
		SERIES 200, LOW VOLT	134 .	310578	.		.

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 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
*****	*****	*****	*****	*****	*****	*****
					L	. A
						. 180 DYS
					MST	. N/A
REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F						
.1T23*Z-KB4	REACTOR CONT ELEC PENET				H,M	. A
	GEN ELEC CO	1E	D-22	. 134-01		. 180 DYS
	GENERAL ELECTRIC		REP	00078.*EQ		.
	SERIES 200, LOW VOLT	134	310578			.
					L	. A
						. 180 DYS
					MST	. N/A
REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F						
.1T23*Z-KD1	REACTOR CONT ELEC PENET				H,M	. A
	GEN ELEC CO	1E	D-22	. 134-01		. 180 DYS
	GENERAL ELECTRIC		RBP	00078.*EQ		.
	SERIES 200, LOW VOLT	134	310578			.
					L	. A
						. 180 DYS
					MST	. N/A
REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F						
.1T23*Z-KD2	REACTOR CONT ELEC PENET				H,M	. A
	GEN ELEC CO	1E	D-22	. 134-01		. 180 DYS
	GENERAL ELECTRIC		REP	00078.*EQ		.
	SERIES 200, LOW VOLT	134	310578			.
					L	. A
						. 180 DYS
					MST	. N/A
REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F						
.1E32*CL0013	CUTD MSIV BLOWER				H,M	. B
	GE	1E	G-06	. 3903		. 180 DYS
	GENERAL ELECTRIC		RDS	76.*IJ		.
	2CHS 041-1U	003	310010			.

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PD NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
					L	. A
						. 100 DYS
						. N/A
.1E32*BL0014A	OUTBD HSIV BLOWER	1E	. *G-05	. 3903	H,M	. B
	GENERAL ELEC		. RBS	00063. IJ		. 180 DYS
	GENERAL ELECTRIC					.
	2CH6 041-1U	003	. 310010			.
					L	. A
						. 100 DYS
						. N/A
.1E32*BL0014B	OUTBD HSIV BLOWER	1E	. *G-05	. 3903	H,M	. B
	GENERAL ELEC		. RBS	00063. IJ		. 180 DYS
	GENERAL ELECTRIC					.
	2CH6 041-1U	003	. 310010			.
					L	. A
						. 100 DYS
						. N/A
.1T23*Z-WC4	REACTOR CONT ELEC PENET	1E	. D-22	. 134-01	H,M	. A
	GEN. ELECT. CO.		. RSP	00078. *EQ		. 180 DYS
	GENERAL ELECTRIC					.
	200 SERIES LOW VOLT	134	. 310578			.
					L	. A
						. 180 DYS
						. N/A
					MST	. N/A
REQUIRED RADIATION DOSE REDUCED TO 1.0E8 BY CALCULATION SNPS-1-UR-22-F						
1D11*RE011A	RADIATION MONITORING DETECTOR				H,M	. B
D11-N006A	GENERAL ELEC	1E	. ST	. 3914		. 180 DYS
	GENERAL ELECTRIC		. ST	63. DR/IJ		.
	237X731G001	003	. 310010			.
					L	. A
						. 070 MIN
						.
						.

1D11*RE0119

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1D11*RE011B D11-N006B	RADIATION MONITORING DETECTOR GENERAL ELEC GENERAL ELECTRIC 237X731G001	1E 003	ST 310010		3914 63. DR/IJ	H,M	. B . 180 DYS
						L	. A . 070 MIN
1D11*RE011C D11-N006C	RADIATION MONITORING DETECTOR GENERAL ELEC GENERAL ELECTRIC 237X731G001	1E 003	ST 310010		3914 63. DR/IJ	H,M	. B . 180 DYS
						L	. A . 070 MIN
1D11*RE011D D11-N006D	RADIATION MONITORING DETECTOR GENERAL ELEC GENERAL ELECTRIC 237X731G001	1E 003	ST 310010		3914 63. DR/IJ	H,M	. B . 180 DYS
						L	. A . 070 MIN
.1P41*HS102A	SAMPLE TO RAD MONITOR POWERS REGUL GENERAL ELECTRIC 2940	*1E 319	1 310738		. 00030.*FT/IJ	*H,M	.*B .*180 DYS
						*L	.*B .*180 DYS
.1P41*HS102B	SAMPLE TO RAD MONITOR POWERS REGUL GENERAL ELECTRIC 2940	*1E 319	1 310738		. 00030.*FT/IJ	*H,M	.*A .*180 DYS

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	EMG COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					*L	. *B . *180 DYS
.1E51*P077	RCIC COND PMP GE-TERRY TURB GENERAL ELECTRIC 3HP,1900RPH,120VDC	1E 003	G-01 RBS 310010	. 8. IJ .	*H,M	. *B . *180 DYS
					*L	. *B . *180 DYS
.1E32*HC053A B-001B	LCS INBOARD HEATER GE GENERAL ELECTRIC 47D518673	1E 003	G-07 RBS 310010	. 3902 00063. EQ .	H,M	. B . 180 DYS
					L	. A . 100 DYS N/A
.1E32*HC053B B-001P	LCS INBOARD HEATER GE GENERAL ELECTRIC 47D518673	1E 003	G-07 RBS 310010	. 3902 00063. EQ .	H,M	. B . 180 DYS
					L	. A . 100 DYS N/A
.1E32*HC053C B-001K	LCS INBOARD HEATER GE GENERAL ELECTRIC 47D518673	1E 003	G-07 RBS 310010	. 3902 00063. EQ .	H,M	. B . 180 DYS
					L	. A . 100 DYS N/A

1E32*HC053D

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	ELEV	EQ SHEET QUAL STAT	ENG COND SUBMG	OPER CODE
1E32*HC053D	LCS INBOARD HEATER GE GENERAL ELECTRIC 47D510673	1E 003	G-07 RDS 310010		3902 EQ	H,M L	B 180 DYS A 100 DYS N/A
1E41*P075 E-036	HPCI COND PP NEAR COLUMN C-9 GE-TERRY TURB GENERAL ELECTRIC *5CD14C02A2401	1E 003	G-01 RDS 310010		8. TA/IJ	H,M L	A 012 HRS A 012 HRS
1E41*P074 E-036	HPCI VACUUM PUMP NEAR COL C-9 GE-TERRY TURB GENERAL ELECTRIC *5CD14C03A900007	1E 003	G-01 RDS 310010		8. TA/IJ	H,M L	A 012 HRS A 012 HRS
1C41*P024A	STANDBY LIQ CONTROL PP GE-UNION PUMP GENERAL ELECTRIC 5K324AK2004	1E 003	J-15 RDS 310010		3900 112. DR/IJ	H,M L	B 180 DYS B 180 DYS
1C41*P024B	STANDBY LIQ CONTROL PP GE-UNION PUMP GENERAL ELECTRIC 5K324AK2004	1E 003	J-15 RDS 310010		3900 112. DR/IJ	H,M	B 180 DYS

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	SUBMG
MODEL / CATALOG NO	SPEC	PO NUMBER				
*****	*****	*****	*****	*****	*****	*****
					L	. B
						. 180 DYS
						.
						.
.1E11*P014A	RHR PUMP NEAR COLUMN C-11				H,M	. A
GE-BYRON JACKSON	1E	G-01	3111			. 180 DYS
GENERAL ELECTRIC		RBS	8. EQ			.
*5K6339XC157A	003	310010				.
					L	. A
						. 180 DYS
						.
						.
	SIX MONTH ACCIDENT DOSE REDUCED TO 4.5E6 BY CALCULATION SNPS-1-UR-ZZ-L1					
.1E11*P014B	RHR PUMP NEAR COLUMN				H,M	. A
GE-BYRON JACKSON	1E	G-01	3111			. 180 DYS
GENERAL ELECTRIC		RBS	8. EQ			.
*5K6339XC157A	003	310010				.
					L	. A
						. 180 DYS
						.
						.
	SIX MONTH ACCIDENT DOSE REDUCED TO 4.5E6 BY CALCULATION SNPS-1-UR-ZZ-L1					
.1E11*P014C	RHR PUMP NEAR COLUMN C-11				H,M	. A
GE-BYRON JACKSON	1E	G-01	3111			. 180 DYS
GENERAL ELECTRIC		RBS	8. EQ			.
*5K6339XC157A	003	310010				.
					L	. A
						. 180 DYS
						.
						.
	SIX MONTH ACCIDENT DOSE REDUCED TO 4.5E6 BY CALCULATION SNPS-1-UR-ZZ-L1					
.1E11*P014D	RHR PUMP NEAR COLUMN C-5				H,M	. A
GE-BYRON JACKSON	1E	G-01	3111			. 180 DYS
GENERAL ELECTRIC		RBS	8. EQ			.
*5K6339XC157A	003	310010				.

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 JOB CLIENT LILCO

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV		
	MAKE / MANUFACTURER	SPEC	PO NUMBER	QUAL STAT		
	MODEL / CATALOG NO				SUBMG	

					L	. A
						. 180 DYS
						.
						.
	SIX MONTH ACCIDENT DOSE REDUCED TO 4.5E6 BY CALCULATION SNPS-1-UR-ZZ-L1					.
1E21*P013A	CORE SPRAY PP NEAR COLUMN C-11.				H,H	. B
	GE-BYRON JACK 1E . G-01 . 3111 .					. 180 DYS
	GENERAL ELECTRIC . RBS 8. EQ .					.
	SN6339XC94A 003 . 310010 .					.
					L	. A
						. 180 DYS
						.
						. N/A
	SIX MONTH ACCIDENT DOSE REDUCED TO 4.5E6 BY CALCULATION SNPS-1-UR-ZZ-L1					.
1E21*P013B	CORE SPRAY PP NEAR COLUMN C-5 .				H,H	. B
	GE-BYRON JACK 1E . G-01 . 3111 .					. 180 DYS
	GENERAL ELECTRIC . RBS 8. EQ .					.
	SN6339XC94A 003 . 310010 .					.
					L	. A
						. 180 DYS
						.
						. N/A
	SIX MONTH ACCIDENT DOSE REDUCED TO 4.5E6 BY CALCULATION SNPS-1-UR-ZZ-L1					.

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EQUIPMENT ID	EQUIPMENT DESCRIPTION
VENDOR ID	VENDOR NAME

QAC	ZONE	EQ SHEET
NU-CAT	BLDG ELEV	QUAL STAT
SPEC	PO NUMBER	

ENG	COND	OPER	CODE
-----	------	------	------

SUBMG

REPORT GROUP HAK = GOULD

.1R24*PNL111	M-G SET CONTROL CABINET 111	ALL	A
	LOUIS ALLIS 1E	N-21	439-02
	GOULD	RBS	00150.*FT/IJ
	5600 SERIES 439	310950	N/A
.1R24*PNL112	M-G SET CONTROL CABINET 112	ALL	A
	LOUIS ALLIS 1E	N-21	439-02
	GOULD	RBS	00150.*FT/IJ
	5600 SERIES 439	310950	N/A
.1R24*PNL113A	M-G SET CONTROL CABINET 113A	ALL	A
	LOUIS ALLIS 1E	N-21	439-02
	GOULD	RBS	00150.*FT/IJ
	5600 SERIES 439	310950	N/A
.1R24*PNL113B	M-G SET CONTROL CABINET 113B	ALL	A
	LOUIS ALLIS 1E	N-21	439-02
	GOULD	RBS	00150.*FT/IJ
	5600 SERIES 439	310950	N/A

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EQUIPMENT ID EQUIPMENT DESCRIPTION

ENG COND OPER CODE

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

MAKE / MANUFACTURER

NU-CAT

BLDG ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC

PO NUMBER

SUBNG

 REPORT GROUP MAK = ITT *****

.1146*MOD034A

RBSVS FILTER TRAIN DISCH

*POMERS REGUL

1E

H-20

319-02

*H,M

.*A

ITT

RES

182. IJ

.*180 DYS

NM91

319

310738

*L

.*A

.*180 DYS

.1146*MOD034B

RBSVS FILTER TRAIN DISCH

*POMERS REGUL

1E

H-20

319-02

*H,M

.*A

ITT

RBS

182. IJ

.*180 DYS

NM91

319

310738

*L

.*A

.*180 DYS

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	NAME / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= KAHEN					

.1D21-PNL085A	CONTAIN. HIGH RANGE AREA MON.				ALL	. A
*KAHEN SCI CORP	2E	H-09				. 180 DYS
*KAHEN	*	RDS	00078	TA		.
*KIL	475	310985				.
.1D21-PNL085B	CONTAIN. HIGH RANGE AREA MON.				ALL	. A
*KAHEN SCI CORP	2E	H-09				. 180 DYS
*KAHEN	*	RDS	00078	TA		.
*KIL	475	310985				.
.1D21*RE095A	CONTAIN. HIGH RANGE RAD. DET.				H,M	. A
*KAHEN SCI CORP	1E	D-22				. 180 DYS
*KAHEN	*RG	RDD	*00024	TA		.
*KMA-HR	475	310985				.
					L	. A
						. 180 DYS
						.
						.
.1D21*RE095B	CONTAIN. HIGH RANGE RAD. DET.				H,M	. A
*KAHEN SCI CORP	1E	D-22				. 180 DYS
*KAHEN	*RG	RDD	*00025	TA		.
*KMA-HR	475	310985				.
					L	. A
						. 180 DYS
						.
						.

1R31*NFN03

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

ENG COND

OPER CODE

MAKE / MANUFACTURER

HU-CAT BLDG ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC PO NUMBER

SUBNG

REPORT GROUP MAK

= KERITE CO

.1R31*NFN03

PWR CABLES

KERITE CO

KERITE CO

5 KV POWER CABLE

REPRESENTS ALL CABLE PURCHASED UNDER SHI-127

1E

ALL

127-01

RB

***** EQ

127 310561

ALL

A

180 DYS

SPR

NA

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	EMG COND SUBMG	OPER CODE
***** REPORT GROUP MAK	***** = LIMITORQUE	*****	*****	*****	*****	*****
.1P41*MOV129A	DRYWELL BSTR HX DISCH VV CONTROMATICS LIMITORQUE HIBC-SND-000-02	1E 281	G-01 RBS 310546	.W89V-03 00008. EQ	*H,M *L	.WB *180 DYS *A *070 MIN
	NOT:RELIANCE /INS CL:B /460VAC					
.1P41*MOV129B	DRYWELL BSTR HX DISCH VV CONTROMATICS LIMITORQUE HIBC-SND-000-02	1E 281	G-01 RBS 310744	.W89V-03 00008. EQ	*H,M *L	.WB *180 DYS *A *070 MIN
	NOT:RELIANCE /INS CL:B /460VAC					
.1P41*MOV042A 03160004	EMER SH TO FUEL POOL HENRY PRATT LIMITORQUE HIBC-SND-00-02	1E 197	G-01 RBS 310546	.W89V-03 31. EQ	*H,M L	.WB *180 DYS *A *180 DYS N/A
	NOT:RELIANCE /INS CL:B /460VAC					
.1P41*MOV042B 03160004	EMER SH TO FUEL POOL HENRY PRATT LIMITORQUE HIBC-SND-00-02	1E 197	G-01 RBS 310546	.W 31.*DR/IJ	*H,M L	.WB *180 DYS *A *180 DYS N/A
	NOT:RELIANCE /INS CL: /460VAC					

1P41*MOV033A

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND SUDMG	OPER CODE

.1P41*MOV033A 02940003	TO RHR SYSTEM HENRY PRATT LIMITORQUE H10C-SMB-000-02	1E 197	. G-01 . RBS . 310546	. *88V-03 28. EQ .	*H,M .	. *B .*180 DYS .
					L	. *A .*180 DYS .
						N/A
MOT:RELIANCE /INS CL:B /460VAC						
.1P41*MOV033B 02960003	TO RHR SYSTEM HENRY PRATT LIMITORQUE H10C-SMB-000-02	1E 197	. G-01 . RBS . 310546	. *88V-03 28. EQ .	*H,M .	. *B .*180 DYS .
					L	. A . 180 DYS .
						N/A
MOT:RELIANCE /INS CL:B /460VAC						
.1P41*MOV034A E11-F002A	RHR HX E-34A DISCH HENRY PRATT LIMITORQUE H10C-SMB-000-02	1E 197	. G-01 . RBS . 310546	. *88V-03 32. EQ .	*H,M .	. *A .*180 DYS .
					*L	. *A .*180 DYS .
MOT:RELIANCE /INS CL:B /460VAC						
.1P41*MOV034B E11-F002B	RHR HX E-34B DISCH HENRY PRATT LIMITORQUE H10C-SMB-000-02	1E 197	. G-01 . RBS . 310546	. *88V-03 27. EQ .	*H,M .	. *A .*180 DYS .
					*L	. *A .*180 DYS .
MOT:RELIANCE /INS CL:B /460VAC						

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 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					

.1P41*MOV037A	RBCLCH HX DISCH	1E	G-01	.#88V-03	*H,M	*A
	HENRY PRATT			23. EQ		*180 DYS
	LIMITORQUE					
	H1BC-SMB-000-02	197	310546			
					*L	*A
						*180 DYS
	NOT:RELIANCE /INS CL:B /460VAC					
.1P41*MOV037B	RBCLCH HX DISCH	1E	G-01	.#88V-03	*H,M	*A
	HENRY PRATT			23. EQ		*180 DYS
	LIMITORQUE					
	H1BC-SMB-000-02	197	310546			
					*L	*A
						*180 DYS
	NOT:RELIANCE /INS CL:B /460VAC					
.1P41*MOV033C	TO RHR SYSTEM	1E	G-01	.#88V-03	*H,M	*B
02900004	HENRY PRATT			32. EQ		*180 DYS
	LIMITORQUE					
	H2BC-SMB-000-05	197	310546			
					L	A
						180 DYS
	NOT:RELIANCE /INS CL:B /460VAC					
.1P41*MOV033D	TO RHR SYSTEM	1E	G-01	.#88V-03	*H,M	*B
03000004	HENRY PRATT			32. EQ		*180 DYS
	LIMITORQUE					
	H2BC-SMB-000-05	197	310546			
					L	A
						180 DYS
	NOT:RELIANCE /INS CL:B /460VAC					

1E11*MOV037A REPORT NO. PES-601 JOB 1160002 05/21/82

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND SUDMG	OPER CODE

.1E11*MOV037A E11-F015A	RHR OUTBOARD VV NR COLUMN C-5 ANCHOR DARLIN LIMITORQUE SB-4-200	1E 88AD	G-03 310501	. 72. FT/IJ	H,M	. A . 180 DYS
					L	. A . 180 DYS
	HOT:ELECT APP /INS CL:B /460VAC					
.1E11*MOV037B E11-F015B	RHR OUTBOARD VV NR COLUMN C-5 ANCHOR DARLIN LIMITORQUE SB-4-200	1E 88AD	G-03 310501	. 72. FT/IJ	H,M	. A . 180 DYS
					L	. A . 180 DYS
	HOT:ELECT APP /INS CL:B /460VAC					
.1E51*MOV044	TURBINE STOP VALVE GENERAL ELEC LIMITORQUE SMB-0	1E 003	G-01 310010	. 12.*FT/IJ	*H,M	. *B . *180 DYS
					*L	. *B . *180 DYS
	HOT:RELIANCE/INS CL:B /125VDC					
1E41*MOV044 E41-F021	TURB ENH TO SUPP POOL C-6 VELAN LIMITORQUE SMB-0-15	1E 89V	G-01 310502	. 30. FT/IJ	H,M	. A . 012 HRS
					L	. A . 012 HRS
	HOT:PORT PEER /INS CL:B /125VDC					

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	OAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	ENG COND SUBMG	OPER CODE

1E11*MOV039A E11-F021A	RHR CONT SPRAY HDR NR COL C-11. VELAN LIMITORQUE SMB-0-25	1E 88V	G-10 RBS 310502	.88V-03 103. EQ	H,M	. A . 070 MIN
					L	. A . 180 DYS
	MOT:RELIANCE /INS CL:B /460VAC					
1E11*MOV039B E11-F021B	RHR CONT SPRAY VV NR COL C-5 VELAN LIMITORQUE SMB-0-25	1E 88V	G-10 RBS 310502	.88V-03 103. EQ	H,M	. A . 070 MIN
					L	. A . 180 DYS
	MOT:RELIANCE /INS CL:B /460VAC					
1E41*MOV031 E41-F004	HPCI PP SUCT COND STG NR C-6 VELAN LIMITORQUE SMB-0-25	1E 88V	G-01 RBS 310502	. 20. FT/IJ	H,M	. A . 012 HRS
					L	. A . 012 HRS
	MOT:PORT PEER /INS CL:B /125VDC					
1E41*MOV032 E41-F042	HPCI PP SUCT SUPP POOL NR C-7 VELAN LIMITORQUE SMB-0-25	1E 88V	G-01 RBS 310502	. 24. FT/IJ	H,M	. A . 012 HRS
					L	. A . 012 HRS
	MOT:PORT PEER /INS CL:B /125VDC					

1P42*MOV041A REPORT NO. PES-801 JOB 1160002 05/21/82

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLOG ELEV PO NUMBER	EQ SHEET QUAL STAT	EMG COND SUBMG	OPER CODE

.1P42*MOV041A	RBCLCH HX CROSSOVER INLET VV	.	.	.	*H,M	.*B
	VELAN	1E	G-01	.*88V-03		.*180 DYS
	LIMITORQUE		RBS	28. EQ		.
	SHB-0-25	88V	310512	.		.
					L	.*A
						.*070 MIN
						N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1P42*MOV041B	RBCLCH HX CROSSOVER INLET VV	.	.	.	*H,M	.*B
	VELAN	1E	G-01	.*88V-03		.*180 DYS
	LIMITORQUE		RBS	28. EQ		.
	SHB-0-25	88V	310502	.		.
					L	.*A
						.*070 MIN
						N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1P42*MOV042A	RBCLCH HT EXC INLET VV	.	.	.	*H,M	.*A
	VELAN	1E	G-01	.*88V-03		.*070 MIN
	LIMITORQUE		RBS	30. EQ		.
	SHB-0-25	88V	310502	.		.
					*L	.*A
						.*070 MIN
						.
						.
	MOT:RELIANCE /INS CL:B /460VAC					
.1P42*MOV042B	RBCLCH HT EXCH INLET VV	.	.	.	*H,M	.*A
	VELAN	1E	G-01	.*88V-03		.*070 MIN
	LIMITORQUE		RBS	30. EQ		.
	SHB-0-25	88V	310502	.		.
					*L	.*A
						.*070 MIN
						.
						.
	MOT:RELIANCE /INS CL:B /460VAC					

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EQUIPMENT ID	EQUIPMENT DESCRIPTION				EHG COND	OPER CODE
VENDOR ID	VENDOR NAME	QAC	ZONE	EQ SHEET		
	MAKE / MANUFACTURER	NU-CAT	BLDG	ELEV	QUAL STAT	
	MODEL / CATALOG NO	SPEC	PO NUMBER			SUBMG

1E11*MOV031A	RHR PP SUCTION NR COLUMN C-11					H,M
E11-F004A	ANCHOR DARLIN	1E	G-01	.#88V-03		. A
	LIMITORQUE		RBS	24. EQ		. 180 DYS
	SMB-0-40	88AD	310501			.
						.
						L
						. A
						. 180 DYS
						.
						.
	HOT:RELIANCE/INS CL:B /460VAC					
1E11*MOV031B	RHR PP SUCTION NR COLUMN C-5					H,M
E11-F004B	ANCHOR DARLIN	1E	G-01	.#88V-03		. A
	LIMITORQUE		RBS	24. EQ		. 180 DYS
	SMB-0-40	88AD	310501			.
						.
						L
						. A
						. 180 DYS
						.
						.
	HOT:RELIANCE/INS CL:B /460VAC					
1E11*MOV031C	RHR PP SUCTION NR COLUMN C-12					H,M
E11-F004C	ANCHOR DARLIN	1E	G-01	.#88V-03		. A
	LIMITORQUE		RBS	24. EQ		. 180 DYS
	SMB-0-40	88AD	310501			.
						.
						L
						. A
						. 180 DYS
						.
						.
	HOT:RELIANCE/INS CL:B /460VAC					
1E11*MOV031D	RHR PP SUCTION NR COLUMN C-4					H,M
E11-F004D	ANCHOR DARLIN	1E	G-01	.#88V-03		. A
	LIMITORQUE		RBS	24. EQ		. 180 DYS
	SMB-0-40	88AD	310501			.
						.
						L
						. A
						. 180 DYS
						.
						.
	HOT:RELIANCE/INS CL:B /460VAC					

1E11*NOV032A REPORT NO. PES-801 JOB 1160002 05/21/82

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.1E11*NOV032A E11-F006A	RHR PUMP SUCTION C-11 ANCHOR DARLIN LIMITORQUE SMB-0-40	1E 88AD	. G-01 RES 310501	. *88V-03 15. EQ	H,M	. A . 180 DYS
					L	. A . 180 DYS
	MOT:RELIANCE/INS CL:B /460VAC					
.1E11*NOV032B E11-F006B	RHR PUMP SUCTION C-5 ANCHOR DARLIN LIMITORQUE SMB-0-40	1E 88AD	. G-01 RBS 310501	. *88V-03 10. EQ	H,M	. A . 180 DYS
					L	. A . 180 DYS
	MOT:RELIANCE/INS CL:B /460VAC					
.1E11*NOV032C E11-F006C	RHR PUMP SUCTION C-12 ANCHOR DARLIN LIMITORQUE SMB-0-40	1E 88AD	. G-01 RBS 310501	. *88V-03 20. EQ	H,M	. A . 180 DYS
					L	. A . 180 DYS
	MOT:RELIANCE/INS CL:B /460VAC					
.1E11*NOV032D E11-F006D	RHR PUMP SUCTION C-4 ANCHOR DARLIN LIMITORQUE SMB-0-40	1E 88AD	. G-01 RBS 310501	. *88V-03 19. EQ	H,M	. A . 180 DYS
					L	. A . 180 DYS
	MOT:RELIANCE/INS CL:B /460VAC					

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

MAKE / MANUFACTURER

MODEL / CATALOG NO

QAC

ZONE

NU-CAT

BLDG

ELEV

EQ SHEET

QUAL STAT

SPEC

PO NUMBER

ENG COND

OPER CODE

SUDHG

.1G33*MOV031

G33-F102

REAC RECIRC SUCT EAST DRYWELL

VELAN

LIMITORQUE

SMB-0-40

1E

B-22

. *88V-01

. RBS

99. EQ

88V

. 310502

H,M

. B

. 180 DYS

L

. B

. 180 DYS

MOT:RELIANCE /INS CL:RH/460VAC

.1G41*MOV034A

P-211 SUCTION

VELAN

LIMITORQUE

SMB-0-7.5

1E

G-01

. *88V-01

. RBS

30. EQ

88V

. 310502

H,M

. B

. 180 DYS

L

. A

. 070 MIN

MOT:RELIANCE /INS CL: /460VAC

.1G41*MOV034B

P-211 SUCTION

VELAN

LIMITORQUE

SMB-0-7.5

1E

G-01

. *88V-01

. RBS

30. FT/IJ

88V

. 310502

H,M

. B

. 180 DYS

L

. A

. 070 MIN

MOT:RELIANCE /INS CL: /460VAC

.1E11*MOV081A

E11-F122A

1E11*MOV081A BYPASS SH DRYWELL

VELAN

LIMITORQUE

SMB-00-05

1E

D-22

. *88V-01

. RBS

81. EQ

253

. 310512

H,M

. B

. 180 DYS

L

. A

. 070 MIN

MOT:RELIANCE /INS CL:RH/460VAC

1E11*MOV081B REPORT NO. PES-801 JOB 1160002 05/21/82

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***** SUBMG *****						
1E11*MOV081B E11-F122B	1E11*AOV081B BYPASS NE DRYWELL. VELAN LIMITORQUE SMB-00-05	1E 253	D-22 RBD 310512	. *88V-01 81. EQ .	H,M .	B 180 DYS .
		.	.	.	L	A 070 MIN
	
	
	NOT:RELIANCE /INS CL:RH/460VAC					
1E21*MOV081A E21-F047A	1E21*AOV081A BYPASS WEST RB VELAN LIMITORQUE SMB-00-05	1E 253	B-22 RBD 310512	. *88V-01 128. EQ .	H,M .	B 180 DYS .
		.	.	.	L	A 070 MIN
	
		.	.	.	MST	N/A
	NOT:RELIANCE /INS CL:RH/460VAC					
1E21*MOV081B E21-F047B	1E21*AOV081B BYPASS EAST RB VELAN LIMITORQUE SMB-00-05	1E 253	B-22 RBD 310512	. *88V-01 128. EQ .	H,M .	B 180 DYS .
		.	.	.	L	A 070 MIN
	
		.	.	.	MST	N/A
	NOT:RELIANCE /INS CL:RH/460VAC					
1E41*MOV039 E41-F059	TO LUDE OIL COOLER C-8 VELAN LIMITORQUE SMB-00-05	1E 253	G-01 RBD 310512	. * 16.*FT/IJ .	H,M .	A 012 HRS .
		.	.	.	L	A 012 HRS
	
	
	NOT:RELIANCE /INS CL:B /125VDC					

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.1P42*MOV037	TO HOT PENETRATION COOL VELAN	1	.	.	*L	.A
	*LIMITORQUE		RBS	74.*FT/IJ		.070 MIN
	*SND-00-05	253	310512	.		.
.1G41*MOV032A	SERVICE WATER INLET VALVE ITT GRINNELL	1E	S-18	.88V-03	H,M	.B
	LIMITORQUE		RBS	00162. EQ		.180 DYS
	SND-00-10	203	310539	.		.
		.	.	.	L	.A
		.	.	.		.180 DYS
		.	.	.		NA
	HOT:RELIANCE /INS CL:B /460VAC					
.1G41*MOV032B	SERVICE WATER INLET VALVE ITT GRINNELL	1E	S-18	.88V-03	H,M	.B
	LIMITORQUE		RBS	00162. EQ		.180 DYS
	SND-00-10	203	310539	.		.
		.	.	.	L	.A
		.	.	.		.180 DYS
		.	.	.		NA
	HOT:RELIANCE /INS CL:B /460VAC					
.1B21*MOV061 B21-F067A	MAIN STN LINE DRAIN VV VELAN	1E	T-08	.88V-03	H,M	.A
	LIMITORQUE		RBS	00078. EQ		.070 MIN
	SND-00-10	253	310512	.		.
		.	.	.	L	.A
		.	.	.		.070 MIN
	
	HOT:RELIANCE /INS CL:H /460VAC					
.1B21*MOV062 B21-F067B	MAIN STN LINE DRAIN VALVE VELAN	1E	T-08	.88V-03	H,M	.A
	LIMITORQUE		RBS	00078. EQ		.070 MIN
	SND-00-10	253	310512	.		.

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*****	*****	*****	*****	*****	*****	*****	*****
	MOT:RELIANCE /INS CL:B /460VAC					L	. B . 180 DYS . N/A
1E11*MOV053 E11-F023	RHR HEAD SPRAY NR COLUMN C-5 VELAN LIMITORQUE SHD-00-10	1E 88V	G-12 RBS 310502	103. FT/IJ		H,M	. A . 070 MIN
	MOT:PORT PEER /INS CL:B /125VDC					L	. A . 070 MIN
1E41*MOV036 E41-F012	HPCI P MIN FLOW BYPASS NR C-7 VELAN LIMITORQUE SHD-00-10	1E 88V	G-01 RBS 310502	20. FT/IJ		H,M	. A . 012 HRS
	MOT:PORT PEER /INS CL:B /125VDC					L	. A . 012 HRS
1E51*MOV034 E51-F012	RCIC PUMP DISCH VELAN LIMITORQUE SHD-00-10	1E 88V	G-01 RBS 310502	19. *FT/IJ		*H,M	. *B . *180 DYS
	MOT:PORT PEER /INS CL:B /125VDC					L	. *B . *180 DYS . N/A
1E51*MOV035 E51-F013	RCIC PUMP DISCH VELAN LIMITORQUE SHD-00-10	1E 88V	T-12 RBS 310502	. *88V-02 80. *QS		*H,M	. *B . *180 DYS

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
					*L	*A
						*070 MIN
	MOT:PORT PEER /INS CL:RH/125VDC					
.1E51*MOV037	RCIC DISCH TO COND STG				*H,M	*B
E51-F022	VELAN	1E	G-01			*180 DYS
	LIMITORQUE		RBS	20. FT/IJ		
	SMB-00-10	88V	310502			
					L	*B
						*180 DYS
						N/A
	MOT:PORT PEER /INS CL: /125VDC					
.1E51*MOV041	RCIC STEAM TO TURB NRT DRYWELL.				*H,M	*A
E51-F007	VELAN	1E	D-22	*88V-01		*070 MIN
	LIMITORQUE		RBD	88. EQ		
	SMB-00-10	88V	310502			
					*L	*A
						*070 MIN
	MOT:RELIANCE /INS CL:RH/460VAC					
.1G33*MOV032	REAC VESSEL DRAIN EAST DRYWELL.				H,M	B
G33-F101	VELAN	1E	B-22	*88V-01		180 DYS
	LIMITORQUE		RBD	99. EQ		
	SMB-00-10	88V	310502			
					L	B
						180 DYS
	MOT:RELIANCE /INS CL:PH/460VAC					
.1E11*MOV041A	RHR SUPP POOL SPRAY HD NR C-10.				H,M	B
E11-F027A	VELAN	1E	G-02	*88V-03		180 DYS
	LIMITORQUE		RBS	51. EQ		
	SMB-00-15	88V	310502			

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*****	*****	*****	*****	*****	*****	*****
					L	. A . 180 DYS . NA
	MOT:RELIANCE /INS CL:B /460VAC					
.1E11*MOV041B E11-F027B	RHR SUPP POOL SPRAY HD NR C-6 VELAN 1E LIMITORQUE SMB-00-15	G-02 RBS 88V	40. FT/IJ 399772		H,M	. B . 180 DYS . NA
					L	. A . 160 DYS . NA
	MOT:I /INS CL:RH/125VDC					
.1E11*MOV043A E11-F026A	RHR HX TO RCIC P SUCT NR C-11 VELAN 1E LIMITORQUE SMB-00-15	G-01 RBS 88V	.88V-03 17. EQ 310502		H,M	. B . 180 DYS . NA
					L	. B . 180 DYS . NA
	MOT:RELIANCE /INS CL:B /460VAC					
.1E11*MOV043B E11-F026B	RHR HX TO RCIC P SUCT NR C-5 VELAN 1E LIMITORQUE SMB-00-15	G-01 RBS 88V	.88V-03 17. EQ 310502		H,M	. B . 180 DYS . N/A
					L	. B . 180 DYS . N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1E11*MOV044A E11-F011A	RHR HX DR TO SUPP POOL C-11 VELAN 1E LIMITORQUE SMB-00-15	G-01 RBS 88V	.88V-03 17. EQ 310502		H,M	. B . 180 DYS . NA

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PD NUMBER	EQ SHEET QUAL STAY	ENG COND SUBMG	OPER CODE

					L	. B . 180 DYS . N/A
HOT:RELIANCE /INS CL:B /460VAC						
.1E11*MOV044B E11-F011B	RHR HX DR TO SUPP POOL C-5 VELAN LIMITORQUE SMB-00-15	1E 88V	. G-01 . RBS . 310502	. *88V-03 17. EQ	H,M	. B . 180 DYS . N/A
					L	. B . 180 DYS . N/A
HOT:RELIANCE /INS CL:B /460VAC						
.1E11*MOV054 E11-F022	RHR HEAD SPRAY NR COLUMN C-5 VELAN LIMITORQUE SMB-00-15	1E 88V	. B-22 . RBS . 310502	. *88V-01 104. EQ	H,M	. A . 070 MIN . N/A
					L	. A . 070 MIN . N/A
HOT:RELIANCE /INS CL:RH/460VAC						
.1G33*MOV030A G33-F106	REAC RECIRC SUCT EAST DRYWELL VELAN LIMITORQUE SMB-00-15	1E 88V	. D-22 . RBS . 310502	. *88V-01 98. EQ	H,M	. B . 180 DYS . N/A
					L	. B . 180 DYS . N/A
HOT:RELIANCE /INS CL:RH/460VAC						
.1G33*MOV030B G33-F100	REAC RECIRC SUCT EAST DRYWELL VELAN LIMITORQUE SMB-00-15	1E 88V	. D-22 . RBS . 310502	. *88V-01 99. EQ	H,M	. B . 180 DYS . N/A

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VENDOR ID	VENDOR NAME	QAC	ZONE	EQ SHEET		
	MAKE / MANUFACTURER	BU-CAT	BLDG	ELEV	QUAL STAT	
	MODEL / CATALOG NO	SPEC	PO NUMBER			SUBMG

						L
						A
						070 MIN
						N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1G33*MOV033	REAC VESSEL DISCH EAST DRYWELL.					H,M
G33-F001	VELAN	1E	B-22	.88V-01		A
	LIMITORQUE		RBD	121. EQ		070 MIN
	SHB-00-25	88V	310502			
						L
						B
						180 DYS
	MOT:RELIANCE /INS CL:RH/460VAC					
.1E51*MOV031	RCIC PUMP SUCT COND STG					*H,M
E51-F010	VELAN	1E	G-01			*B
	LIMITORQUE		RDS	24. FT/IJ		*180 DYS
	SHB-00-5	88V	310502			
						*L
						*B
						*180 DYS
	MOT:PORT PEER /INS CL:B /125VDC					
.1E51*MOV032	RCIC PUMP SUCT SUPP POOL					*H,M
E51-F031	VELAN	1E	G-01			*B
	LIMITORQUE		RDS	24. FT/IJ		*180 DYS
	SHB-00-5	88V	310502			
						*L
						*B
						*180 DYS
	MOT:PORT PEER /INS CL:B /125VDC					
1T46*MOV031A	ATHOS INBD CONT ISO NW DRYWELL.					H,M
	VELAN	1E	D-22	.88V-01		B
	LIMITORQUE		RBD	67. EQ		100 DYS
	SHB-00-5	88V	310502			

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VENDOR ID	MAKE / MANUFACTURER	NU-CAT	BLDG	ELEV	QUAL STAT		
	MODEL / CATALOG NO	SPEC	PO NUMBER			SUBMG	
*****	*****	*****	*****	*****	*****	*****	*****
						L	. A
							. 180 DYS
							.
							.
	MOT:RELIANCE /INS CL:RH/460VAC						.
1T48*MOV031B	ATHOS INSD CONT ISO SE DRYWELL.					H,M	. B
	VELAN 1E . D-22 . 88V-01						. 180 DYS
	LIMITORQUE . RDS 73. EQ						.
	SMB-00-5 88V . 310502						.
							.
						L	. A
							. 180 DYS
							.
							.
	MOT:RELIANCE /INS CL:RH/460VAC						.
1T48*MOV033A	ATHOS INSD CONT ISO N SUP CHM .					H,M	. B
	VELAN 1E . L-02 . 88V-01						. 180 DYS
	LIMITORQUE . RDS 51. EQ						.
	SMB-00-5 88V . 310502						.
							.
						L	. A
							. 180 DYS
							.
							.
	MOT:RELIANCE /INS CL:RH/460VAC						.
1T48*MOV033B	ATHOS INSD CONT ISO NE SUP CHM.					H,M	. B
	VELAN 1E . L-02 . 88V-01						. 180 DYS
	LIMITORQUE . RDS 51. EQ						.
	SMB-00-5 88V . 310502						.
							.
						L	. A
							. 180 DYS
							.
							.
	MOT:RELIANCE /INS CL:RH/460VAC						.
.1B21*MOV034 B21-F020	DRAIN TO CONDENSER					H,M	. B
	VELAN 1E . H-08 . *88V-03						. 180 DYS
	LIMITORQUE . RDS 78. EQ						.
	SMB-00-7.5 88V . 310502						.

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*****	*****	*****	*****	*****	*****	*****
					L	. B . 180 DYS
	MOT:RELIANCE /INS CL:B /460VAC					
1E11*MOV051 E11-F049	RHR TO RADW SURGE TANK VELAN LIMITORQUE SHD-00-7.5	1E 88V	G-07 RBS 310502	63. FT/IJ	H,H	. B . 180 DYS
					L	. B . 180 DYS
						N/A
	MOT:PORT PEER /INS CL:B /125VDC					
1E51*MOV042 E51-F008	RCIC STEAM TO TURBINE VELAN LIMITORQUE SHD-00-7.5	1E 88V	T-08 RBS 310502	. *88V-02 88. QG	*H,H	. *A . *070 MIN
					*L	. *A . *070 MIN
	MOT:PORT PEER /INS CL:H /125VDC					
1E51*MOV043 E51-F045	RCIC STH TO TURBINE *COPIES VULCAN LIMITORQUE SHD-00-7.5	1E 88V	G-01 RBS 310502	. *88V-02 12. QG	*H,H	. *B . *180 DYS
					*L	. *B . *180 DYS
	MOT:PORT PEER /INS CL:H /125VDC					
1T40*MOV032A	ATMOS INDO CONT ISO SH DRYWELL VELAN LIMITORQUE SHD-00-7.5	1E 88V	D-22 RBS 310502	. 88V-01 71. EQ	H,H	. B . 100 DYS

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*****	*****	*****	*****	*****	*****	*****
					L	. A . 180 DYS
	MOT:RELIANCE /INS CL:RH/460VAC					
1T48*MOV032B	ATHOS INDD CONT ISO NE DRYWELL. VELAN LIMITORQUE SMB-00-7.5	1E . D-22 . RBD 88V	. 88V-01 71. EQ . 310502		H,M	. B . 180 DYS
					L	. A . 180 DYS
	MOT:RELIANCE /INS CL:RH/460VAC					
1T48*MOV034A	ATHOS INDD CONT ISO SW SUP CHM. VELAN LIMITORQUE SMB-00-7.5	1E . L-02 . RBS 88V	. 88V-01 51. EQ . 310502		H,M	. B . 180 DYS
					L	. A . 180 DYS
	MOT:RELIANCE /INS CL:RH/460VAC					
1T48*MOV034B	ATHOS INDD CONT ISO S SUP CHM. VELAN LIMITORQUE SMB-00-7.5	1E . L-02 . RBS 88V	. 88V-01 51. EQ . 310502		H,M	. B . 180 DYS
					L	. A . 180 DYS
	MOT:RELIANCE /INS CL:RH/460VAC					
1T48*MOV037A	ATHOS OTED CONT ISO VELAN LIMITORQUE SMB-00-7.5	1E . G-03 . RBS 88V	. 88V-03 73. EQ . 310502		H,M	. B . 180 DYS

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VENDOR ID	VENDOR NAME	QAC	ZONE	EQ SHEET		
	MAKE / MANUFACTURER	NU-CAT	BLDG	ELEV	QUAL STAT	
	MODEL / CATALOG NO	SPEC	PO NUMBER			
*****	*****	*****	*****	*****	*****	*****
					SUBMG	
					L	. A
						. 180 DYS
						.
						.
	MOT:RELIANCE /INS CL:RH/460VAC					.
.1T48*MOV037B	ATHOS OTBD CONT ISO				H,H	. B
	VELAN	1E	. G-03	. *88V-03		. 180 DYS
	LIMITORQUE		. RBS	72. EQ		.
	SMB-00-7.5	88V	. 310502			.
						.
					L	. A
						. 180 DYS
						.
						.
	MOT:RELIANCE /INS CL:B /460VAC					.
.1T48*MOV040A	ATHOS OTED CONT ISO				H,H	. B
	VELAN	1E	. L-02	. *88V-03		. 180 DYS
	LIMITORQUE		. RBS	51. EQ		.
	SMB-00-7.5	88V	. 310502			.
						.
					L	. A
						. 180 DYS
						.
						.
	MOT:RELIANCE /INS CL:B /460VAC					N/A
.1T48*MOV040B	ATHOS OTED CONT ISO				H,H	. B
	VELAN	1E	. L-02	. *88V-03		. 180 DYS
	LIMITORQUE		. RBS	51. EQ		.
	SMB-00-7.5	88V	. 310502			.
						.
					L	. A
						. 180 DYS
						.
						.
	MOT:RELIANCE /INS CL: /460VAC					N/A
.1T48*MOV006A	GAS INLET VALVE				L	. A
FV-1	ATOMICS INST	1E	. J-15	. *88V-01		. 180 DYS
	LIMITORQUE	1E	. RBS	00112. EQ		.
	SMB-000	289	. 310624			.
	MOT:RELIANCE /INS CL:RH/460VAC					.

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***** SUBHG *****						
.1T48*MOV006B FV-1	GAS INLET VALVE ATOMICS INST LIMITORQUE SHB-000 MOT:RELIANCE /INS CL:RH/460VAC	1E 1E 289	.J-16 .RBS .310624	.#88V-01 00112. EQ .	L	.A .180 DYS .
.1T48*MOV007A FV-2	RECIRC GAS ATOMICS INST LIMITORQUE SHB-000 MOT:RELIANCE /INS CL:RH/460VAC	1E 1E 289	.J-15 .RDS .310624	.#88V-01 00112. EQ .	L	.A .180 DYS .
*1T48*MOV007B ADDED	*RECIRC GAS *ATOMICS INST *LIMITORQUE *SHB-000	*1E *1E *289	*.J-16 *.RBS *.310624	*.88V-01 *00112.*EQ .	*L	*.A *.180 DYS .
.1T48*MOV016A HV-10	WATER VALVE ATOMICS INST LIMITORQUE SHB-000 MOT:PARMOUNT /INS CL:B /460VAC	1E 1E 289	.J-15 .RBS .310624	.# 00112.*FT/IJ .	L	.A .180 DYS N/A
.1T48*MOV016B HV-10	WATER VALVE ATOMICS INST LIMITORQUE SHB-000 MOT:PARMOUNT /INS CL:B /460VAC	1E 1E 289	.J-16 .RBS .310624	.# 00112.*FT/IJ .	L	.A .180 DYS N/A
.1P41*MOV039A 03120004	DRAIN TO RHR SYSTEM ITT CRINNELL LIMITORQUE SHB-000-02	1E 1E 203	.G-01 .RBS .310539	.#88V-03 28. EQ .	*H,M	*.B *.180 DYS .
					L	.A .180 DYS N/A
.1P41*MOV039B 03140004	DRAIN TO RHR SYSTEM ITT CRINNELL LIMITORQUE SHB-000-02	1E 1E 203	.G-01 .RBS .310539	.#88V-03 28. EQ .	*H,M	*.B *.180 DYS .

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		MAKE / MANUFACTURER		NU-CAT	BLDG ELEV	QUAL STAT		
		MODEL / CATALOG NO		SPEC	PO NUMBER		SUBMG	
*****	*****	*****	*****	*****	*****	*****	*****	*****
				.			L	.#A
				.	.	.		.#180 DYS
			
				.	.	.		N/A
		MOT-RELIANCE /INS CL:B /460VAC						
IP41*NOV043	03200009	SPENT FUEL POOL LINE DRAIN VV					*H,M	.#B
		ITT GRINNELL	1E	G-01	.#88V-03	.		.#180 DYS
		LIMITORQUE		RBS	18. EQ	.		.
		SHD-000-02	203	310539	.	.		.
				.		.		.
				.	.	.	L	.#A
				.	.	.		.#180 DYS
			
				.	.	.		N/A
		MOT-RELIANCE /INS CL:B /460VAC						
IP41*NOV10CA		SAMPLE TO RAD MONITOR					*H,M	.#B
		ITT GRINNELL	1E	G-01	.#88V-03	.		.#180 DYS
		LIMITORQUE		RBS	8. EQ	.		.
		SHD-000-02	203	310539	.	.		.
				.		.		.
				.	.	.	L	.#A
				.	.	.		.#180 DYS
			
				.	.	.		N/A
		MOT-RELIANCE /INS CL:B /460VAC						
IP41*NOV10CB		SAMPLE TO RAD MONITOR					*H,M	.#B
		ITT GRINNELL	1E	G-01	.#88V-03	.		.#180 DYS
		LIMITORQUE		RBS	8. EQ	.		.
		SHD-000-02	203	310539	.	.		.
				.		.		.
				.	.	.	L	.#A
				.	.	.		.#180 DYS
			
				.	.	.		N/A
		MOT-RELIANCE /INS CL:B /460VAC						
IP50*NOV104		INST AIR TO SUPP CHAMBER VV					H,M	. B
		VELAN	1E	G-01	.#88V-03	.		. 160 DYS
		LIMITORQUE		RBS	00020. EQ	.		.
		SHD-000-02	214	310512	.	.		.

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					L	. A . 070 MIN . NA
	MOT:RELIANCE /INS CL:B /460VAC					
.1P50*MOV106	INSTR AIR TO SUPP CHAMBER BB	1E	G-01	. *88V-03	H,H	. B . 180 DYS
	VELAN		RBS	00020. EQ		
	LIMITORQUE	214	310512			
	SHB-000-02					
					L	. A . 070 MIN . NA
	MOT:RELIANCE /INS CL:B /460VAC					
.1T23*MOV031A	INLET PRESS TO ACC-A	1E	L-02	. *88V-03	H,H	. B . 180 DYS
	VELAN		RBS	40. EQ		
	LIMITORQUE	214	310512			
	SHB-000-02					
					L	. A . 001 DYS . NA
	MOT:RELIANCE /INS CL:B /460VAC					
.1T23*MOV031B	INLET PRESS TO ACC-B	1E	L-02	. *88V-03	H,H	. B . 180 DYS
	VELAN		RBS	40. EQ		
	LIMITORQUE	214	310512			
	SHB-000-02					
					L	. A . 001 DYS . NA
	MOT:RELIANCE /INS CL:B /460VAC					
.1011*MOV032A	RADIATION MONITORING XS-12	1E	D-22	. *88V-01	H,H	. B . 180 DYS
	VELAN		RBS	75. EQ		
	LIMITORQUE	253	310512			
	SHB-000-02					

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VENDOR ID	MAKE / MANUFACTURER	NU-CAT	BLDG	ELEV	QUAL STAT	
	MODEL / CATALOG NO	SPEC	PO NUMBER			

					L	. A
						. 070 MIN
						.
						.
					MST	. N/A
	MOT:RELIANCE /INS CL:RH/460VAC					
.1D11*MOV032B	RADIATION MONITORING XS-12				H,H	. B
	VELAN 1E	. G-06		. *88V-03		. 180 DYS
	LIMITORQUE	. RBS	00063	. EQ		.
	SND-000-02 253	. 310512		.		.
						.
					L	. A
						. 070 MIN
						.
						. N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1D11*MOV033A	RADIATION MONITORING XS-13				H,H	. B
	VELAN 1E	. D-22		. *88V-01		. 180 DYS
	LIMITORQUE	. RSD	75	. EQ		.
	SND-000-02 253	. 310512		.		.
						.
					L	. A
						. 070 MIN
						.
					MST	. N/A
	MOT:RELIANCE /INS CL:RH/460VAC					
.1D11*MOV033B	RADIATION MONITORING XS-13				H,H	. B
	VELAN 1E	. G-06		. *88V-03		. 180 DYS
	LIMITORQUE	. RBS	00063	. EQ		.
	SND-000-02 253	. 310512		.		.
						.
					L	. A
						. 070 MIN
						.
						. N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1E11*MOV055A	RNR HX SHELL VENT NR C-11				H,H	. B
E11-F104A	VELAN 1E	. G-02		. *		. 180 DYS
	LIMITORQUE	. RDS	45	. *FT/IJ		.
	SND-000-02 253	. 310512		.		.

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 JOB CLIENT LILCO

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLOG	ELEV		
	MAKE / MANUFACTURER	SPEC	PO NUMBER	QUAL STAT		
	MODEL / CATALOG NO				SUBMG	
*****	*****	*****	*****	*****	*****	*****
					L	. B
						. 180 DYS
						. N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1E11*MOV055B	RHR HX SHELL VENT NR C-5				H,M	. B
E11-F103D	VELAN	1E	G-02	.*		. 180 DYS
	LIMITORQUE		RBS	45.*FT/IJ		.
	SMB-000-02	253	310512	.		.
					L	. B
						. 180 DYS
						. N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1E11*MOV056A	RHR HX SHELL VENT NR C-11				H,M	. B
E11-F103A	VELAN	1E	G-02	.*		. 180 DYS
	LIMITORQUE		RBS	45.*FT/IJ		.
	SMB-000-02	253	310512	.		.
					L	. B
						. 180 DYS
						. N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1E11*MOV056B	RHR HX SHELL VENT NR C-5				H,M	. B
E11-F103D	VELAN	1E	G-02	.*		. 180 DYS
	LIMITORQUE		RBS	45.*FT/IJ		.
	SMB-000-02	253	310512	.		.
					L	. B
						. 180 DYS
						. N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1E11*MOV057A	TO HYDROGEN RECOMBINER WEST				H,M	. B
	VELAN	1E	G-01	.*80V-03		. 180 DYS
	LIMITORQUE		RBS	8. EQ		.
	SMB-000-02	253	310512	.		.

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*****	*****	*****	*****	*****	*****	*****
					L	. A . 180 DYS . N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1E11*MOV057B	TO HYDROGEN RECOMBINER EAST				H,M	. B . 180 DYS
	VELAN 1E . G-01 .*					
	LIMITORQUE . RBS 8.*FT/IJ					
	SND-000-02 253 . 310512					
					L	. A . 180 DYS . N/A
	L-OP CODE B REM: H,M-OP CODE B 1 DAY, C REM. (MCC REV.)					
.1E41*MOV047 E41-F097	MOV041 BYPASS NRTH DRYWELL				H,M	. A . 012 HRS
	VELAN 1E . D-22 .*					
	LIMITORQUE . RBS 66.*FT/IJ					
	SND-000-02 253 . 310512					
					L	. A . 012 HRS
	MOT:RELIANCE /INS CL:RH/460VAC					
.1E41*MOV048 E41-F080	MOV042 BYPASS NR C-7				H,M	. A . 012 HRS
	VELAN 1E . G-03 .*					
	LIMITORQUE . RBS 64.*FT/IJ					
	SND-000-02 253 . 310512					
					L	. A . 012 HRS
	MOT:PORT PEER /INS CL:RH/125VDC					
.1E41*MOV049 E41-F079	HPCI TURB ENH VAC ENR C-8				H,M	. A . 012 HRS
	VELAN 1E . G-01 .*					
	LIMITORQUE . RBS 34. FT/IJ					
	SND-000-02 253 . 310512					

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					L	. *A . *070 MIN N/A
MOT:PORT PEER /INS CL:B /125VDC						
.1T48*MOV004	SUPPRESSION POOL INLET VELAN LIMITORQUE SHB-000-02	1E 253	L-02 RSS 310512	. *88V-03 40. EQ	H,M	. B . 180 DYS
					L	. A . 180 DYS N/A
MOT:RELIANCE /INS CL:B /460VAC						
.1P50*MOV103A 04330008	COMPA SUCE OUTED ISOLV VELAN LIMITORQUE SHB-000-05	1E 214	G-09 RSS 310512	. * 00078. *FT/IJ	H,M	. B . 180 DYS
					L	. A . 180 DYS
MOT:RELIANCE /INS CL:B /460VAC						
.1P50*MOV103B 04350003	COMPA SVCE OUTED ISOL VV VELAN LIMITORQUE SHB-000-05	1E 214	G-12 RSS 310512	. *88V-03 00078. EQ	H,M	. B . 180 DYS
					L	. A . 180 DYS
MOT:RELIANCE /INS CL:B /460VAC						
.1P50*MOV105A	COMPA SVCE INDOARD ISOL VV VELAN LIMITORQUE SHB-000-05	1E 214	D-22 RSS 310512	. *88V-01 00078. EQ	H,M	. A . 070 MIN

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*****	*****	*****	*****	*****	*****	*****
					L	. A . 070 MIN
	MOT:RELIANCE /INS CL:RH/460VAC					
.1P50*MOV105B	SERVICE AIR HDR A PRESS				H,H	. A
	VELAN 1E . B-22 . *89V-01					. 070 MIN
	LIMITORQUE . RDS 00078. EQ					
	SND-000-05 214 . 310512					
					L	. A . 070 MIN
	MOT:RELIANCE /INS CL:RH/460VAC					
.1P50*MOV113A	COMPA SVCE NORM SUPPLY VV				H,H	. A
04370009	VELAN 1E . G-09 . *89V-03					. 070 MIN
	LIMITORQUE . RDS 00078. EQ					
	SND-000-05 214 . 310512					
					L	. A . 070 MIN
	MOT:RELIANCE /INS CL:B /460VAC					
.1P50*MOV113B	COMPA SVCE NORM. SPLY VV				H,H	. A
04390008	VELAN 1E . G-12 . *89V-03					. 070 MIN
	LIMITORQUE . RES 00078. EQ					
	SND-000-05 214 . 310512					
					L	. A . 070 MIN
	MOT:RELIANCE /INS CL:B /460VAC					
.1P50*MOV114A	COMPA SVCE ENERG SPLY VV				H,H	. A
04410008	VELAN 1E . G-09 . *89V-03					. 070 MIN
	LIMITORQUE . RDS 00078. EQ					
	SND-000-05 214 . 310512					

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VENDOR ID	VENDOR NAME	NU-CAT	BLOS	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
	MOT:RELIANCE /INS CL:B /460VAC					
.1P50*MOV114B	COMPA SVCE EMER SPLY VV					
04430008	VELAN	1E	G-12	. *88V-03		
	LIMITORQUE		RBS	00078. EQ		
	SHD-000-05	214	310512			
	MOT:RELIANCE /INS CL:B /460VAC					
.1B21*MOV060A	HN STM LINE OUTED DRN VVS					
	VELAN	1E	T-08	. *88V-01		
	LIMITORQUE		RBS	00078. EQ		
	SHD-000-05	253	310512			
	MOT:RELIANCE /INS CL:RH/460VAC					
.1B21*MOV060B	HN STM LINE OUTED DRN VVS					
	VELAN	1E	T-08	. *88V-01		
	LIMITORQUE		RBS	00078. EQ		
	SHD-000-05	253	310512			
	MOT:RELIANCE /INS CL:RH/460VAC					
.1B21*MOV060C	HN STM LINE OUTED DRN VVS					
	VELAN	1E	T-08	. *88V-01		
	LIMITORQUE		RBS	00078. EQ		
	SHD-000-05	253	310512			
	MOT:RELIANCE /INS CL:RH/460VAC					
.1B21*MOV060C	HN STM LINE OUTED DRN VVS					
	VELAN	1E	T-08	. *88V-01		
	LIMITORQUE		RBS	00078. EQ		
	SHD-000-05	253	310512			

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*****	*****	*****	*****	*****	*****	*****
					L	. A . 070 MIN . N/A
	MOT:RELIANCE /INS CL:RH/460VAC					
.1B21*MOV068D	HN 5TH LINE OUTBD DRN VVS VELAN LIMITORQUE SMB-000-05	1E 253	T-08 RES 310512	. *88V-01 . 00078. EQ . .	H,M	. A . 070 MIN . .
					L	. A . 070 MIN . N/A
	MOT:RELIANCE /INS CL:RH/460VAC					
.1B21*MOV083 B21-F001	REAC VESSEL HEAD VENT VELAN LIMITORQUE SMB-000-05	1E 253	A-22 RBP 310512	. *88V-01 . 00141. EQ . .	H,M	. A . 070 MIN . .
					L	. A . 180 DYS . .
	MOT:RELIANCE /INS CL:RH/460VAC					
.1B21*MOV084 B21-F002	REAC VESSEL HEAD VENT VELAN LIMITORQUE SMB-000-05	1E 253	A-22 RSP 310512	. *88V-01 . 00141. EQ . .	H,M	. A . 070 MIN . .
					L	. A . 070 MIN . .
	MOT:RELIANCE /INS CL:RH/460VAC					
.1B21*MOV085 B21-F005	REAC VESSEL HEAD VENT VELAN LIMITORQUE SMB-000-05	1E 253	A-22 RBP 310512	. *88V-01 . 00141. EQ . .	H,M	. B . 180 DYS . .

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*****	*****	*****	*****	*****	*****	*****
					L	. B . 180 DYS
	MOT:RELIANCE /INS CL:RH/460VAC					
.1E32*MOV004 E32-F006	LCS OUTBOARD PROCESS VLV VELAN LIMITORQUE SND-000-05	1E 253	. T-08 . RBS . 310512	. *88V-03 . 00078. EQ . EQ	H,M	. B . 180 DYS
					L	. A . 100 DYS
						N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1E32*MOV005 E32-F007	LCS OUTBOARD PROCESS VLV VELAN LIMITORQUE SND-000-05	1E 253	. T-08 . RBS . 310512	. *88V-03 . 00078. EQ . EQ	H,M	. B . 180 DYS
					L	. A . 100 DYS
						N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1E32*MOV006 E32-F008	LCS OUTBOARD BYPASS VLV VELAN LIMITORQUE SND-000-05	1E 253	. T-08 . RBS . 310512	. *88V-03 . 00078. EQ . EQ	H,M	. B . 180 DYS
					L	. A . 100 DYS
						N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1E32*MOV007 E32-F009	LCS OUTBOARD BYPASS VLV VELAN LIMITORQUE SND-000-05	1E 253	. T-08 . RBS . 310512	. *88V-03 . 00078. EQ . EQ	H,M	. B . 180 DYS

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG FD NUMBER	EQ SHEET QUAL STAT	EMG COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					L	. A . 100 DYS N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1E51*MOV036 E51-F019	RCIC PUMP MIN FLOW BYPASS VELAN LIMITORQUE SMB-000-05	1E RBS 253	G-01 RBS 310512	. 18.*FT/IJ .	*H,H *L	. *B . *180 DYS . *B . *180 DYS
	MOT:RELIANCE /INS CL:B /125VDC					
.1E51*MOV038 E51-F046	TO LUBE OIL COOLER VELAN LIMITORQUE SMB-000-05	1E RBS 253	G-01 RBS 310512	. 15.*FT/IJ .	*H,H *L	. *B . *180 DYS . *B . *180 DYS
	MOT:RELIANCE /INS CL:B /125VDC					
.1G11*MOV639A	CHANGED TO 1Z91*MOV001 VELAN LIMITORQUE SMB-000-05	1E RBS 88V	G-01 RBS 310502	. *88V-03 00020. EQ .	L	. A . 070 MIN N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1G11*MOV639B	CHANGED TO 1Z91*MOV002 VELAN LIMITORQUE SMB-000-05	1E RBS 88V	G-01 RBS 310502	. *88V-03 00020. EQ .	L	. A . 070 MIN N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1G11*MOV639C	SUPP POOL PMP BACK ISOL VV VELAN LIMITORQUE SMB-000-05	1E RBS 88V	G-01 RBS 310502	. *88V-03 00020. EQ .	H,H	. B . 130 DYS

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EQUIPMENT ID	VENDOR ID	EQUIPMENT DESCRIPTION				ENG COND	OPER CODE
		VENDOR NAME	QAC	ZONE	EQ SHEET		
		NAME / MANUFACTURER	NU-CAT	BLDG	ELEV	QUAL STAT	
		MODEL / CATALOG NO	SPEC	PO NUMBER			
*****	*****	*****	*****	*****	*****	*****	*****
						L	. A
							. 180 DYS
							.
							N/A
		NOT:RELIANCE /INS CL:B /460VAC					
IP42#NOV233		IN.VV TO DRYWELL COOLER 17A	.			*H,M	. *B
		VELAN 1E	G-03	*			. *180 DYS
		LIMITORQUE	RDS	68.	FT/IJ		.
		SND-000-05	8SV	310502	.		.
							.
						L	. *A
							. *070 MIN
							.
							N/A
		NOT:PARAMOUNT /INS CL:B /460VAC					
IP42#NOV234		IN.VV TO DRYWELL COOLER 17A	.			*H,M	. *B
		VELAN 1E	G-03	*			. *180 DYS
		LIMITORQUE	RDS	69.	FT/IJ		.
		SND-000-05	8SV	310502	.		.
							.
						L	. *A
							. *070 MIN
							.
							N/A
		NOT:PARAMOUNT /INS CL:B /460VAC					
IP42#NOV235		IN.VV TO DRYWELL COOLER 17A	.			*H,M	. *B
		VELAN 1E	G-03	*			. *180 DYS
		LIMITORQUE	RDS	70.	FT/IJ		.
		SND-000-05	8SV	310502	.		.
							.
						L	. *A
							. *070 MIN
							.
							N/A
		NOT:PARAMOUNT /INS CL:B /460VAC					
IP42#NOV236		OUT.VV TO DRYWELL COOLER 17B	.			*H,M	. *B
		VELAN 1E	G-03	*			. *180 DYS
		LIMITORQUE	RDS	66.	FT/IJ		.
		SND-000-05	8SV	310502	.		.
							.

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MODEL / CATALOG NO	SPEC	PO NUMBER	LINE STAT	SUBMG
*****	*****	*****	*****	*****

HOT:PARAMOUNT /INS CL:B /460VAC

MOT:PARAMOUNT /INS CL:B /460VAC

HOT:PARAMOUNT /INS CL:B /460VAC

NOT:PARAMCUNT /INS CL:B /460VAC

1P42*NOV240	IN.VV TO DRYWELL COOLER 17B	.	.	*H,M	*B
	VELAN	1E	G-03	.	*180 DYS
	LIMITORQUE		RDS	70. FY/IJ	.
	SIB-000-05	89V	310502	.	.

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*****	*****	*****	*****	*****	*****	*****
					*L	*A
						*070 MIN
	MOT:PARAMOUNT /INS CL:B /460VAC					
.1T48*MOV035A	ATMOS OTED CONT ISO				H,M	B
	VELAN	1E	G-03	*89V-03		180 DYS
	LIMITORQUE		RES	68. EQ		
	SIB-000-05	88V	310502			
					L	A
						180 DYS
	MOT:RELIANCE /INS CL:B /460VAC					
.1T48*MOV035B	ATMOS OTED CONT ISO				H,M	B
	VELAN	1E	G-03	*89V-03		180 DYS
	LIMITORQUE		RES	73. EQ		
	SIB-000-05	88V	310502			
					L	A
						180 DYS
	MOT:RELIANCE /INS CL:B /460VAC					
.1E21*MOV031A	CORE SPRAY PP SUCT NR COL C-10.				H,M	B
E21-F001A	ANCHOR DARLIN	1E	G-01	*89V-03		180 DYS
	LIMITORQUE		RES	14. EQ		
	SIB-000-5	88AD	310501			
					L	A
						180 DYS
						NA
	MOT:RELIANCE /INS CL:B /460VAC					
.1E21*MOV031B	CORE SPRAY PP SUCT NR COL C-6				H,M	B
E21-F001B	ANCHOR DARLIN	1E	G-01	*89V-03		180 DYS
	LIMITORQUE		RES	24. EQ		
	SIB-000-5	88AD	310501			

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*****	*****	*****	*****	*****	*****	*****
					L	A 180 DYS NA
	MOT:RELIANCE /INS CL:B /460VAC					
.1B21*MOV032 B21-F019	DRAIN TO CONDENSER VELAN LIMITORQUE SND-000-5	1E 89V	T-09 RES 310502	*89V-02 79. EQ	H,M	A 070 MIN
					L	A 070 MIN
	MOT:PORT PEER /INS CL:RH/125VDC					
.1E11*MOV045A E11-F007A	RHR FP MIN FLOW BYPASS NR C-11. VELAN LIMITORQUE SND-000-5	1E 89V	G-01 RES 310502	*89V-03 17. EQ	H,M	A 180 DYS
					L	A 180 DYS
	MOT:RELIANCE /INS CL:B /460VAC					
.1E11*MOV045B E11-F007B	RHR FP MIN FLOW BYPASS NR C-5 VELAN LIMITORQUE SND-000-5	1E 89V	G-01 RES 371043	*89V-03 17. EQ	H,M	A 180 DYS
					L	A 180 DYS
	MOT:RELIANCE /INS CL:B /460VAC					
.1E21*MOV034A E21-F031A	CORE SPRAY P HI FL NR COL C-11. VELAN LIMITORQUE SND-000-5	1E 89V	G-01 RES 310502	*89V-03 15. EQ	H,M	B 180 DYS

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC MU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	ENG COND SUSMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					L	. A . 180 DYS . N/A
	NOT:RELIANCE /INS CL:B /460VAC					
.1E21*MOV034B E21-F031B	CORE SPRAY P HI FL NR COL C-5 VELAN LIMITORQUE SND-000-5	1E 88V	. G-01 . RDS . 310502	. *88V-03 15. EQ	H,M	. B . 180 DYS
					L	. A . 180 DYS . N/A
	NOT:RELIANCE /INS CL:B /460VAC					
.1E51*MOV045 E51-F001	TUBB EXH TO SUPP POOL VELAN LIMITORQUE SND-000-5	1E 88V	. G-01 . RDS . 310502	. 31. FT/IJ	*H,M	. *B . *180 DYS
					L	. *A . *070 MIN . N/A
	NOT:PORT PEER /INS CL:B /125VDC					
.1G11*MOV046	DRYWELL EQUIP DR VV VELAN LIMITORQUE SND-000-5	1E 88V	. G-02 . RDS . 310502	. *88V-01 40. EQ	H,M	. B . 180 DYS
					L	. A . 070 MIN . N/A
	NOT:RELIANCE /INS CL:RM/460VAC					
.1G11*MOV047	DRYWELL EQUIP DR VV VELAN LIMITORQUE SND-000-5	1E 88V	. G-02 . RDS . 310502	. *88V-03 40. EQ	H,M	. B . 180 DYS

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					L	. A . 070 MIN . N/A
MOT:RELIANCE /INS CL:B /460VAC						
.1G11*MOV248	DRYWELL FLOOR DRAINS VELAN LIMITORQUE SMB-000-5	1E 88V	. L-02 . RES . 310502	. *88V-01 40. EQ	H,M	. B . 180 DYS
					L	. A . 070 MIN . N/A
MOT:RELIANCE /INS CL:RH/460VAC						
.1G11*MOV289	DRYWELL FLOOR DRAINS VELAN LIMITORQUE SMB-000-5	1E 89V	. L-02 . RDS . 310502	. *88V-03 40. EQ	H,M	. B . 180 DYS
					L	. A . 070 MIN . N/A
MOT:RELIANCE /INS CL:B /460VAC						
.1G41*MOV033A	SUPPRESSION POOL INLET VELAN LIMITORQUE SMB-000-5	1E 88V	. G-02 . RBS . 310502	. * 46. FT/IJ	H,M	. B . 180 DYS
					L	. A . 070 MIN . N/A
MOT:RELIANCE /INS CL: /460VAC						
.1G41*MOV033B	SUPPRESSION POOL INLET VELAN LIMITORQUE SMB-000-5	1E 88V	. G-02 . RBS . 310502	. * 44. FT/IJ	H,M	. B . 180 DYS

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VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PD NUMBER			
	MODEL / CATALOG NO					

					L	. A
						. 070 MIN
						. N/A
	MOT:RELIANCE /INS CL: /460VAC					
.1P42*MOV031A	RBCLCH HX DISCH XOVER	1E	L-02	. 88V-03	*H,M	. *B
	VELAN		. RDS	56. *FT/IJ		. *180 DYS
	LIMITORQUE					.
	SMB-000-5	88V	. 310502			.
					L	. *A
						. *070 MIN
						. N/A
	MOT:RELIANCE /INS CL: /460VAC					
.1P42*MOV031B	RBCLCH HX DISCH XOVER	1E	L-02	. 88V-03	*H,M	. *B
	VELAN		. RDS	59. FT/IJ		. *180 DYS
	LIMITORQUE					.
	SMB-000-5	88V	. 310502			.
					L	. *A
						. *070 MIN
						. N/A
	MOT:RELIANCE /INS CL: /460VAC					
.1P42*MOV032A	RBCLCH PP DISCH XOVER VV	1E	H-18	. *88V-03	*H,M	. *B
	VELAN		. RDS	150. EQ		. *180 DYS
	LIMITORQUE					.
	SMB-000-5	88V	. 310502			.
					L	. *A
						. *070 MIN
						. N/A
	MOT:RELIANCE /INS CL: B /460VAC					
.1P42*MOV032B	RBCLCH PP DISCH XOVER VV	1E	H-18	. *88V-03	*H,M	. *B
	VELAN		. RDS	150. EQ		. *180 DYS
	LIMITORQUE					.
	SMB-000-5	88V	. 310502			.

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					*L	.#A
						.#070 MIN
						.
						.
	MOT:RELIANCE /INS CL:B /460VAC					.
.1P42*MOV035	RDCLCH INLET TO P-1A COOLERS				*H,M	.#A
	VELAN 1E . G-03 .#88V-03					.#070 MIN
	LIMITORQUE . PBS 67. EQ					.
	SHD-000-5 88V . 310502					.
					*L	.#A
						.#070 MIN
						.
						.
	MOT:RELIANCE /INS CL:B /460VAC					.
.1P42*MOV036	RDCLCH OUTLET FROM P-1A				*H,M	.#A
	VELAN 1E . G-03 .#88V-03					.#070 MIN
	LIMITORQUE . RES 67. EQ					.
	SHD-000-5 88V . 310502					.
					*L	.#A
						.#070 MIN
						.
						.
	MOT:RELIANCE /INS CL:B /460VAC					.
.1P42*MOV043A	MG SET FL CPLG INLET VV				*H,M	.#B
	VELAN 1E . L-02 .#88V-03					.#180 DYS
	LIMITORQUE . RES 56. EQ					.
	SHD-000-5 88V . 310502					.
					L	.#A
						.#070 MIN
						.
						.
	MOT:RELIANCE /INS CL:B /460VAC					N/A
.1P42*MOV043B	MG SET FL CPLG INLET VV				*H,M	.#B
	VELAN 1E . L-02 .#88V-03					.#180 DYS
	LIMITORQUE . RES 54. EQ					.
	SHD-000-5 88V . 310502					.

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					

					*L	.*A
						.*070 MIN
						.
						.
	MOT:RELIANCE /INS CL:B /460VAC					
.1P42*MOV147	DRYWELL COOLER OUTLET VV	.			*H,M	.*B
	VELAN	1E	D-22	.*88V-01		.*180 DYS
	LIMITORQUE		RSD	00074. EQ		.
	SMB-000-5	88V	310502	.		.
					L	.*A
						.*070 MIN
						.
					HST	N/A
	MOT:RELIANCE /INS CL:RH/460VAC					
.1P42*MOV160	DRYWELL COOLER OUTLET VV	.			*H,M	.*B
	VELAN	1E	D-22	.*88V-01		.*180 DYS
	LIMITORQUE		RSD	00074. EQ		.
	SMB-000-5	88V	310502	.		.
					L	.*A
						.*070 MIN
						.
					HST	N/A
	MOT:RELIANCE /INS CL:RH/460VAC					
.1P42*MOV231	OUT.VV TO DRYWELL COOLER	17B	.		*H,M	.*B
	VELAN	1E	G-07	.*		.*180 DYS
	LIMITORQUE		RSD	66. FT/IJ		.
	SMB-000-5	88V	310502	.		.
					*L	.*A
						.*070 MIN
						.
						.
	MOT:PARAMOUNT /INS CL:B /460VAC					
.1P42*MOV232	IN.VV TO DRYWELL COOLER	17A	.		*H,M	.*B
	VELAN	1E	G-03	.*		.*100 DYS
	LIMITORQUE		RSD	67. FT/IJ		.
	SMB-000-5	88V	310502	.		.

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VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
					L	. *A
						. *070 MIN
						. N/A
	NOT:PARAMOUNT /INS CL:B /460VAC					
1T48*MOV038A	ATMOS OTDD CONT ISO	1E	L-02		H,M	. B
	VELAN		RBS	51. FT/IJ		. 180 DYS
	LIMITORQUE					
	SMB-000-5	88V	310502			
					L	. A
						. 180 DYS
	NOT:PEERLESS /INS CL:B /460VAC					
1T48*MOV038B	ATMOS OTDD CONT ISO	1E	L-02		H,M	. B
	VELAN		RBS	51. FT/IJ		. 180 DYS
	LIMITORQUE					
	SMB-000-5	88V	310502			
					L	. A
						. 180 DYS
	NOT:PEERLESS /INS CL: /460VAC					
1T48*MOV041	RELEASE TO ATMOS	1E	J-15		H,M	. B
	VELAN		RBS	112.*FT/IJ		. 180 DYS
	LIMITORQUE					
	SMB-000-5	88V	310502			
					L	. A
						. 180 DYS
	NOT:PEERLESS /INS CL:B /460VAC					
1T48*MOV042	RELEASE TO ATMOS	1E	K-15		H,M	. B
	VELAN		RBS	112.*FT/IJ		. 180 DYS
	LIMITORQUE					
	SMB-000-5	88V	310502			

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLOG	ELEV		
	MAKE / MANUFACTURER	SPEC	PO NUMBER	QUAL STAT		
	MODEL / CATALOG NO				SUBMG	

					L	. A
						. 100 DYS
						. N/A
	MOT:PARAMOUNT /INS CL:B /460VAC					
.1T48*MOV043A	ATHOS OTBD CONT ISO	1E	G-03	.*	H,M	. B
	VELAN		RES	68. FT/IJ		. 100 DYS
	LIMITORQUE					.
	SMB-000-5	88V	310502			.
					L	. A
						. 100 DYS
						. N/A
	MOT:RELIANCE /INS CL:B /460VAC					
.1T48*MOV043B	ATHOS OTBD CONT ISO	1E	G-03	.*	H,M	. B
	VELAN		RES	73. FT/IJ		. 100 DYS
	LIMITORQUE					.
	SMB-000-5	88V	310502			.
					L	. A
						. 100 DYS
						. N/A
	MOT:PARAMOUNT /INS CL:B /460VAC					
.1T48*MOV044A	ATHOS OTBD CONT ISO	1E	L-02	.*	H,M	. B
	VELAN		RES	51. FT/IJ		. 100 DYS
	LIMITORQUE					.
	SMB-000-5	88V	310502			.
					L	. A
						. 100 DYS
						. N/A
	MOT:PARAMOUNT /INS CL:B /460VAC					
.1T48*MOV044B	ATHOS OTBD CONT ISO	1E	L-02	.*	H,M	. B
	VELAN		RES	51. FT/IJ		. 100 DYS
	LIMITORQUE					.
	SMB-000-5	88V	310502			.

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VENDOR ID	VENDOR NAME	NU-CAT	BLOG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
					L	A
						180 DYS
						N/A
	MOT:PARAMOUNT /INS CL:B /460VAC					
.1E41*MOV043	HPCI STN TO TURB NEAR COL C-8				H,M	A
E41-F001	VELAN 1E	G-01		*		012 HRS
	LIMITORQUE	REP	00019	*FT/IJ		
	SMB-1-15	88V	310502			
					L	A
						012 HRS
	MOT:LIMITORQUE/INS CL:H /125VDC					
.1E41*MOV037	HPCI P DIS TO COND STOR C-7				H,M	A
E41-F008	VELAN 1E	G-01				070 MIN
	LIMITORQUE	RDS	18	FT/IJ		
	SMB-1-25	88V	310502			
					L	A
						012 HRS
	MOT:PORT PEER /INS CL: /125VDC					
.1B21*MOV035A	REAC FEEDNTR INLET PIPE TUNNEL				H,M	B
B21-F032A	ANCHOR DARLIN 1E	T-08		*88V-03		180 DYS
	LIMITORQUE	RDS	78	EQ		
	SMB-1-40	88AD	310501			
					L	B
						180 DYS
	MOT:RELIANCE/INS CL:B /460VAC					
.1B21*MOV035B	REAC FEEDNTR INLET PIPE TUNNEL				H,M	B
B21-F032B	ANCHOR DARLIN 1E	T-03		*88V-03		180 DYS
	LIMITORQUE	RDS	78	EQ		
	SMB-1-40	88AD	310501			

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*****	*****	*****	*****	*****	*****	*****
					L	. B . 180 DYS . NA
	MOT:RELIANCE/INS CL:B /460VAC					
.1E21*MOV035B E21-F015D	CORE SPRAY P RECIRC NEAR C-4 ANCHOR DARLIN LIMITORQUE SMB-1-40	1E 88AD	G-02 RBS 310501	. * 53.*FT/IJ	H,M	. B . 180 DYS
					L	. A . 070 MIN . NA
	MOT:LIMITORQUE/INS CL: /460VAC					
1E41*MOV03B E41-F011	HPCI P DIS TO COND STOR C-7 VELAN LIMITORQUE SMB-1-40	1E 88V	G-01 RBS 310502	. 18. FT/IJ	H,M	. A . 070 MIN
					L	. A . 012 HRS
	MOT:PORT PEER /INS CL:B /125VDC					
.1E21*MOV035A E21-F015A	CORE SPRAY P RECIRC NEAR C-10 ANCHOR DARLIN LIMITORQUE SMB-1-60	1E 88AD	G-01 RBS 310501	. *88V-03 53. EQ	H,M	. B . 180 DYS
					L	. A . 070 MIN . NA
	MOT:RELIANCE /INS CL:B /460VAC					
.1E11*MOV033A E11-F047A	RHR HY SHELL INLET NR COL C-10. VELAN LIMITORQUE SMB-1-60	1E 88V	G-01 RBS 310502	. *88V-03 22.*EQ	H,M	. B . 180 DYS

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					L	. A . 180 DYS . NA
	MOT:RELIANCE /INS CL:B /460VAC					
.1E11*MOV033D E11-F047B	RHR HX SHELL INLET NR COL C-6 VELAN 1E LIMITORQUE SMB-1-60	1E RBS 88V	G-01 RBS 310502	. * 22. *FT/IJ .	H,M	. B . 180 DYS . NA
					L	. A . 180 DYS . NA
	MOT:RELIANCE /INS CL: /460VAC					
.1E11*MOV035A E11-F003A	RHR HX SHELL OUTLET NEAR C-11 VELAN 1E LIMITORQUE SMB-1-60	1E RBS 88V	G-01 RBS 310502	. *88V-03 30. EQ .	H,M	. B . 180 DYS . NA
					L	. A . 180 DYS . NA
	MOT:RELIANCE /INS CL:B /460VAC					
.1E11*MOV035B E11-F003B	RHR HX SHELL OUTLET NEAR C-5 VELAN 1E LIMITORQUE SMB-1-60	1E RBS 88V	G-01 RBS 310502	. *88V-03 30. EQ .	H,M	. B . 180 DYS . NA
					L	. A . 180 DYS . NA
	MOT:RELIANCE /INS CL:B /460VAC					
.1E11*MOV040A E11-F004A	RHR FLOW TO SUPP POOL NR C-11 VELAN 1E LIMITORQUE SMB-1-60	1E RBS 88V	G-03 RBS 310502	. *88V-03 72. EQ .	H,M	. A . 180 DYS . NA

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					L	. A . 180 DYS
	HOT:RELIANCE /INS CL:B /460VAC					
.1E11*MOV0403 E11-F0285	RHR FLOW TO SUPP POOL NR C-5 VELAN LIMITORQUE SMB-1-60	1E 88V	G-07 RBS 310502	. * 72.*FT/IJ	H,M	. A . 180 DYS
					L	. A . 180 DYS
	HOT:PORT PEER /INS CL:B /460VAC					
.1E41*MOV042 E41-F003	HPCI STM TO TURB NEAR COL C-8 VELAN LIMITORQUE SMB-1-60	1E 88V	G-03 RBS 310502	. *88V-02 63. QG	H,M	. A . 012 HRS
					L	. A . 012 HRS
	HOT:PORT PEER /INS CL:RH/125VDC					
.1N11*MOV031A MOV-RSSV-1	2ND STAGE REHEAT STM VELAN LIMITORQUE SMB-1-60	1E 88V	ST ST 310502	. *88V-03 50. EQ	H,M	. B . 180 DYS
					L	. A . 070 MIN
						N/A
	HOT:RELIANCE /INS CL:B /460VAC					
.1N11*MOV031B MOV-RSSV-2	2ND STAGE REHEAT STM VELAN LIMITORQUE SMB-1-60	1E 88V	ST ST 310502	. *88V-03 50. EQ	H,M	. B . 180 DYS

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VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	SUBMG
MAKE / MANUFACTURER	MODEL / CATALOG NO	SPEC	PO NUMBER			

					L	. A
						. 070 MIN
						. N/A
MOT:RELIANCE /INS CL:B /460VAC						
.1B31*MOV031A	RECIRC PUMP SUCTION NH DRYWELL.				H,M	. B
B31-F023A	GENERAL ELEC	1E	D-22	.*		. 180 DYS
	LIMITORQUE		RBD	66. RR/IJ		.
	SND-2	003	310010			.
					L	. B
						. 180 DYS
					MST	.
MOT:RELIANCE/INS CL:RH/460VAC						
.1B31*MOV031B	RECIRC PUMP SUCTION SE DRYWELL.				H,M	. B
B31-F023B	GENERAL ELEC	1E	D-22	.*		. 180 DYS
	LIMITORQUE		RBD	66. RR/IJ		.
	SND-2	003	310010			.
					L	. B
						. 180 DYS
					MST	.
MOT:RELIANCE/INS CL: /460VAC						
.1E11*MOV038A	RHR CONT SPRAY HDR NR COL C-11.				H,M	. A
E11-F016A	ANCHOR DARLIN	1E	G-10	.*86V-03		. 070 MIN
	LIMITORQUE		RBS	103. EQ		.
	SND-2-60	08AD	310501			.
					L	. A
						. 180 DYS
						.
MOT:RELIANCE /INS CL:B /460VAC						
.1E11*MOV030B	RHR CONT SPRAY HDR NR COL C-5.				H,M	. A
E11-F016B	ANCHOR DARLIN	1E	G-11	.*86V-03		. 070 MIN
	LIMITORQUE		RBS	103. EQ		.
	SND-2-60	08AD	310501			.

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JOB NAME SHOREHAM - UNIT 1

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JOB CLIENT LILCO

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	MAKE / MANUFACTURER	NU-CAT	BLDG	ELEV	QUAL STAT	
	MODEL / CATALOG NO	SPEC	PO NUMBER			
*****	*****	*****	*****	*****	*****	*****
					L	. A
						. 180 DYS
						.
						.
	MOT:RELIANCE /INS CL:B /460VAC					.
.1E11*MOV047	RHR SUCT FM RECIRC SE DRYWELL				H,M	. A
E11-F009	ANCHOR DARLIN	1E	D-22	. *88V-01		. 180 DYS
	LIMITORQUE		RED	84.*EQ		.
	SMB-2-60	88AD	310501			.
						.
					L	. A
						. 070 MIN
						.
						.
	MOT:LIMITORQUE/INS CL:PH/460VAC					.
1E11*MOV048	RHR SUCT FROM RECIRC PIPE C-11.				H,M	. A
E11-F008	ANCHOR DARLIN	1E	G-03			. 180 DYS
	LIMITORQUE		RBS	63. FT/IJ		.
	SMB-2-60	88AD	310501			.
						.
					L	. A
						. 070 MIN
						.
						.
	MOT:PORT PEER /INS CL:B /125VDC					.
.1E11*MOV050	RHR MAIN FLOW CROSSOVER C-5				H,M	. B
E11-F010	VELAN	1E	G-03	. *88V-03		. 180 DYS
	LIMITORQUE		RBS	72. EQ		.
	SMB-2-60	88V	310502			.
						.
					L	. B
						. 180 DYS
						.
						.
	MOT:RELIANCE /INS CL:B /460VAC					.
1E91*MOV034	HPCI PP DISCH NR C-9				H,M	. A
E91-F007	VELAN	1E	G-05			. 012 HRS
	LIMITORQUE		RBS	63. FT/IJ		.
	SMB-2-60	88V	310502			.

1031*MOV032B REPORT NO. PES-801 JOB 1160002 05/21/82

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 JOB NAME SHORHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	MAKE / MANUFACTURER	NU-CAT	BLOG ELEV	QUAL STAT	
	MODEL / CATALOG NO	SPEC	PO NUMBER			

1031*MOV032B	RECIRC PUMP DISCHRG SE DRYWELL.				H,M	. B
031-F031D	GENERAL ELEC	1E	D-22	. 003-01		. 180 DYS
	LIMITORQUE		RED	70. RR/IJ		.
	SMB-3	003	310010	.		.
					L	. A
						. 070 MIN
					MST	.
NOT:RELIANCE/INS CL:RH/460VAC						
.1E41*MOV035	HPCI PP DISCH NR C-9				H,M	. A
E41-F006	ANCHOR DARLIN	1E	G-02	.		. 012 HRS
	LIMITORQUE		RDS	63.*FT/IJ		.
	SMB-3-100	09AD	310501	.		.
					L	. A
						. 012 HRS
						.
NOT:PORT PEER /INS CL:B /125VDC						
.1E11*MOV034A	RHR HX SHELL BYPASS NEAR C-12				H,M	. A
E11-F043A	ANCHOR DARLIN	1E	G-01	.*		. 180 DYS
	LIMITORQUE		RDS	27. FT/IJ		.
	SMB-3-150	09AD	310501	.		.
					L	. A
						. 180 DYS
						.
NOT:ELECT APP /INS CL:B /460VAC						
.1E11*MOV034B	RHR HX SHELL BYPASS NEAR C-4				H,M	. A
E11-F043B	ANCHOR DARLIN	1E	G-01	.*		. 180 DYS
	LIMITORQUE		RDS	22. FT/IJ		.
	SMB-3-150	09AD	310501	.		.
					L	. A
						. 180 DYS
						.
NOT:ELECT APP /INS CL:B /460VAC						

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1E11*MOV042A E11-F024A	RHR FL TO SUP POOL NR COL C-11. ANCHOR DARLIN LIMITORQUE SND-3-80	1E G-01 RDS 88AD	310501	. *88V-03 29. EQ	H,M	. B . 180 DYS
					L	. A . 180 DYS
						NA
	NOT:RELIANCE /INS CL:B /460VAC					
1E11*MOV042B E11-F024B	RHR FL TO SUP POOL NR COL C-5 ANCHOR DARLIN LIMITORQUE SND-3-80	1E G-01 RDS 88AD	310501	. *88V-03 29. EQ	H,M	. B . 180 DYS
					L	. A . 180 DYS
						NA
	NOT:RELIANCE /INS CL:B /460VAC					
1E41*MOV041 E41-F002	HPCI STM TO TURB NRTH DRYWELL VELAN LIMITORQUE SND-3-80	1E D-22 RDS 89V	310502	. *88V-01 66. EQ	H,M	. A . 012 HRS
					L	. A . 012 HRS
	NOT:RELIANCE /INS CL:RH/460VAC					
1E11*MOV036A E11-F017A	RHR OUTBOARD VV NR COLUMN C-11. ANCHOR DARLIN LIMITORQUE SND-4-200	1E G-03 RDS 88AD	310501	. * 72. FT/IJ	H,M	. A . 180 DYS
					L	. A . 180 DYS
	NOT:ELECT APP /INS CL:B /460VAC					

1E11*MOV036B REPORT NO. PES-001 JOB 1160002 05/21/82

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	ELEV	EQ SHEET QUAL STAT	ENG COND	OPER CODE

.1E11*MOV036B E11-F017B	RNR OUTBOARD VV NR COLUMN C-5 ANCHOR DARTLIN LIMITORQUE SNC-4-200	1E 09AD	6-03 310501		. 72. FT/IJ .	H,M .	. A 180 DYS .
						L	. A 180 DYS .
							.
							.
							.
	NOT:ELECT APP /INS CL:B /460VAC						
.1E32*MOV022A E32-F002B	LCS INBOARD PROCESS VLV VELAN LIMITORQUE SNC-04-3	1E 253	T-09 310512		. 00078.*FT/IJ .	H,M .	. B 180 DYS .
						L	. A 100 DYS .
							.
							N/A
	NOT:LIMITORQUE/INS CL:B /460VAC						
.1E32*MOV022D E32-F002F	LCS INBOARD PROCESS VLV VELAN LIMITORQUE SNC-04-3	1E 253	T-09 310512		. 00078.*FT/IJ .	H,M .	. B 180 DYS .
						L	. A 100 DYS .
							.
							N/A
	NOT:LIMITORQUE/INS CL:B /460VAC						
.1E32*MOV022C E32-F002K	LCS INBOARD PROCESS VLV VELAN LIMITORQUE SNC-04-3	1E 253	T-09 310512		. 00078.*FT/IJ .	H,M .	. B 180 DYS .
						L	. A 100 DYS .
							.
							N/A
	NOT:LIMITORQUE/INS CL:B /460VAC						

1E32*MOV022D

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JOB NUMBER 1160002

JOB NAME SNODENHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

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1E32*MOV022D E32-F002P	LCS INDOARD PROCESS VLV VELAN LIMITORQUE SNC-04-3	1E 253	T-08 RBS 310512	. 00078. .	*. *FT/IJ .	H,M .	B 180 DYS .
						L	A 100 DYS N/A
	NOT:LIMITORQUE/INS CL:B /460VAC						
1E32*MOV023A E32-F003D	LCS INDOARD BYPASS VLV VELAN LIMITORQUE SNC-04-3	1E 253	G-06 RBS 310512	. 00064. .	*. *FT/IJ .	H,M .	B 180 DYS .
						L	A 100 DYS N/A
	NOT:LIMITORQUE/INS CL:B /460VAC						
1E32*MOV023B E32-F003F	LCS INDOARD BYPASS VLV VELAN LIMITORQUE SNC-04-3	1E 253	G-06 RBS 310512	. 00064. .	*. *FT/IJ .	H,M .	B 180 DYS .
						L	A 100 DYS N/A
	NOT:LIMITORQUE/INS CL:B /460VAC						
1E32*MOV023C E32-F003K	LCS INDOARD BYPASS VLV VELAN LIMITORQUE SNC-04-3	1E 253	G-06 RBS 310512	. 00064. .	*. *FT/IJ .	H,M .	B 180 DYS .
						L	A 100 DYS N/A
	NOT:LIMITORQUE/INS CL:B /460VAC						

1E32*MOV023D REPORT NO. PES-801 JOB 1160002 05/21/82

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STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND	OPER CODE

.1E32*MOV023D E32-F003P	LCS INBOARD BYPASS VLV VELAN LIMITORQUE SNC-04-3	1E 253	. G-06 RBS 310512	. .* 00064.*FT/IJ .	H,M .	. B 160 DYS . . .
					L	. A 100 DYS . N/A
NOT:LIMITORQUE/INS CL:B /460VAC						
.1E32*MOV021A E32-F001B	LCS INBOARD PROCESS VLV VELAN LIMITORQUE SNC-04-5	1E 253	. T-08 RBS 310512	. .* 00078.*FT/IJ .	H,M .	. B 160 DYS . . .
					L	. A 100 DYS . N/A
NOT:LIMITORQUE/INS CL:B /460VAC						
.1E32*MOV021B E32-F001F	LCS INBOARD PROCESS VLV VELAN LIMITORQUE SNC-04-5	1E 253	. T-08 RBS 310512	. .* 00078.*FT/IJ .	H,M .	. B 160 DYS . . .
					L	. A 100 DYS . N/A
NOT:LIMITORQUE/INS CL:B /460VAC						
.1E32*MOV021C E32-F001K	LCS INBOARD PROCESS VLV VELAN LIMITORQUE SNC-04-5	1E 253	. T-08 RBS 310512	. .* 00078.*FT/IJ .	H,M .	. B 160 DYS . . .
					L	. A 100 DYS . N/A
NOT:LIMITORQUE/INS CL:B /460VAC						

1E32*MOV021D

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

ENG COND

OPER CODE

MAKE / MANUFACTURER

NU-CAT BLDG

ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC

PO NUMBER

SUBNG

.1E32*MOV021D

E32-F001P

LCS INBOARD PROCESS VLV

VELAN

1E

T-08

.*

H,M

. B

LIMITORQUE

253

RDS

00078.*FT/IJ

. 100 DYS

SNC-04-5

.

310512

.

.

.

.

.

L

. A

.

.

. 100 DYS

.

.

. N/A

MOT:LIMITORQUE/INS CL:B /460VAC

1R24*MG111

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JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

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EQUIPMENT ID EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

MAKE / MANUFACTURER

MODEL / CATALOG NO

QAC

ZONE

NU-CAT BLDG

ELEV

SPEC PO NUMBER

EQ SHEET

QUAL STAT

EMG COND

OPER CODE

SUBMS

REPORT GROUP MAK

= LOUIS ALLIS

1R24*MG111

480V MOTOR GENERATOR (RED)

LOUIS ALLIS

1E

N-21

439-01

ALL

A

LOUIS ALLIS

RBS

150. EQ

180 DYS

COGSF

439

310950

NA

1R24*MG112

480V MOTOR GENERATOR (BLUE)

LOUIS ALLIS

1E

N-21

439-01

ALL

A

LOUIS ALLIS

RBS

150. EQ

180 DYS

COGSF

439

310950

NA

1R24*MG113A

480V MOTOR GENERATOR (ORANGE)

LOUIS ALLIS

1E

N-21

439-01

ALL

A

LOUIS ALLIS

RBS

150. EQ

180 DYS

COGSF

439

310950

NA

1R24*MG113B

480V MOTOR GENERATOR (ORANGE)

LOUIS ALLIS

1E

N-21

439-01

ALL

A

LOUIS ALLIS

RBS

150. EQ

180 DYS

COGSF

439

310950

NA

IR35-T-B2

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VENDOR ID	VENDOR NAME	NU-CAT	BLOS	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= MAGNETICS					
1R35-T-B2	480-120/240V TRANS				ALL	. A
	MAGNETICS	1E	. N-21	. 248-01		. 180 DYS
	MAGNETICS		. RBS	112. EQ		.
	L-12514	248	. 310739	.		.
1R35-T-R2	480-120/240V TRANS				ALL	. A
	MAGNETICS	1E	. N-21	. 248-01		. 180 DYS
	MAGNETICS		. RBS	112. EQ		.
	L-12514	248	. 310739	.		.

1P42*LS012A

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JOB CLIENT LILCO

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

EHG COND

OPER CODE

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

MAKE / MANUFACTURER

NU-CAT BLDG

ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC

PO NUMBER

SUBMG

REPORT GROUP MAK

= MAGNETROL

.1P42*LS012A

LS ON TK 026A

MAGNETROL

1E

H-18

407-01

*H,M

.*A

MAGNETROL

RDS

00160.*FT/IJ

.*070 MIN

291-MPG-X-M14DC

407

10042

.*1% SP

*L

.*A

.*070 MIN

.1P42*LS012B

RBCLCH TK-026B

MAGNETROL

1E

H-18

407-01

*H,M

.*A

MAGNETROL

RDS

00160.*FT/IJ

.*180 DYS

291-MPG-X-M14DC

407

10042

*L

.*A

.*180 DYS

.1P42*LS013A

1P42-TK-026A HEAD TK LEVEL

MAGNETROL

1E

H-18

407-01

*H,M

.*A

MAGNETROL

RDS

00160.*FT/IJ

.*180 DYS

291-MPG-X-M14DC

407

10042

*L

.*A

.*180 DYS

.1P42*LS013B

TK-026A HEAD TK LVL

MAGNETROL

1E

H-18

407-01

*H,M

.*A

MAGNETROL

RDS

00160.*FT/IJ

.*180 DYS

291-MPG-X-M14DC

407

10042

*L

.*A

.*180 DYS

1T48*LS061A

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VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	NAME / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					

.1T48*LS061A	COND LEVEL	1E	G-03	407-01	H,M	B
	MAGNETROL		RBS	63.*FT/IJ		180 DYS
	MAGNETROL	407	10042			
	291-MPG-X-M14DC					
					L	B
						180 DYS
.1T48*LS061B	COND LEVEL	1E	G-10	407-01	H,M	B
	MAGNETROL		RBS	78.*FT/IJ		180 DYS
	MAGNETROL	407	10042			
	291-MPG-X-M14DC					
					L	B
						180 DYS
1E41*LS092A	SUPPRESSION POOL	1E	G-01	3143	H,M	A
E41-N015A	G.E.		RBS	00008. EQ		012 HRS
	MAGNETROL	003	310010			
	3.5-751-1X-MPG-M14HY					
					L	A
						012 HRS
1E41*LS092B	SUPPRESSION POOL	1E	G-01	3143	H,M	A
E41-N015B	G.E.		RBS	00008. EQ		012 HRS
	MAGNETROL	003	310010			
	3.5-751-1X-MPG-M14HY					
					L	A
						012 HRS
.1E51*LS091	RCIC SH DWN POT	1E	G-01	*3143	*H,M	*B
E51-N010	GENERAL ELEC		RBS	00008.*EQ		*180 DYS
	*MAGNETROL	003	310010			
	*5.0-751-2X-MPG-M14HY					*0.5 IN

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV		
	MAKE / MANUFACTURER	SPEC	PO NUMBER	QUAL STAT		
	MODEL / CATALOG NO				SUBNG	
*****	*****	*****	*****	*****	*****	*****
		.		.	*L	.#B
	#180 DYS
	
	#0.5 IN

ID11-PI041

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 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EHG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= MARSH GAGE					

.ID11-PI041	STATION VENT EXHAUST				H,M	. A
	N.H.C.	2E	H-20	.		. 160 DYS
	*MARSH GAGE	*	RBS	00175.*IJ		.
	*H0212	332	310782	.		.
					L	. A
						. 180 DYS
						.
						.
						.

CAT. II EQUIPMENT NOT IE POWERED

REPORT NO. PES-801 JOB 1160002 05/21/82

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REPORT NO. PES-801
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JOB NAME SHOREHAM - UNIT 1
JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
PROJECT EQUIPMENT SYSTEM - (IS-129)
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EQUIPMENT ID	EQUIPMENT DESCRIPTION
VENDOR ID	VENDOR NAME

QAC	ZONE	EQ SHEET
NU-CAT	BLDG	ELEV
SPEC	PO NUMBER	QUAL STAT

ENG COND	OPER CODE
----------	-----------

SUBMG

REPORT GROUP MAK = NAHCO

.1C11*PNS081 1C11*AOV001 POSITION
C11-F010 *GENERAL ELECT
 *NANCO

```
*1E      . *G-01      .
          . *RBS      *00078. *DR/IJ      .
003      . 310010      .
```

H, M . A
070 H

L . A
 . 070 MIN

.1C11*PNS082 1C11*AOV082 POSITION
C11-F011 *GENERAL ELECT
 *NAHCO

*1E . *G-05 .
 . *RBS *00040. *DR/IJ
 C03 . 310010 .

H,M . A
 . 070 MIN

L . A
 . 070 MIN

.1E41*PNS840
LS-1,2

```

1E . G-01 .
. RBS 00008. TA/IJ
003 . 310010 .

```

H,H . B
 . 180 DYS

L . B
 . 180 DYS

1E41*PNS841
LS 3,4

1E41*HOV-051 POSITION
GENERAL ELEC
NAICO
D1200

```

1E      . G-01      .
        . RES      00008. TA/IJ
003     . 310010    .

```

H,M . A
 . 012 HRS

L . A
012 HRS

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT	ZONE BLDG	ELEV	EQ SHEET QUAL STAT	ENG COND	OPER CODE

.1E21*PNS071A	1E21*HCV071A POSITION SW					H,M	. B
	NANCO	1E	J-16		. *088-01		. 180 DYS
	NANCO		RBS	00131	. *EQ		
	EA180-11302	FIELD	F-347565				
						L	. B
							. 180 DYS
							N/A
MARK NO. REPRESENTS 2 SWITCHES							
.1E21*PNS071B	1E21*HCV071B POSITION SW					H,M	. B
	NANCO	1E	B-22		. *088-01		. 180 DYS
	NANCO		RBS	00131	. *EQ		
	EA180-11302	FIELD	F-347565				
						L	. B
							. 180 DYS
							N/A
MARK NO. REPRESENTS 2 SWITCHES							
1E11*PNS031C	POS SW ON 1E11*MOV031C					ALL	. A
	NANCO CONTROLS	1E	G-01		. 088-01		. 180 DYS
	NANCO		RBS	24	. EQ		
	EA180-11302	088	347565				N/A
1E11*PNS032B	POS SW ON 1E11*MOV032B					ALL	. A
	NANCO CONTROLS	1E	G-01		. 088-01		. 180 DYS
	NANCO		RBS	10	. EQ		
	EA180-11302	088	347565				N/A
1E11*PNS032C	POS SW ON 1E11*MOV032C					ALL	. A
	NANCO CONTROLS	1E	G-01		. 088-01		. 180 DYS
	NANCO		RBS	20	. EQ		
	EA180-11302	088	347565				N/A
.1E11*PNS047	1E11*MOV047 POSITION SW					ALL	. A
	NANCO CONTROLS	*1E	D-22		. 088-01		. 180 DYS
	NANCO		RED	*00084	. EQ		
	EA180-11302	088	347565				N/A
.1E11*PNS071A	1E11*HV071A POSITION					H,M	. B
	NANCO	1E	D-22		. *088-01		. 180 DYS
	NANCO		RDP	*00080	. *EQ		
	EA180-31302	FIELD	F-347565				

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		MAKE / MANUFACTURER	NJ-CAT	BLDG	ELEV		
		MODEL / CATALOG NO	SPEC	PO NUMBER	QUAL STAT		
*****	*****	*****	*****	*****	*****	SUBMG *****	***** ***** *****
			.			L	. B
		 180 DYS
		
		
		MARK NO. REPRESENTS 2 SWITCHES					
.1E11*PNS071B		1E11-HV071B POSITION	.			H,M	. B
		NAMCO	1E .	D-22	. *088-01		. 180 DYS
		NAMCO	.	RBP	*00080 . *EQ		.
		EA180-31302	FIELD.	F-347565	.		.
			.			L	. B
		 180 DYS
		
		
		MARK NO. REPRESENTS 2 SWITCHES					
1E11*PNS031A		POS SW ON 1E11*MOV031A	.			ALL	. A
		NAMCO CONTROLS	1E .	G-01	. 088-01		. 100 DYS
		NAMCO	.	RBS	24. EQ		.
		EA180-31302	089 .	347565	.		. N/A
1E11*PNS031B		POS SW ON 1E11*MOV031B	.			ALL	. A
		NAMCO CONTROLS	1E .	G-01	. 088-01		. 180 DYS
		NAMCO	.	RBS	24. EQ		.
		EA180-31302	089 .	347565	.		. N/A
1E11*PNS031D		POS SW ON 1E11*MOV031D	.			ALL	. A
		NAMCO CONTROLS	1E .	G-01	. 088-01		. 180 DYS
		NAMCO	.	RBS	24. EQ		.
		EA180-31302	088 .	347565	.		. N/A
.1E11*PNS032A		POS SW ON 1E11*MOV032A	.			ALL	. A
		*NAMCO CONTROLS	1E .	G-01	. 088-01		. 180 DYS
		NAMCO	.	RBS	15. EQ		.
		EA180-31302	088 .	347565	.		. N/A
.1E11*PNS032D		POS SW ON 1E11*MOV032D	.			ALL	. A
		*NAMCO CONTROLS	1E .	G-01	. 088-01		. 180 DYS
		NAMCO	.	RBS	19. EQ		.
		EA180-31302	086 .	347565	.		. N/A
.1E11*PNS043		1E11*MOV043 POSITION SH	.			ALL	. A
		NAMCO CONTROLS	*1E .	G-03	. 088-01		. 180 DYS
		NAMCO	.	RBS	*00063. EQ		.
		EA180-31302	088 .	347565	.		. N/A

1E11-FNS050

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JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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***** SUBMS *****						
1E11*PNS050	POS SW ON 1E11*MOV050 NAMCO CONTROLS NAMCO EA180-31302	1E . G-07 RBS 088 . 347565	. . 088-01 72. EQ . 347565	. . 088-01 72. EQ . 347565	ALL	. A . 180 DYS N/A
1E11*PNS037A	POS SW ON 1E11*MOV037A NAMCO CONTROLS NAMCO EA180-32302	1E . G-03 RBS 088 . 347565	. . 088-01 72. EQ . 347565	. . 088-01 72. EQ . 347565	ALL	. A . 180 DYS N/A
1E11*PNS037B	POS SW ON 1E11*MOV037B NAMCO CONTROLS NAMCO EA180-32302	1E . G-07 RBS 088 . 347565	. . 089-01 72. EQ . 347565	. . 089-01 72. EQ . 347565	ALL	. A . 180 DYS N/A
1E11*PNS040A	POS SW ON 1E11*MOV040A VELAN NAMCO EA180-32302	1E . G-03 RBS 088 . 347565	. . 088-01 72. EQ . 347565	. . 088-01 72. EQ . 347565	ALL	. A . 180 DYS N/A
1E11*PNS040B	POS SW ON 1E11*MOV040B VELAN NAMCO EA180-32302	1E . G-07 RBS 088 . 347565	. . 088-01 72. EQ . 347565	. . 088-01 72. EQ . 347565	ALL	. A . 180 DYS N/A
.1T46*PNS035A	RBSVS INITIATION SIGNAL FISHER CONTROLS NAMCO EA740-20001	1E . G-01 RBS 111 . 310655	. . 00112.*RR . 310655	. . 00112.*RR . 310655	*H,H	. *A . *070 MIN
		.	.	.	*L	. *A . *070 MIN
	
	
	
	MARK NO. REPRESENTS 6 SWITCHES					
.1T46*PNS035B	RBSVS INITIATION SIGNAL FISHER CONTROLS NAMCO EA740-20001	1E . G-01 RBS 111 . 310655	. . 00112.*RR . 310655	. . 00112.*RR . 310655	*H,H	. *A . *070 MIN
		.	.	.	*L	. *A . *070 MIN
	
	
	
	MARK NO. REPRESENTS 6 SWITCHES					

1T46*PNS037A REPORT NO. PES-801 JCB 1160002 05/21/82

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 JCB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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.1T46*PNS037A	RBSVS INITIATION SIGNAL	.	.	.	*H,H	.*A
	FISHER CONTROLS	1E	H-12	.	.	.*070 MIN
	NAMCO	.	RBS	00095.*RR	.	.
	EA740-20001	111	310655	.	.	.
	.	.	.	.	*L	.*A
	.	.	.	.	.	.*070 MIN

	MARK NO. REPRESENTS 6 SWITCHES					
.1T46*PNS037B	RBSVS INITIATION SIGNAL	.	.	.	*H,H	.*A
	FISHER CONTROLS	1E	H-12	.	.	.*070 MIN
	NAMCO	.	RBS	00095.*RR	.	.
	EA740-20001	111	310655	.	.	.
	.	.	.	.	*L	.*A
	.	.	.	.	.	.*070 MIN

	MARK NO. REPRESENTS 6 SWITCHES					
.1T46*PNS038A	PRI CONT PURGE VA 1T46*AOV038A.	.	.	.	*H,H	.*B
	FISHER CONTROLS	1E	D-22	.	.	.*180 DYS
	NAMCO	.	RBP	00078.*RR	.	.
	EA740-20001	172	310574	.	.	.
	.	.	.	.	*L	.*A
	.	.	.	.	.	.*070 MIN

	MARK NO. REPRESENTS 4 SWITCHES					
.1T46*PNS038B	PRI CONT PURGE VA 1T46*AOV038B.	.	.	.	*H,H	.*B
	FISHER CONTROLS	1E	H-10	.	.	.*180 DYS
	NAMCO	.	RBS	00078.*RR	.	.
	EA740-20001	172	310574	.	.	.
	*L	.*A
*070 MIN

	MARK NO. REPRESENTS 4 SWITCHES					

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STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	QAC	ZONE	EQ SHEET		
	NAME / MANUFACTURER	QAC	ZONE	EQ SHEET		
	MODEL / CATALOG NO	SPEC	PO NUMBER	QUAL STAT		

.1T46*PNS038C	PRI CONT PURGE VA 1T46*AOV038C.				*L	.WA
	FISHER CONTROLS	1E	L-02			.W070 MIN
	NAMCO		RDS	00040.*RR		
	EA740-20001	172	310574			
	MARK NO. REPRESENTS 4 SWITCHES					
.1T46*PNS038D	PRI CONT PURGE VA 1T46*AOV038D.				*L	.WA
	FISHER CONTROLS	1E	L-02			.W070 MIN
	NAMCO		RDS	00040.*RR		
	EA740-20001	172	310574			
	MARK NO. REPRESENTS 4 SWITCHES					
.1T46*PNS039A	PRI CONTAINMENT PURGE VALVE				L,M	.WB
	FISHER CONTROLS	1E	B-22			.W180 DYS
	NAMCO		REP	00112.*RR		
	EA740-20001	172	310574			
					*L	.WA
						.W070 MIN
	MARK NO. REPRESENTS 6 SWITCHES					
.1T46*PNS039B	PRI CONTAINMENT PURGE VALVE				*H,M	.WB
	FISHER CONTROLS	1E	K-15			.W180 DYS
	NAMCO		RDS	00112.*RR		
	EA740-20001	172	310574			
					*L	.WA
						.W070 MIN
	MARK NO. REPRESENTS 6 SWITCHES					
.1T46*PNS039C	PRI CONTAINMENT PURGE VALVE				*L	.WA
	FISHER CONTROLS	1E	G-02			.W070 MIN
	NAMCO		RDS	00040.*RR		
	EA740-20001	172	310574			
	MARK NO. REPRESENTS 6 SWITCHES					
.1T46*PNS039D	PRI CONTAINMENT PURGE VALVE				*L	.WA
	FISHER CONTROLS	1E	G-02			.W070 MIN
	NAMCO		RDS	00040.*RR		
	EA740-20001	172	310574			
	MARK NO. REPRESENTS 6 SWITCHES					

1B21*PNS036A REPORT NO. PES-801 JOB 1160002 05/21/82

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 JOB CLIENT LILCO

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.1B21*PNS036A	REACTOR FW INLET AOV036A	.	.	.	H,M	. B
	VELAN	1E	. T-08	. *232-01		. 180 DYS
	NAMCO	.	. ST	00087. RR		.
	EA740-20100	232	. 310595	.		.
	.	.	.	.	L	. A
	.	.	.	.		. 070 MIN

	MARK NO. REPRESENTS 2 SWITCHES CODE B FOR HELB & MELB					
.1B21*PNS036B	1B21*AOV036A POSITION	.	.	.	H,M	. B
	VELAN	1E	. T-08	. *232-01		. 180 DYS
	NAMCO	.	. ST	00087. RR		.
	EA740-20100	232	. 310595	.		.
	.	.	.	.	L	. A
	.	.	.	.		. 070 MIN

	MARK NO. REPRESENTS 2 SWITCHES CODE B FOR HELB & MELB					
.1E11*PNS081A	RHR CHECK VALVE 1E11*AOV081A	.	.	.	ALL	. B
	VELAN	1E	. D-22	. *232-02		. 180 DYS
	NAMCO	.	. REP	00079. RR		.
	EA740-20100	232	. 310595	.	MST	.
	MARK NO. REPRESENTS 2 SWITCHES					
.1E11*PNS081B	RHR CHECK VALVE 1E11*AOV081B	.	.	.	ALL	. B
	VELAN	1E	. D-22	. *232-02		. 180 DYS
	NAMCO	.	. REP	00079. RR		.
	EA740-20100	232	. 310595	.	MST	.
	MARK NO. REPRESENTS 2 SWITCHES					
.1E21*PNS081A	CORE SPRAY HDR VA 1E21*AOV081A.	.	.	.	L	. B
	VELAN	1E	. B-22	. *232-02		. 180 DYS
	NAMCO	.	. REP	00126. RR		.
	EA740-20100	232	. 310512	.	MST	. NA
	MARK NO. REPRESENTS 2 SWITCHES					
.1E21*PNS081B	CORE SPRAY HDR VA 1E21*AOV081B.	.	.	.	L	. B
	VELAN	1E	. B-22	. *232-02		. 180 DYS
	NAMCO	.	. REP	00126. RR		.
	EA740-20100	232	. 310512	.	MST	. NA
	MARK NO. REPRESENTS 2 SWITCHES					

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.1P42*PNS282	RBCLCH RETURN CHECK VLV					
	VELAN	1E	G-01	.#232-02	*H,M	.#B
	NAMCO		RBS	00016. RR		.#180 DYS
	EA740-20100	232	310595			
					*L	.#A
						.#070 MIN
	MARK NO. REPRESENTS 2 SWITCHES					
.1P42*PNS293	RBCLCH RETURN CHECK VLV					
	VELAN	1E	G-01	.#232-02	*H,M	.#B
	NAMCO		RBS	00039. RR		.#180 DYS
	EA740-20100	232	310595			
					*L	.#A
						.#070 MIN
	MARK NO. REPRESENTS 2 SWITCHES					
.1P42*PNS294	RBCLCH RETURN CHECK VLV					
	VELAN	1E	G-01	.#232-02	*H,M	.#B
	NAMCO		RBS	00039. RR		.#180 DYS
	EA740-20100	232	310595			
					*L	.#A
						.#070 MIN
	MARK NO. REPRESENTS 2 SWITCHES					
.1B31*PNS081	1B31*ADV081 POS SH					
	COPEC VULCAN	1E	K-15		H,M	. B
	NAMCO		RES	00155.*RR		. 180 DYS
	EA740-20100	318	310735			
					L	. A
						. 070 MIN
	MARK NO. REPRESENTS 4 SWITCHES					

1B31*PNS082

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*****	*****	*****	*****	*****	*****	*****
.1B31*PNS082	1B31*AOV082 POS SW NAMCO EA740-20100	1E 318	. H-18 RBS 310735	. . 00155.*RR .	H,M .	. B . 180 DYS .
					L	. A . 070 MIN .
	MARK NO. REPRESENTS 4 SWITCHES					
.1E11*PNS061A	ON 1E11*AOV061A COPEL VULCAN NAMCO EA740-20100	1E 318	. G-01 RBS 370964	. . 00008.*RR .	ALL .	. A . 070 MIN . NA
	MARK NO. REPRESENTS 4 SWITCHES					
.1E11*PNS061B	ON 1E11*AOV061B COPEL VULCAN NAMCO EA740-20100	1E 318	. G-01 RBS 310735	. . 00008.*RR .	ALL .	. A . 070 MIN . NA
	MARK NO. REPRESENTS 4 SWITCHES					
.1E11*PNS062A	ON 1E11*AOV062A COPEL VULCAN NAMCO EA740-20100	1E 318	. G-01 RBS 310735	. . 00008.*RR .	ALL .	. A . 070 MIN . NA
	MARK NO. REPRESENTS 4 SWITCHES					
.1E11*PNS062B	ON 1E11*AOV062B COPEL VULCAN NAMCO EA740-20100	1E 318	. G-01 RBS 310735	. . 00008.*RR .	ALL .	. A . 070 MIN . NA
	MARK NO. REPRESENTS 4 SWITCHES					
.1E41*PNS081	ON 1E41*AOV001 COPEL VULCAN NAMCO EA740-20100	1E 318	. G-01 RBS 310735	. . 00008.*RR .	H,M .	. A . 070 MIN .
					L	. A . 070 MIN .
	MARK NO. REPRESENTS 4 SWITCHES					

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VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					

.1E41*PNS082	ON 1E41*AOV082	1E	G-01		H,M	A
	COPEL VULCAN		RBS	00008.*RR		070 MIN
	NAHCO	318	310735			
	EA740-20100					
					L	A
						070 MIN
MARK NO. REPRESENTS 4 SWITCHES						
.1E41*PNS083	ON 1E41*AOV083	1E	G-01		H,M	A
	COPEL VULCAN		RBS	00008.*RR		070 MIN
	NAHCO	318	310735			
	EA740-20100					
					L	A
						070 MIN
MARK NO. REPRESENTS 4 SWITCHES						
.1E41*PNS091	ON 1E41*LCV091	1E	G-01		H,M	B
	COPEL VULCAN		RBS	00008.*RR		180 DYS
	NAHCO	318	310735			
	EA740-20100					
					L	B
						180 DYS
MARK NO. REPRESENTS 2 SWITCHES						
.1E41*PNS095	ON 1E41*LCV095	1E	G-01		H,M	A
	COPEL VULCAN		RBS	00008.*RR		070 MIN
	NAHCO	318	310735			
	EA740-20100					
					L	A
						070 MIN
MARK NO. REPRESENTS 4 SWITCHES						

1E51*PNS081 REPORT NO. PES-801 JOB 1160002 05/21/82

ENVIRONMENTAL QUALIFICATION STATUS REPORT

REPORT NO. PES-801
 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
 PROJECT EQUIPMENT SYSTEM - (IS-129)
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	ENG COND SUBHG	OPER CODE

.1E51*PNS081	ON 1E51*AOV081 COPEL VULCAN NAMCO EA740-20100	1E 318	. G-01 . RBS . 310735	. 00008.*RR .	*H,M .	. *B .*180 DYS .
					*L	. *B .*180 DYS .
	MARK NO. REPRESENTS 4 SWITCHES					
.1E51*PNS082	ON 1E51*AOV082 COPEL VULCAN NAMCO EA740-20100	1E 318	. G-01 . RBS . 310735	. 00008.*RR .	*L .	. *B .*180 DYS .
	MARK NO. REPRESENTS 4 SWITCHES					
.1E51*PNS083	ON 1E51*AOV083 COPEL VULCAN NAMCO EA740-20100	1E 318	. G-01 . RBS . 310735	. 00008.*RR .	*H,M .	. *B .*180 DYS .
					*L	. *B .*180 DYS .
	MARK NO. REPRESENTS 4 SWITCHES					
.1E51*PNS091	ON 1E51*LCV091 COPEL VULCAN NAMCO EA740-20100	1E 318	. G-01 . RBS . 310735	. 00008.*RR .	*H,M .	. *B .*180 DYS .
					*L	. *B .*180 DYS .
	MARK NO REPRESENTS 2 SWITCHES					
.1E51*PNS095	ON 1E51*LCV095 COPEL VULCAN NAMCO EA740-20100	1E 318	. G-01 . RBS . 310735	. 00008.*RR .	*H,M .	. *B .*180 DYS .

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SUBMG

L . A
 . 180 DYS
 .
 .

REPORT NO. PES-801
 JOB NUMBER 1160002
 JOB NAME SKORERAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLOG	ELEV	QUAL STAT	SUBMG
MODEL / CATALOG NO	SPEC	PO NUMBER				

					L	. A
						. 180 DYS
						.
						.
OPCODE A 180DYS FOR LOCA, NOT REQUIRED DURING PBO C						
.1T46*PNS078A	DRYML VENT 1T46L*AOV078 POS SH.				*H,M	. *B
	COPEES VULCAN	1E	G-06	.		. *180 DYS
	MANCO		RBS	00090.*RR/EQ		.
	EA740-20100	318	310735	.		.
					*L	. *A
						. *070 MIN
						.
						.
MARK NO. REPRESENTS 4 SWITCHES						
.1T46*PNS078B	ON 1T46*AOV078B				*H,M	. *B
	COPEES VULCAN	1E	G-12	.		. *180 DYS
	MANCO		RBS	00096.*RR/EQ		.
	EA740-20100	318	310735	.		.
					*L	. *A
						. *070 MIN
						.
						.
MARK NO. REPRESENTS 4 SWITCHES						
.1T46*PNS079A	ON 1T46*AOV079A				*H,M	. *B
	COPEES VULCAN	1E	G-06	.		. *180 DYS
	MANCO		RBS	00063.*RR/EQ		.
	EA740-20100	318	310735	.		.
					*L	. *A
						. *070 MIN
						.
						.
MARK NO. REPRESENTS 4 SWITCHES						
.1T46*PNS079B	ON 1T46*AOV079B				*H,M	. *B
	COPEES VULCAN	1E	G-06	.		. *180 DYS
	MANCO		RBS	00063.*RR/EQ		.
	EA740-20100	318	310735	.		.

REPORT NO. PE5-801
 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
					*L	.WA
						.#070 MIN
	MARK NO. REPRESENTS 4 SWITCHES					
.1B21*PNS081A	*CHANGED TO 1Z91*PNS039A				*H,M	.WB
	GE-NED	1E	D-22	3911		.#180 DYS
	NAHCO		RBP	00082. RR		
	EA740-80000	003	310010			.#1 Z
					*L	.WB
						.#180 DYS
						.#1 Z
.1B21*PNS091B	*CHANGED TO 1Z91*PNS039B				*H,M	.WB
	GE-NED	1E	D-22	3911		.#180 DYS
	NAHCO		RBP	00082. RR		
	EA740-80000	003	310010			.#1 Z
					*L	.WB
						.#180 DYS
						.#1 Z
.1B21*PNS081C	*CHANGED TO 1Z91*PNS039C				*H,M	.WB
	GENERAL ELEC	1E	D-22	3911		.#180 DYS
	NAHCO		RBP	00082. RR		
	EA740-80000	003	310010			.#1 Z
					*L	.WB
						.#180 DYS
						.#1 Z
.1B21*PNS091D	*CHANGED TO 1Z91*PNS039D				*H,M	.WB
	GENERAL ELEC	1E	D-22	3911		.#180 DYS
	NAHCO		RBP	00082. RR		
	EA740-80000	003	310010			.#1 Z
					*L	.WB
						.#180 DYS
						.#1 Z

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 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLOG PO NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND SUBMG	OPER CODE

.1B21*PNS082A	*CHANGED TO 1Z91*PNS040A GENERAL ELEC NAMCO EA740-80000	1E 003	T-08 ST 310010	3911 RR	*H,M *L	*B *180 DYS *1 Z
.1B21*PNS082B	*CHANGED TO 1Z91*PNS040B GENERAL ELEC NAMCO EA740-80000	1E 003	T-08 ST 310010	3911 RR	*H,M *L	*B *180 DYS *1 Z
.1B21*PNS082C	*CHANGED TO 1Z91*PNS040C GENERAL ELEC NAMCO EA740-80000	1E 003	T-08 ST 310010	3911 RR	*H,M *L	*B *180 DYS *1 Z
.1B21*PNS082D	*CHANGED TO 1Z91*PNS040D GENERAL ELEC NAMCO EA740-80000	1E 003	T-08 ST 310010	3911 RR	*H,M *L	*B *180 DYS *1 Z
.1C11*PNS050 C11-F180	FOR 1C11*AOV050 *GENERAL ELECT *NAMCO *EA740-80000	*1E *003	*G-05 *RDS *310010		H,M	A 070 MIN

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 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	EMG COND	OPER CODE

MARK NO. REPRESENTS 2 SWITCHES						
.1B21*PNS093D	ON 1B21*RV093D *ANDERSN GRNND NAMCO EA740-80001	1E 175	E-23 RBP 00050.*RR 310649	.	H,M	. B . 180 DYS
					L	. B . 180 DYS
MARK NO. REPRESENTS 2 SWITCHES						
.1B21*PNS093E	ON 1B21*RV093E *ANDERSN GRNND NAMCO EA740-80001	1E 175	E-23 RBP 00050.*RR 310649	.	H,M	. B . 180 DYS
					L	. B . 180 DYS
MARK NO. REPRESENTS 2 SWITCHES						
.1B21*PNS093F	ON 1B21*RV093F *ANDERSN GRNND NAMCO EA740-80001	1E 175	E-23 RBP 00050.*RR 310649	.	H,M	. B . 180 DYS
					L	. B . 180 DYS
MARK NO. REPRESENTS 2 SWITCHES						
.1B21*PNS093G	ON 1B21*RV093G *ANDERSN GRNND NAMCO EA740-80001	1E 175	E-23 RBP 00050.*RR 310649	.	H,M	. B . 180 DYS
					L	. B . 180 DYS
MARK NO. REPRESENTS 2 SWITCHES						

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 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	ELEV	EQ SHEET QUAL STAT	ENG COND SUBMG	OPER CODE

.1B21*PNS093H	ON 1B21*RV093H *ANDERSN GRIND NAMCO EA740-80001	1E 175	. E-23 . RBP . 310649	.	. 00050.*RR .	H,M .	. B . 180 DYS .
						L	. B . 180 DYS .
MARK NO. REPRESENTS 2 SWITCHES							
.1B21*PNS093J	ON 1B21*RV093J *ANDERSN GRIND NAMCO EA740-80001	1E 175	. E-23 . RBP . 310649	.	. 00050.*RR .	H,M .	. B . 180 DYS .
						L	. B . 180 DYS .
MARK NO. REPRESENTS 2 SWITCHES							
.1B21*PNS093K	ON 1B21*RV093K *ANDERSN GRIND NAMCO EA740-80001	1E 175	. E-23 . RBP . 310649	.	. 00050.*RR .	H,M .	. B . 180 DYS .
						L	. B . 180 DYS .
MARK NO. REPRESENTS 2 SWITCHES							
.1B21*PNS093L	ON 1B21*RV093L *ANDERSN GRIND NAMCO EA740-80001	1E 175	. E-23 . RBP . 310649	.	. 00050.*RR .	H,M .	. B . 180 DYS .
						L	. B . 180 DYS .
MARK NO. REPRESENTS 2 SWITCHES							

1B21*PNS093M

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 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	EMG COND SUBMG	OPER CODE

.1B21*PNS093M	ON 1B21*RV093M *ANDERSN GRID NAMCO EA740-80001	1E 175	. E-23 . RBP 00050.*RR . 310649	. . .	H,M .	. B . 180 DYS .
					L	. B . 180 DYS .
MARK NO. REPRESENTS 2 SWITCHES						
.1T46*PNS031A	POSITION ON MOD031A *NAMCO NAMCO EA750-50100	1E 319	. K-15 . RBS 00135.*RR . 310738	. . .	*H,M .	. *A . *180 DYS .
					*L	. *A . *180 DYS .
.1T46*PNS031B	POSITION ON MOD031B *NAMCO NAMCO EA750-50100	1E 319	. K-15 . RBS 00135.*RR . 310738	. . .	*H,M .	. *A . *180 DYS .
					*L	. *A . *180 DYS .
.1T46*PNS034A	POSITION ON MOD034A *NAMCO NAMCO EA750-50100	1E 319	. H-20 . RBS 00182.*RR . 310738	. . .	*H,M .	. *A . *180 DYS .
					*L	. *A . *180 DYS .
.1T46*PNS034B	POSITION ON MOD034B *NAMCO NAMCO EA750-50100	1E 319	. H-20 . RBS 00182.*RR . 310738	. . .	*H,M .	. *A . *180 DYS .

1B21*TE059A

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JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

EMG COND

OPER CODE

MAKE / MANUFACTURER

NU-CAT BLDG ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC PO NUMBER

SUBMG

REPORT GROUP MAK

= NECI

.1B21*TE059A
B21-N014AMAIN STM TUNNEL AMB
GENERAL ELEC
NECI
145C3224P0011E . *T-08 . 3110
*TB 00078. EQ
003 . 310010 .H . A
. 70 MIN
. ANSI C96.1*H,H . *A
. *070 MIN
. .*L . *B
. *180 DYS
. ..1B21*TE059B
B21-N014BMAIN STM TUNNEL AMB
GENERAL ELEC
NECI
145C3224P0011E . *T-08 . 3110
*TB 00078. EQ
003 . 310010 .H . A
. 70 MIN
. ANSI C96.1*H,H . *A
. *070 MIN
. .*L . *B
. *180 DYS
. ..1B21*TE059C
B21-N014CMAIN STM TUNNEL AMB
GENERAL ELEC
NECI
145C3224P0011E . *T-08 . 3110
*TB 00078. EQ
003 . 310010 .H . A
. 70 MIN
. ANSI C96.1*H,H . *A
. *070 MIN
. .

REPORT NO. PES-801
 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	EHG COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					*L	. *B . *180 DYS
						.
						.
.1B21*TE059D B21-N014D	MAIN STM TUNNEL AMB GENERAL ELEC NECI 145C3224P001	1E 003	. *T-08 . *TB . 310010	. 3110 EQ . 00078	H	. A . 70 MIN ANSI C96.1
					*H,H	. *A . *070 MIN
						.
						.
					*L	. *B . *180 DYS
						.
						.

1D11-PNL041 REPORT NO. PES-601 JOB 1160002 05/21/82

ENVIRONMENTAL QUALIFICATION STATUS REPORT

REPORT NO. PES-601
JOB NUMBER 1160002
JOB NAME SHOREHAM - UNIT 1
JOB CLIENT LILCOSTONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO				SUBHG	
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= RMC					

1D11-PNL041	SHOREHAM STATION VENT MON	.			H,M	. A
	N.H.C.	2E	H-20	.		. 180 DYS
DELETED	NHC	RG	RBS	00175. ****	.	.
	N/A	332	310782	.	.	.

L	. A
.	. 180 DYS
.	.
.	.

CAT. II EQUIPMENT NOT IE POWERED

1D11-RTS041	STATION VENT EXHAUST	.			H,M	. A
	N.H.C.	2E	H-20	.		. 180 DYS
	NHC	*	RBS	00175.*IJ	.	.
	PNC-8000	332	310782	.	.	.

L	. A
.	. 180 DYS
.	.
.	.

CAT. II EQUIPMENT NOT IE POWERED

1D11-RE041	STATION VENT EXHAUST	.			H,M	. A
N/A	N.H.C.	2E	H-20	.		. 180 DYS
	NHC	*	RBS	00175.*IJ	.	.
	SC-2-15 GAMMA DET	332	310782	.	.	.

L	. A
.	. 180 DYS
.	.
.	.

CAT. II EQUIPMENT NOT IE POWERED

1D11-RE043	STATION VENT EXHAUST	.			H,M	. A
N/A	N.H.C.	2E	H-20	.		. 180 DYS
	NHC	*	RBS	00175.*IJ	.	.
	SC-2-15 GAMMA DET	332	310782	.	.	.

L	. A
.	. 180 DYS
.	.
.	.

CAT. II EQUIPMENT NOT IE POWERED

1D11-RE042

REPORT NO. PES-001 JOB 1160002 05/21/82

ENVIRONMENTAL QUALIFICATION STATUS REPORT

REPORT NO. PES-001
JOB NUMBER 1160002
JOB NAME SHOREHAM - UNIT 1
JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	ENG COND	OPER CODE
*****	*****	*****	*****	*****	*****	*****
1D11-RE042	STATION VENT EXHAUST	.	.	.	H,M	. A
N/A	N.M.C.	2E	H-20	.	.	. 180 DYS
	NMC	*	RDS	00175.*IJ	.	.
	SC-2B B SCINT DET	332	310782	.	.	.
	.	.	.	.	L	. A
	.	.	.	.	.	. 180 DYS

CAT. II EQUIPMENT NOT IE POWERED

1E41*LS091

REPORT NO. PES-801 JOB 1160002 05/21/82

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JOB NUMBER 1160002

JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

ENG COND

OPER CODE

MAKE / MANUFACTURER

NU-CAT

BLDG ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC

PO NUMBER

SUBHG

 REPORT GROUP MAK = NOT DETERMINED

1E41*LS091

HPCI 5TH DRN POT

E41-N014

G.E.

NOT DETERMINED

1E

G-01

003

RBS

00016 DR/IJ

310010

H,M

. B

. 180 DYS

L

. B

. 180 DYS

REPORT NO. PES-001
JOB NUMBER 1160002
JOB NAME SHOREHAM - UNIT 1
JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= OKONITE					

.1R31*NFH02

POWER CABLE					ALL	. A
OKONITE	1E	. ALL	. 128-01	.		. 180 DYS
OKONITE		. RB	*****	. EQ		.
600 V POWER CABLEST	128	. 310557	.	.	SPR	. NA
REPRESENTS ALL CABLE PURCHASED UNDER SHI-128						

1T46*A00041A

REPORT NO. PES-801 JOB 1160002 05/21/82

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JOB NUMBER 1160002

JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

EMS COND

OPER CODE

MAKE / MANUFACTURER

NU-CAT BLDG ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC PO NUMBER

SUBMS

REPORT GROUP MAK = POWERS *****

.1T46*A00041A

RB POT CONTAM AREA EXH

POWERS REGUL

1E

K-15

319-01

ALL

A

POWERS

RBS

00112. EQ

. 070 MIN

331-2792

319

310738

.1T46*A00041B

RB POT CONTAM AREA EXH

POWERS REGUL

1E

K-15

319-01

ALL

A

POWERS

RBS

00112. EQ

. 070 MIN

331-2792

319

310738

REPORT NO. PES-801
 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= PYCO					

1E11*TE013A	RHR HX TUBE OUTLET	1E	G-01	3110	H,M	A
	GENERAL ELEC	1E		EQ		180 DYS
	PYCO	003				
	N145C3224 PART 1					

L	A
	180 DYS

1E11*TE013B	RHR HX TUBE OUTLET	1E	G-01		H,M	A
	GENERAL ELEC	*	RBS	*00008. EQ		180 DYS
	PYCO	*003	*310010			
	N145C3224 PART 1					

L	A
	180 DYS

1E11*TE014A	RHR EQUIP AREA AMB	1E	1	3110	H,M	A
E11-N009A	GENERAL ELEC	1E	RBS	8. EQ		001 DYS
	PYCO	003	370969			
	N145C3224 PART 1					

L	B
	180 DYS

1E11*TE014B	RHR EQUIP AREA AMB	1E	1	3110	H,M	A
E11-N009B	GENERAL ELEC	1E	RBS	8. EQ		001 DYS
	PYCO	003	310010			
	N145C3224 PART 1					

L	B
	180 DYS

1E11*TE015A

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JOB NUMBER 1160002

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JOB NAME SHOREHAM - UNIT 1

ENVIRONMENTAL QUALIFICATION STATUS REPORT

RESET NO. 004

JOB CLIENT LILCO

SORTED BY - MAK / MCD / SPEC

RESET DATE 05/12/82

EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLOS PO NUMBER	EQ SHEET QUAL STAT	ENG COND SUBMG	OPER CODE
1E11*TE015A E11-N030A	RHR EQUIP AREA AMB GENERAL ELEC PYCO N145C3224 PART 1	1E 1E 003	. 1 . RBS . 310010	. 3110 8. EQ .	H,M .	. A . 001 DYS .
					L	. B . 180 DYS .
1E11*TE015B E11-N030B	RHR EQUIP AREA AMB GENERAL ELEC PYCO N145C3224 PART 1	1E 1E 003	. 1 . RBS . 310010	. 3110 8. EQ .	H,M .	. A . 001 DYS .
					L	. B . 180 DYS .
.1E41*TE053A E41-N024A	HPCI EQUIP AREA AMB GENERAL ELEC PYCO N145C3234 PART 1	1E 1E 003	. 1 . RBS . 310010	. 3110 *00034. EQ .	H,M .	. A . 070 MIN .
					L	. B . 180 DYS .
DETECT AREA TEMP RISE,INDICATING A PB IN HPCI PIPING NOT REQUIRED TO OP. AFTER HPCI DEACTIVATES						
.1E41*TE053B E41-N024B	HPCI EQUIP AREA AMB GENERAL ELEC PYCO N145C3234 PART 1	1E 1E 003	. 1 . RBS . 310010	. 3110 *00034. EQ .	H,M .	. A . 070 MIN .
					L	. B . 180 DYS .
DETECT AREA TEMP RISE,INDICATING A PB IN HPCI PIPING NOT REQUIRED TO OP. AFTER HPCI DEACTIVATES						
.1E41*TE054A E41-N028A	HPCI EQUIP AREA AMB GENERAL ELEC PYCO N145C3234 PART 1	1E 1E 003	. 1 . RBS . 310010	. 3110 *00034. EQ .	H,M .	. A . 070 MIN .

REPORT NO. PES-801
 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****

L . B
 . 180 DYS

DETECT AREA TEMP RISE, INDICATING A PB IN HPCI PIPING NOT REQUIRED TO OP. AFTER HPCI DEACTIVATES

.1E41*TE054B E41-N028B	HPCI EQUIP AREA AMB GENERAL ELEC PYCO N145C3234 PART 1	1E 1E 003	. 1 . RBS . 310010	. 3110 *00034. EQ . .	H,M A . 070 MIN . .
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L . B
 . 180 DYS

DETECT AREA TEMP RISE, INDICATING A PB IN HPCI PIPING NOT REQUIRED TO OP. AFTER HPCI DEACTIVATES

.1E41*TE055A E41-N029A	HPCI EQUIP AREA AMB GENERAL ELEC PYCO N145C3234 PART 1	1E 1E 003	. 1 . RBS . 310010	. 3110 *00034. EQ . .	H,M A . 070 MIN . .
---------------------------	---	-----------------	--------------------------	-----------------------------	-------------------	-------------------------

L . B
 . 180 DYS

DETECT AREA TEMP RISE, INDICATING A PB IN HPCI PIPING NOT REQUIRED TO OP. AFTER HPCI DEACTIVATES

1E41*TE055B E41-N029B	HPCI EQUIP AREA AMB GENERAL ELEC PYCO N145C3234 PART 1	1E 1E 003	. 5 . RBS . 310010	. 3110 63. EQ . .	H,M A . 070 MIN . .
--------------------------	---	-----------------	--------------------------	-------------------------	-------------------	-------------------------

L . B
 . 180 DYS

DETECT AREA TEMP RISE, INDICATING A PB IN HPCI PIPING NOT REQUIRED TO OP. AFTER HPCI DEACTIVATES

1E41*TE056A E41-N030A	HPCI EQUIP AREA AMB GENERAL ELEC PYCO N145C3234 PART 1	1E 1E 003	. 5 . RBS . 310010	. 3110 63. EQ . .	H,M A . 070 MIN . .
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REPORT NO. PES-801
 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	EMG COND SUBNG	OPER CODE

					L	. B . 180 DYS
DETECT AREA TEMP RISE, INDICATING A PB IN HPCI PIPING NOT REQUIRED TO OP. AFTER HPCI DEACTIVATES						
1E41*TE056B E41-N030B	HPCI EQUIP AREA AND GENERAL ELEC PYCO N145C3234 PART 1	1E 1E 003	. 5 . RBS . 310010	. 3110 63. EQ .	H,M L	. A . 070 MIN . 180 DYS
DETECT AREA TEMP RISE, INDICATING A PB IN HPCI PIPING NOT REQUIRED TO OP. AFTER HPCI DEACTIVATES						
1E11-TE012A E11-N027A	RHR MAIN FLOW GENERAL ELEC PYCO 102-3171	1E RG 003	. G-02 . RBS . 310010	. 3906 00040. EQ .	H,M L	. A . 180 DYS . 180 DYS
1E11-TE012B E11-N027B	RHR MAIN FLOW GENERAL ELEC PYCO 102-3171	1E RG 003	. G-02 . RBS . 310010	. 3906 00040. EQ .	H,M L	. A . 180 DYS . 180 DYS
1B21*TE43AY B21-N010A	MAIN STM TUNNEL OUTLET GENERAL ELEC *PYCO *102-9039-08	1E 1E 003	. ST .*TB . 310010	. *3110 00079. EQ .	*H,M *L	. *A . *070 MIN . *0.6% . *B . *180 DYS

1B21*TE43BY

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 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	OAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	EMG COND SUDNG	OPER CODE

.1B21*TE43BY B21-N010B	MAIN STM TUNNEL OUTLET GENERAL ELEC *PYCO *102-9039-08	1E 003	. ST . *TB 310010	. *3110 00078. EQ .	*H,M	. *A .*070 MIN . .*0.6%
					*L	. *B .*180 DYS . .
.1B21*TE43CY B21-N010C	MAIN STM TUNNEL OUTLET GENERAL ELEC *PYCO *102-9039-08	1E 003	. ST . *TB 310010	. *3110 00078. EQ .	*H,M	. *A .*070 MIN . .*0.6%
					*L	. *B .*180 DYS . .
.1B21*TE43DY B21-N010D	MAIN STM TUNNEL OUTLET GENERAL ELEC *PYCO *102-9039-08	1E 003	. ST . *TB 310010	. *3110 00078. EQ .	*H,M	. *A .*070 MIN . .*0.6%
					*L	. *B .*180 DYS . .

1R32*NFP 044 REPORT NO. PES-801 JOB 1160002 05/21/82

ENVIRONMENTAL QUALIFICATION STATUS REPORT

REPORT NO. PES-801
JOB NUMBER 1160002
JOB NAME SNOREHAM - UNIT 1
JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
PROJECT EQUIPMENT SYSTEM - (IS-129)
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EQUIPMENT ID	EQUIPMENT DESCRIPTION					EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	QAC	ZONE	EQ SHEET			
	MAKE / MANUFACTURER	NU-CAT	BLDG	ELEV	QUAL STAT		
	MODEL / CATALOG NO	SPEC	PO NUMBER			SUBMS	

REPORT GROUP MAK	= RAYCHEM						

1R32*NFP 044	INST CABLE					ALL	. A
	RAYCHEM	1E	. ALL	. 130-01	.		. 180 DYS
	RAYCHEM		. RB	. EQ	.		.
	INSTRUMENT CABLE	130	. 310587	.	.	SPR	. N/A
REPRESENTS ALL CABLE PURCHASED UNDER SH1-130							

1T46*MOD031A REPORT NO. PES-801 JOB 1160002 05/21/82

ENVIRONMENTAL QUALIFICATION STATUS REPORT

REPORT NO. PES-801
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 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= RAYMOND					

.1T46*MOD031A	RBSVS INLE TO MIXED PLEN	1E	K-15	319-01	*H,M	*A
	*POWERS REGUL		RBS	00135.*RR/IJ		*180 DYS
	RAYMOND					
	MASR-49	319	310738			

*L *A
 *180 DYS

.1T46*MOD031B	RBSVS INLE TO MIXED PLEN	1E	K-15	319-01	*H,M	*A
	*POWERS REGUL		RBS	00135.*RR/IJ		*180 DYS
	RAYMOND					
	MASR-49	319	310738			

*L *A
 *180 DYS

.1T46*MOD036A	HOT DAMPER FOR FN 1T46*FN-003A.	1E	K-15	319-01	*H,M	*A
	*POWERS REGUL		RBS	00112.*RR/IJ		*180 DYS
	RAYMOND					
	MASR-49	319	310738			

*L *A
 *180 DYS

.1T46*MOD036B	HOT DAMPER FOR FN 1T46*FN-003B.	1E	K-15	319-01	*H,M	*A
	*POWERS REGUL		RBS	00112.*RR/IJ		*180 DYS
	RAYMOND					
	MASR-49	319	310738			

*L *A
 *180 DYS

1T46*MOD036C REPORT NO. PES-001 JOB 1160002 05/21/82

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REPORT NO. PES-001
 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					

.1T46*MOD036C	MOT DAMPER FOR FN 1T46*FN-003C.					
*POWERS REGUL	1E	K-15	319-01		*H,M	*A
RAYMOND		RBS	126.*RR/IJ			*180 DYS
MASR-49	319	310738				
					*L	*A
						*180 DYS
.1T46*MOD047A	FN-79A DISCHARGE AIR					
*POWERS REGUL	1E	K-15	319-01		*H,M	*A
RAYMOND		RBS	00112.*RR/IJ			*100 DYS
MASR-9	319	310738				
					*L	*A
						*180 DYS
.1T46*MOD047B	FN-79B DISCHARGE AIR					
*POWERS REGUL	1E	K-15	319-01		*H,M	*A
RAYMOND		RBS	00112.*RR/IJ			*180 DYS
MASR-9	319	310738				
					*L	*A
						*100 DYS
.1T46*MOD048A	FLT 1A					
*POWERS REGUL	1E	K-15	319-01		*H,M	*A
RAYMOND		RBS	00112.*RR/IJ			*180 DYS
MASR-9	319	310738				
					*L	*A
						*180 DYS
.1T46*MOD048B	FLT 1B					
*POWERS REGUL	1E	K-15	319-01		*H,M	*A
RAYMOND		RBS	00112.*RR/IJ			*100 DYS
MASR-9	319	310738				

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JOB NAME SHOREHAM - UNIT 1

ENVIRONMENTAL QUALIFICATION STATUS REPORT

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JOB CLIENT LILCO

SORTED BY - MAK / MOD / SPEC

EQUIPMENT ID

EQUIPMENT DESCRIPTION

EMG COND

OPER CODE

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

MAKE / MANUFACTURER

NU-CAT

BLOG ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC

PO NUMBER

SUBMG

*L

.*A

.*180 DYS

1P42*P005A

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REPORT NO. PES-801

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JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

ENG COND

OPER CODE

MAKE / MANUFACTURER

NU-CAT

BLDG ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC

PO NUMBER

SUBMG

 REPORT GROUP MAK = RELIANCE

.1P42*P005A	RBCLCH CIRC PP	1E	H-18	.#62G-01	*H,M	.#A
	GOULD PUMP		RBS	150.*EQ		.#180 DYS
	RELIANCE	62G	310582			
	*100-HP-444T					
					*L	.#A
						.#130 DYS
.1P42*P005B	RBCLCH CIRC PP	1E	H-18	.#62G-01	*H,M	.#A
	GOULD PUMP		RBS	150.*EQ		.#180 DYS
	RELIANCE	62G	310582			
	*100-HP-444T					
					*L	.#A
						.#180 DYS
.1P42*P005C	RBCLCH CIRC PP	1E	H-18	.#62G-01	*H,M	.#A
	GOULD PUMP		RBS	150.*EQ		.#180 DYS
	RELIANCE	62G	310582			
	*100-HP-444T					
					*L	.#A
						.#180 DYS
.1G41*P023A	SPENT FUEL POOL COOLING PP	1E	.#62G-01		H,M	.B
	GOULD PUMP		RBS	150.*EQ		.180 DYS
	RELIANCE	62G	310582			
	*30-HP-326T					
					L	.A
						.180 DYS

L-OP CODE B REM: H,M-OP CODE B 1 DAY, C REM.

(MCC REV.)

1641*P023B

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLOG	ELEV	QUAL STAT	SUBMG
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					

.1641*P023B	SPENT FUEL POOL COOLING PP	.	.	.	H,H	. B
	GOULD PUMP	1E	.#62G-01	.		. 180 DYS
	RELIANCE	.	RDS	150.#EQ	.	.
	*30-HP-326T	62G	. 310582	.	.	.
	.	.	.	.	L	. A
	.	.	.	.	.	. 180 DYS

	L-OP CODE B REM: H,H-OP CODE B 1 DAY, C REM. (HCC REV.)					.
.1T48*BLO01A	HYD RECOMBINER BLOWER 1A	.	.	.	H,H	.#B
	ATOMICS INT	1E	. J-15	. 289-03	.	.#180 DYS
	RELIANCE	.	RDS	112. EQ	.	.
	324T	289	. 3100624	.	.	.
	.	.	.	.	L	. A
	.	.	.	.	.	. 180 DYS

	.	.	.	.	.	NA
.1T48*BLO01B	HYD RECOMBINER BLOWER 1B	.	.	.	H,H	.#B
	ATOMICS INT	1E	. J-16	. 289-03	.	.#180 DYS
	RELIANCE	.	RDS	112. EQ	.	.
	324T	289	. 3100624	.	.	.
	L	. A
 180 DYS

	NA

1R32*NFP097

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STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= ROCKBESTOS					

1R32*NFP097 INST CABLE . ALL . A
 ROCKBESTOS 1E . ALL RBS . 129-02 . 180 DYS
 ROCKBESTOS . RB . EQ .
 *RSS 6-207 129 . 310553 . SPR . NA
 REPRESENTS ALL COAXIAL & TRIAXIAL CABLE IN SH1-129. CABLE TO BE USED IN RBS ONLY.

1R32*NFP010 INST CABLE . ALL . A
 ROCKBESTOS 1E . ALL . 129-01 . 180 DYS
 ROCKBESTOS . RB . EQ .
 THERMOCOUPLE WIRE 131 . 310664 . SPR . NA
 REPRESENTS ALL CABLE PURCHASED UNDER SH1-131

1R32*NFP020 INST CABLE . ALL . A
 ROCKBESTOS 1E . ALL . 129-01 . 180 DYS
 ROCKBESTOS . RB . EQ .
 300/600 CONT & INST 129 . 310553 . SPR . N/A
 REPRESENTS ALL 300/600 CONT & INST CABLE PURCHASED UNDER SH1-129

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 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLOG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= ROSEMONT					

.1B21*TE147A	EXCLUSION AREA TEMP A	.			*H,M	.A
	ROSEMOUNT	1	.ST	.406-03		.070 MIN
	ROSEMONT		.TB	00078.*EQ		.
	89-138-2/88-14-3	406	.310773	.		.

*L .B
 .180 DYS

.1B21*TE147B	EXCLUSION AREA TEMP B	.			*H,M	.A
	ROSEMOUNT	1	.ST	.406-03		.070 MIN
	ROSEMONT		.TB	00078.*EQ		.
	89-138-2/88-14-3	406	.310773	.		.

*L .B
 .180 DYS

.1B21*TE037A	MAIN STEAM TURB INLET CH A1	.			*H,M	.A
	ROSEMOUNT	1E	.ST	.406-03		.070 MIN
	ROSEMONT		.TB	00082.*EQ		.
	89-86-4/88-14-1	406	.310773	.		.

*L .B
 .180 DYS

.1B21*TE037B	MAIN STEAM TURB INLET CH B1	.			*H,M	.A
	ROSEMOUNT	1E	.ST	.406-03		.070 MIN
	ROSEMONT		.TB	00082.*EQ		.
	89-86-4/88-14-1	406	.310773	.		.

*L .B
 .180 DYS

1B21*TE037C

REPORT NO. PES-801 JOB 1160002 05/21/82

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REPORT NO. PES-801

JOB NUMBER 1160002

JOB NAME SHOREHAM - UNIT 1

JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					

.1B21*TE037C	MAIN STEAM TURB INLET CH A2	.			*H,M	.*A
	ROSEMOUNT	1E	.*ST	.*406-03		.*070 MIN
	ROSEMONT		. TB	00055.*EQ		.
	89-86-4/88-14-1	406	. 310773	.		.
		.			*L	.*B
		.				.*180 DYS
		.			.	.
		.			.	.
.1B21*TE037D	MAIN STEAM TURB INLET CH B2	.			*H,M	.*A
	ROSEMOUNT	1E	.*ST	.*406-03		.*070 MIN
	ROSEMONT		. TB	00055.*EQ		.
	89-86-4/88-14-1	406	. 310773	.		.
		.			*L	.*B
		.				.*180 DYS
		.			.	.
		.			.	.
.1C61*TE021	DRYWELL TEMP	.			H,M	. B
	ROSEMOUNT	1	. A-22	.*406-03		. 180 DYS
	ROSEMONT		. RED	00150.*EQ		.
	89-86-4/88-14-1	406	. 310773	.		.
		.			L	. B
		.				. 180 DYS
		.			.	.
		.			.	.

1E32*PT034

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VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

ENG COND

OPER CODE

MAKE / MANUFACTURER

NU-CAT

BLDG ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC

PO NUMBER

SUBNG

 REPORT GROUP MAK = ROSEMOUNT *****

.1E32*PT034

E32-N056

MN STM LINE LEAKAGE

GENERAL ELEC

ROSEMOUNT

1151AP

1E

G-05

3048

RG

RDS

00063. FT/IJ

003

310010

H,M

. B

. 180 DYS

L

. A

. 100 DYS

.1E32*PT031A

E32-N051B

MSIV A LEAKAGE LINE

GENERAL ELEC

ROSEMOUNT

*1151AP5E22T0003PB

1E

G-05

3048

RG

RDS

00063. FT/IJ

003

310010

H,M

. B

. 180 DYS

L

. A

. 100 DYS

.1E32*PT031B

E32-N051F

MSIV B LEAKAGE LINE

GENERAL ELEC

ROSEMOUNT

*1151AP5E22T0003PB

1E

G-05

3048

RG

RDS

00063. FT/IJ

003

310010

H,M

. B

. 180 DYS

L

. A

. 100 DYS

.1E32*PT031C

E32-N051K

MSIV C LEAKAGE LINE

GENERAL ELEC

ROSEMOUNT

*1151AP5E22T0003PB

1E

G-05

3048

RG

RDS

00063. FT/IJ

003

310010

H,M

. B

. 180 DYS

L

. A

. 100 DYS

1E32*PT0310

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1E32*PT0310 E32-N051P	MSIV D LEAKAGE LINE GENERAL ELEC ROSEMOUNT *1151AP5E22T0003PB	1E RG 003	. G-05 . RBS . 310010	. 3048 00063. FT/IJ .	H,M .	. B . 180 DYS .
					L	. A . 100 DYS .
1E21*FT002B E21-N003B	CORE SPRAY PUMP DISCH GENERAL ELEC ROSEMOUNT 1151DP	1E RG 003	. G-01 . RBS . 310010	. 3048 00008. FT/IJ .	H,M .	. B . 180 DYS .
					L	. A . 180 DYS .
1E32*PT035 E32-N059	DILUTION AIRFLOW,OB GENERAL ELEC ROSEMOUNT 1151DP	1E RG 003	. G-05 . RBS . 310010	. 3048 00063. FT/IJ .	H,M .	. B . 180 DYS .
					L	. A . 100 DYS .
1E41*FT003 E41-N003	CHANGED TO 1Z91*FT002 GENERAL ELEC ROSEMOUNT 1151DP	1E RG 003	. G-01 . RBS . 310010	. 3048 00008. EQ .	H,M .	. A . 012 HRS .
					L	. A . 012 HRS .
1G33*FT012 G33-N041	RNCU SYS REACTOR RETURN GENERAL ELEC ROSEMOUNT 1151DP	1E .	. H-16 . RBS . 310010	. 3048 63. EQ .	H,M .	. A . 070 MIN .
						2% SPAN

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*****	*****	*****	*****	*****	*****	*****
					L	. B . 180 DYS
.1C61*FT001 C61-N001	RHR MAIN FLOW GENERAL ELEC ROSEMOUNT *1151DP22T0002PB	1E 003	G-01 RBS 310010	. 3048 00008. FT/IJ	H,M	. B . 180 DYS
					L	. B . 180 DYS
.1E11*FT001A E11-N015A	RHR MAIN FLOW GENERAL ELEC ROSEMOUNT *1151DP052H3GE2	1E RG 003	G-01 RBS 310010	. 3048 00008. FT/IJ	H,M	. A . 180 DYS 2.25%
					L	. A . 180 DYS 2.25%
.1B21*LT154A B21-N080A	REACTOR LEVEL TRIPS GENERAL ELEC ROSEMOUNT *1151DP4E22T0003PB	1E 003	G-10 RBS 310010	. 3048 00078. EQ	H,M	. *A . *070 MIN . *3 IN
					L	. *A . *070 MIN . *3 IN
.1B21*LT154B B21-N080B	REACTOR LEVEL TRIPS GENERAL ELEC ROSEMOUNT *1151DP4E22T0003PB	1E 003	G-10 RBS 310010	. 3048 00078. EQ	H,M	. *A . *070 MIN . *3 IN
					L	. *A . *070 MIN . *3 IN

1B21*LT154C

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*****	*****	*****	*****	*****	*****	*****
.1B21*LT154C B21-N000C	REACTOR LEVEL TRIPS GENERAL ELEC ROSEMOUNT *1151DP4E22T0003PB	1E 003	. G-12 . RBS 00078 . 310010	. 3048 EQ .	H,M .	.WA .W070 MIN . *3 IN
					L	.WA .W1.1 HRS . *3 IN
.1B21*LT154D B21-N000D	REACTOR LEVEL TRIPS GENERAL ELEC ROSEMOUNT *1151DP4E22T0003PB	1E 003	. G-12 . RBS 00078 . 310010	. 3048 EQ .	H,M .	.WA .W070 MIN . *3 IN
					L	.WA .W070 MIN . *3 IN
.1B21*LT155A B21-N001A	WIDE RANGE GENERAL ELEC ROSEMOUNT *1151DP4E22T0003PB	1E 003	. G-10 . RBS 00078 . 310010	. 3048 FT/IJ .	H,M .	.A .012 HRS . *7.5 IN.
					L	.A .012 HRS . *7.5 IN.
.1B21*LT155B B21-N001B	WIDE RANGE GENERAL ELEC ROSEMOUNT *1151DP4E22T0003PB	1E 003	. G-10 . RES 00078 . 310010	. 3048 EQ .	H,M .	.B .180 DYS . *7.5 IN.
					L	.B .180 DYS . *7.5 IN.
.1B21*LT155C B21-N001C	WIDE RANGE GENERAL ELEC ROSEMOUNT *1151DP4E22T0003PB	1E 003	. G-12 . RBS 00078 . 310010	. 3048 FT/IJ .	H,M .	.A .180 DYS . *7.5 IN.

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*****	*****	*****	*****	*****	*****	*****
					L	. A . 180 DYS . *7.5 IN.
.1B21*LT155D B21-N081D	WIDE RANGE GENERAL ELEC ROSENOUNT *1151DP4E22T0003PB	1E 003	. G-10 . RES 310010	. 3048 . EQ	H,M	. B . 180 DYS . *7.5 IN.
					L	. B . 180 DYS . *7.5 IN.
.1B21*LT157A B21-N091A	REACTOR LEVEL TRIPS GENERAL ELEC ROSENOUNT *1151DP4E22T0003PB	1E 003	. G-10 . RES 310010	. 3048 . FT/IJ	H,M	. A . 180 DYS . *2.5% FSDP
					L	. A . 180 DYS . *2.5% FSDP
.1B21*LT157B B21-N091B	REACTOR LEVEL TRIPS GENERAL ELEC ROSENOUNT *1151DP4E22T0003PB	1E 003	. G-12 . RES 310010	. 3048 . FT/IJ	H,M	. A . 180 DYS . *2.5% FSDP
					L	. A . 180 DYS . *2.5% FSDP
.1B21*LT157C B21-N091C	REACTOR LEVEL TRIPS GENERAL ELEC ROSENOUNT *1151DP4E22T0003PB	1E 003	. G-10 . RES 310010	. 3048 . FT/IJ	H,M	. A . 180 DYS . *2.5% FSDP
					L	. A . 180 DYS . *2.5% FSDP

1B21*LT157D

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.1B21*LT157D B21-N091D	REACTOR LEVEL TRIPS GENERAL ELEC ROSEMOUNT *1151DP4E22T0003PB	1E 003	. G-12 . RBS 310010	. 3048 . FT/IJ	H,M	. A . 180 DYS *2.5% FSDP
					L	. A . 180 DYS *2.5% FSDP
.1B21*LT159A B21-N095A	AUTO DEPRESSURIZATION GENERAL ELEC ROSEMOUNT *1151DP4E22T0003PB	1E 003	. G-10 . RBS 310010	. 3915 . EQ	H,M	. A . 002 DYS *2.5% FSDP
					L	. A . 002 DYS *2.5% FSDP
.1B21*LT159B B21-N095B	AUTO DEPRESSURIZATION GENERAL ELEC ROSEMOUNT *1151DP4E22T0003PB	1E 003	. H-12 . RBS 310010	. 3915 . EQ	H,M	. A . 002 DYS *2.5% FSDP
					L	. A . 002 DYS *2.5% FSDP
.1E32*PDT03B E32-N054	DILUTION AIRFLOW IB GENERAL ELEC ROSEMOUNT *1151DP4E52T0003PB	1E RG 003	. G-05 . RBS 310010	. 3048 . FT/IJ	H,M	. B . 180 DYS
					L	. A . 100 DYS
.1E21*FT002A E21-N003A	CORE SPRAY PUMP DISCH GENERAL ELEC ROSEMOUNT *1151DP5A22MDX	1E RG 003	. G-01 . RES 310010	. 3048 . FT/IJ	H,M	. B . 180 DYS

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*****	*****	*****	*****	*****	*****	*****
					L	. A . 180 DYS
.1E51*FT003 E51-N003	RCIC PUMP DISCHARGE GENERAL ELEC ROSEMOUNT *1151DP5A22MBX	1E RG 003	. G-01 . RBS . 310010	. 3048 EQ .	*H,H	. *B . *180 DYS . *0.67%
					*L	. *B . *180 DYS . *0.67%
.1G33*FT011 G33-N036	RWCU SYSTEM INLET GENERAL ELEC ROSEMOUNT *1151DP5A22MBX	1E 003	. H-16 . RBS . 310010	. 3048 EQ .	H,M	. A . 070 MIN . 2% SPAN
					L	. B . 180 DYS . .
.1G33*FT013 G33-N012	RWCU SYS BLOWDOWN GENERAL ELEC ROSEMOUNT *1151DP5A22MBX	1E 003	. H-16 . RBS . 310010	. 3048 EQ .	H,M	. A . 070 MIN . 2% SPAN
					L	. B . 180 DYS . .
.1E11*FT006A E11-N007A	CHANGED TO 1Z91*FT020 GENERAL ELEC ROSEMOUNT *1151DP5A52MSGE2	1E RG 003	. G-01 . RBS . 10088	. 3048 FT/IJ .	H,H	. A . 180 DYS . 2%
					L	. A . 180 DYS . 2%

1E11*FT006B

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.1E11*FT006B E11-N007B	RHR HX SERV WATER INLET GENERAL ELEC ROSEMOUNT *1151DP5A52MBGE2	1E RG 003	. G-01 RBS . 10088	. 3048 FT/IJ .	H,M .	. A . 180 DYS . 2%
					L	. A . 180 DYS . 2%
.1E11*FT001B E11-N015B	RHR MAIN FLOW GENERAL ELEC ROSEMOUNT *1151DP5D22MBGE2	1E RG 003	. G-01 RBS . 310010	. 3048 FT/IJ .	H,M .	. A . 180 DYS . 2.25%
					L	. A . 180 DYS . 2.25%
.1E11-FT004 E11-N013	RHR HEAD SPRAY GENERAL ELEC ROSEMOUNT 1151DP5D22PB	1E 1E 003	. G-12 RBS . 310010	. 3048 IJ .	H,M .	. B . 180 DYS . .
					L	. B . 180 DYS . .
.1E32*PT033 E32-N055	MN STM LINE LEAKAGE GENERAL ELEC ROSEMOUNT 1151GP	1E RG 003	. G-05 RBS . 310010	. 3048 FT/IJ .	H,M .	. B . 180 DYS . .
					L	. A . 100 DYS . .
.1B21*PT156A B21-N078A	REACTOR HI PRESS SCRAM GENERAL ELEC ROSEMOUNT *1151GPE22T0003PB	1E RG 003	. G-10 RBS . 310010	. 3048 EQ .	*H,M .	. *B . *180 DYS . .

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*****	*****	*****	*****	*****	*****	*****
					L	.WB .W180 DYS 10 PSIG
.1B21*PT156B B21-N078B	REACTOR HI PRESS SCRAM GENERAL ELEC ROSENHOUT *1151GPE22T0003PB	1E 003	G-10 RDS 310010	3048 EQ	*H,M	.WB .W180 DYS 10 PSIG
					L	.WB .W180 DYS 10 PSIG
.1B21*PT156C B21-N078C	REACTOR HI PRESS SCRAM GENERAL ELEC ROSENHOUT *1151GPE22T0003PB	1E 003	G-12 RDS 310010	3048 EQ	*H,M	.WB .W180 DYS 10 PSIG
					L	.WB .W180 DYS 10 PSIG
.1B21*PT156D B21-N078D	REACTOR HI PRESS SCRAM GENERAL ELEC ROSENHOUT *1151GPE22T0003PB	1E 003	G-12 RDS 310010	3048 EQ	*H,M	.WB .W180 DYS 10 PSIG
					L	.WB .W180 DYS 10 PSIG
.1B21*PT158A B21-N097A	CS 7 RHR VALVE OPENING GENERAL ELEC ROSENHOUT *1151GPE22T0003PB	1E 003	G-10 RDS 310010	3048 EQ	*H,M	.WB .W180 DYS 10 PSIG
					L	.WB .W180 DYS 12 FS

1B21*PT158B

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.1B21*PT158B B21-N097B	CS & RHR VALVE OPENING GENERAL ELEC ROSENOUNT *1151GPE22T0003PB	1E 003	. G-10 . RBS . 310010	. 3048 . EQ . EQ	*H,M L	. *B . *180 DYS . *B . *180 DYS . 1% FS
.1B21*PT158C B21-N097C	CS & RHR VALVE OPENING GENERAL ELEC ROSENOUNT *1151GPE22T0003PB	1E 003	. G-12 . RBS . 310010	. 3048 . EQ . EQ	*H,M L	. *B . *180 DYS . *B . *180 DYS . 1% FS
.1B21*PT158D B21-N097D	CS & RHR VALVE OPENING GENERAL ELEC ROSENOUNT *1151GPE22T0003PB	1E 003	. G-12 . RBS . 310010	. 3048 . EQ . EQ	*H,M L	. *B . *180 DYS . *B . *180 DYS . 1% FS
.1C71*PT007A C71-N050A	PRIMARY CONTAINMENT HP GENERAL ELEC ROSENOUNT *1151GP4E22T0003PB	1E 003	. G-10 . RBS . 310010	. 3048 . EQ . EQ	H,M L	. A . 070 MIN . A . 070 MIN . 1% FS
.1C71*PT007B C71-N050B	PRIMARY CONTAINMENT HP GENERAL ELEC ROSENOUNT *1151GP4E22T0003PB	1E 003	. G-10 . RBS . 310010	. 3048 . EQ . EQ	H,M	. A . 070 MIN

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					L	. A . 070 MIN . 1% FS
.1C71*PT007C C71-N050C	PRIMARY CONTAINMENT HP GENERAL ELEC ROSEMOUNT *1151GP4E22T0003PB	1E 003	. *G-12 . RBS 00078 . 310010	. 3048 . EQ .	H,M	. A . 070 MIN . 1% FS
					L	. A . 070 MIN . 1% FS
.1C71*PT007D C71-N050D	PRIMARY CONTAINMENT HP GENERAL ELEC ROSEMOUNT *1151GP4E22T0003PB	1E 003	. G-12 . RBS 00078 . 310010	. 3048 . EQ .	H,M	. A . 070 MIN . 1% FS
					L	. A . 070 MIN . 1% FS
.1E11*PT165A	PRIMARY CONT HP GENERAL ELEC ROSEMOUNT *1151GP4E22T0003PB	1E 003	. G-10 . RBS 00078 . 310010	. 3048 . EQ .	L	. A . 070 MIN . .1 PSIG
.1E11*PT165B	PRIMARY CONT HP GENERAL ELEC ROSEMOUNT *1151GP4E22T0003PB	1E 003	. *G-12 . RBS 00078 . 310010	. 3048 . EQ .	L	. A . 070 MIN . .1 PSIG
.1E11*PT165C	PRIMARY CONT HP GENERAL ELEC ROSEMOUNT *1151GP4E22T0003PB	1E 003	. G-10 . RBS 00078 . 310010	. 3048 . EQ .	L	. A . 070 MIN . .1 PSIG
.1E11*PT165D	PRIMARY CONT HP GENERAL ELEC ROSEMOUNT *1151GP4E22T0003PB	1E 003	. G-12 . RBS 00078 . 310010	. 3048 . EQ .	L	. A . 070 MIN . .1 PSIG

1E41-PT001

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.1E41-PT001 E41-N019	HPCI PUMP SUCT GENERAL ELEC *ROSEMOUNT *1151GP6E22T0280PB	1E 1E 003	. G-01 RBS 310010	. *3915 00008. IJ .	L	. B . 180 DYS
EQUIPMENT LOCATED IN A NON-HARSH ENVIRONMENT						
.1E32*PT032A E32-N061B	MSIV A LEAKAGE LINE GENERAL ELEC ROSEMOUNT *1151GP6E52T0003PB	1E RG 003	. G-05 RBS 310010	. . 3048 00063. FT/IJ .	H,M	. B . 180 DYS
					L	. A . 100 DYS
.1E32*PT032B E32-N061F	MSIV B LEAKAGE LINE GENERAL ELEC ROSEMOUNT *1151GP6E52T0003PB	1E RG 003	. G-05 RBS 310010	. . 3048 00063. FT/IJ .	H,M	. B . 180 DYS
					L	. A . 100 DYS
.1E32*PT032C E32-N061K	MSIV C LEAKAGE LINE GENERAL ELEC ROSEMOUNT *1151GP6E52T0003PB	1E RG 003	. G-05 RBS 310010	. . 3048 00063. FT/IJ .	H,M	. B . 180 DYS
					L	. A . 100 DYS
.1E32*PT032D E32-N061P	MSIV D LEAKAGE LINE GENERAL ELEC ROSEMOUNT *1151GP6E52T0003PB	1E RG 003	. G-05 RBS 310010	. . 3048 00063. FT/IJ .	H,M	. B . 180 DYS
					L	. A . 100 DYS

1E32*PT041

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.1E32*PT041 E32-N058	OUTBD HSIV LEAKAGE CONT GENERAL ELEC ROSEMOUNT *1151GP6E52T0003PB	1E 003	G-10 RBS 310010	3048 FT/IJ	H,M	B 180 DYS
					L	A 100 DYS
.1E32*PT042 E32-N060	INBD HSIV LEAKAGE CONT GENERAL ELEC ROSEMOUNT *1151GP6E52T0003PB	1E 003	G-12 RBS 310010	3048 FT/IJ	H,M	B 180 DYS
					L	A 100 DYS
.1E32*PT043 E32-N050	INBD HSIV LEAKAGE CONT GENERAL ELEC ROSEMOUNT *1151GP6E52T0003PB	1E 003	G-12 RBS 310010	3048 FT/IJ	H,M	B 180 DYS
					L	A 100 DYS
.1C61*PT012	PRESS TRANS DRYWELL PRESS ROSEMOUNT ROSEMOUNT 1152AP5E22T0280PB	1E 406	G-01 RBS 310773	406-02 EQ	H,M	B 180 DYS
					L	B 180 DYS
REQUIRED 6 MONTH ACCIDENT DOSE REDUCED TO <5.0E6 RADS PER CALCULATION SNPS-1-URB-23-D						
.1T46*PDT003A	FLT-1A DIFF PRESSURE ROSEMOUNT ROSEMOUNT 1152DP3A22PB	1E 406	K-15 RBS 310773		H,M	A 180 DYS

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SUBMS

[illegible]

.1T44	*PDT003B		FLT-18 DIFF PRESSURE	.			* <td>.</td> <td>*A</td>	.	*A
			ROSEMOUNT	1E	K-15	.		.	*180 DYS
			ROSEMOUNT	.	PBS	00112.	MR	.	.
			1152DP3A22PB	406	310773	.		.	.

.1T46*PDT043A	REACTOR BLDG DIFF	.	.	*H,M	*A
	ROSEMOUNT	1E	H-20	.	*180 DYS
	ROSEMOUNT	.	RDS	00220. HR	.
	1152DP3A22PB	406	310773	.	.

1T46*PDT043B	REACTOR BLDG DIFF	.	.	*H,M	*A
	ROSEMOUNT	1E	H-20	.	*180 DYS
	ROSEMOUNT	.	RES	00220. HZ	.
	1152DP3A22PB	406	310773	.	.

.1T49NFT005	HEPA FILTER INLET	.	.	H,M	. B
	ROSENOUNT	1E	J-15	.*	. 180 DYS
	ROSENOUNT	.	RBS	00113.4MR	.
	115200P3A22PB	406	310773	.	.

```
*L      . *A
        . *180 DYS
```

*H,M .*A
 .*180 DYS

*L .*A
 .*180 DYS

*H,M . *A
 . *180 DYS

*L .*A
 .*160 CYS

*H,M .*A
 .*180 DYS

*L .*A
 .*180 DYS

H,M . B
 . 180 DYS

L . A
180 DYS

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EHG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	FO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	SUBHG	*****
*****	*****	*****	*****	*****	*****	*****
1C61*LT026	SUPP POOL	.	.	.	H,M	. B
	ROSENOUNT	1E	G-01	.	.	. 180 DYS
	ROSENOUNT	.	RBS	00008. HR	.	.
	1152DP4A22PB	406	310773	.	.	.
	.	.	.	.	L	. B
	.	.	.	.	.	. 160 DYS

1G11*FT647C	LEAKAGE RETURN PP P-270C DISCH.	.	.	.	H,M	. B
	ROSENOUNT	1E	G-01	.	.	. 180 DYS
	ROSENOUNT	.	RBS	00008. HR	.	.
	1152DP4A22PB	406	310773	.	.	.
	.	.	.	.	L	. B
	.	.	.	.	.	. 180 DYS

1P41*FT151A	RHR SERV WTR RAD MON SAMPLE	.	.	.	*H,M	.*B
	ROSENOUNT	1E	G-01	.*	.	.*180 DYS
	ROSENOUNT	.	RBS	00008.*HR	.	.
	1152DP4A22PB	406	10080	.	.	.
1P41*FT151B	RHR SERV WTR RAD MON SAMPLE	.	.	.	*H,M	.*B
	ROSENOUNT	1E	G-01	.*	.	.*180 DYS
	ROSENOUNT	.	RBS	00008.*HR	.	.
	1152DP4A22PB	406	10080	.	.	.
1Z93*LT001A	SUPPRESSION POOL LEV XMTR	.	.	.	H,M	. A
	ROSENOUNT	1E	G-01	.	.	. 180 DYS
	ROSENOUNT	RG	RBS	00008. HR	.	.
	1152DP4A22PB	406	310773	.	.	.
	.	.	.	.	L	. A
	.	.	.	.	.	. 180 DYS

1Z93*LT001B	SUPPRESSION POOL LEV XMTR	.	.	.	H,M	. A
	ROSENOUNT	1E	G-01	.	.	. 180 DYS
	ROSENOUNT	RG	RBS	00008. HR	.	.
	1152DP4A22PB	406	310773	.	.	.

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*****	*****	*****	*****	*****	*****	*****
.	L	. A . 180 DYS
.
.
.1293*LT012A	SUPPRESSION POOL LEVEL	.	.	.	H,M	. A . 180 DYS
*ROSEMOUNT	1	.	.	. *406-02	.	. 180 DYS
*ROSEMOUNT	*	. *RBS	*00047	. *EQ	.	.
*1152DP4E22PB	406	. 310773	.	.	.	.
.	.	.	.	.	L	. A . 180 DYS
.
.
.1293*LT012B	SUPPRESSION POOL LEVEL	.	.	.	H,M	. A . 180 DYS
*ROSEMOUNT	1	.	.	. *406-02	.	. 180 DYS
*ROSEMOUNT	*	. *RBS	*00047	. *EQ	.	.
*1152DP4E22PB	406	. 310773	.	.	.	.
.	.	.	.	.	L	. A . 180 DYS
.
.
*1P41*FT146A	1P42*E011A OUTLET FLOW	.	.	.	*H,M	. *B . *180 DYS
1P41-FT146A	ROSEMOUNT	2E	. G-01	. *	.	.
EQUIP ID CHGD	ROSEMOUNT	.	. R3	00008	. *MR	.
	1152DP5A22PB	406	. 10088	.	.	.
.	.	.	.	.	*L	. *B . *180 DYS
.
.
*1P41*FT146B	1P42*E011B OUTLET FLOW	.	.	.	*H,M	. *B . *180 DYS
1P41-FT146B	ROSEMOUNT	2E	. G-01	. *	.	.
EQUIP ID CHGD	ROSEMOUNT	.	. R3	00008	. *MR	.
	1152DP5A22PB	406	. 10088	.	.	.
.	*L	. *B . *180 DYS
.
.

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.1C61*PT106	SRV AIR HEADER PRESS	1E	G-10		H,M	B
	ROSEMOUNT		RBS	00101. MR		180 DYS
	1152GP7A22PB	406	310773			
					L	B
						180 DYS
.1E41*PT142	TO LUBE OIL COOLER	1E	G-01		H,M	A
	ROSEMOUNT		RBS	00008. *HR		012 HRS
	1152GP7A22PB	406	310773			
					L	A
						012 HRS
.1E51*PT142	LUBE OIL COOLER CONT VALVE	1E	G-01		*H,M	*B
	ROSEMOUNT		RBS	00008. *HR		*180 DYS
	1152GP7A22PB	406	310773			
					*L	*B
						*180 DYS
.1P50*PT116A 04530008	SERVICE AIR HEADER A	1E	G-10		H,M	A
	ROSEMOUNT		RBS	151. MR		180 DYS
	1152GP7A22PB	406	310773			
					L	A
						180 DYS
.1P50*PT116B 04560008	SERVICE AIR HEADER B	1E	G-12		H,M	A
	ROSEMOUNT		RBS	151. MR		180 DYS
	1152GP7A22PB	406	310773			

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*****	*****	*****	*****	*****	*****	*****
					L	. A . 180 DYS
.1B21*PT153J	RV092J MONITOR ROSEMOUNT ROSEMOUNT 1152GP7E22PB	1E *RG 406	. G-09 . RBS . 310773	. 406-02 . EQ . EQ	*H,M	. *A . *180 DYS
					*L	. *A . *180 DYS
.1B21*PT153K	RV092K MONITOR ROSEMOUNT ROSEMOUNT 1152GP7E22PB	1E *RG 406	. L-02 . RBS . 310773	. 406-02 . EQ . EQ	*H,M	. *A . *180 DYS
					*L	. *A . *180 DYS
.1B21*PT153L	SRV MONITOR L ROSEMOUNT ROSEMOUNT 1152GP7E22PB	1E *RG 406	. G-10 . RBS . 310773	. 406-02 . EQ . EQ	*H,M	. *A . *180 DYS
					*L	. *A . *180 DYS
.1B21*PT153A	RV092A MONITOR ROSEMOUNT ROSEMOUNT 1152GP7E22T0280PB	1E *RG 406	. G-09 . RBS . 310773	. 406-02 . EQ . EQ	*H,M	. *A . *180 DYS
					*L	. *A . *180 DYS

1B21*PT153B

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.1B21*PT153B	RV092B MONITOR ROSEHOUNT ROSEHOUNT 1152GP7E22T0280PB	1E *RG 406	G-09 RBS 310773	406-02 EQ 00008	*H,H	*A *180 DYS
					*L	*A *180 DYS
.1B21*PT153C	RV092C MONITOR ROSEHOUNT ROSEHOUNT 1152GP7E22T0280PB	1E *RG 406	G-09 RBS 310773	406-02 EQ 00008	*H,H	*A *180 DYS
					*L	*A *180 DYS
.1B21*PT153D	RV092D MONITOR ROSEHOUNT ROSEHOUNT 1152GP7E22T0280PB	1E *RG 406	G-09 RBS 310773	406-02 EQ 00008	*H,H	*A *180 DYS
					*L	*A *180 DYS
.1B21*PT153E	SRV MONITOR E ROSEHOUNT ROSEHOUNT 1152GP7E22T0280PB	1E *RG 406	G-09 RBS 310773	406-02 EQ 40	*H,H	*A *180 DYS
					*L	*A *180 DYS
.1B21*PT153F	RV092F MONITOR ROSEHOUNT ROSEHOUNT 1152GP7E22T0280PB	1E *RG 406	G-09 RBS 310773	406-02 EQ 00040	*H,H	*A *180 DYS

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VENDOR ID	VENDOR NAME	NU-CAT	BLOG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
*****	*****	*****	*****	*****	SUBMG	*****
					*L	. *A
						. *180 DYS
						.
						.
.1B21*PT153G	RV092G MONITOR				*H,M	. *A
	ROSEMOUNT	1E	G-09	406-02		. *180 DYS
	ROSEMOUNT	*RG	RBS	00040	EQ	.
	1152GP7E22T0280PB	406	310773			.
						.
					*L	. *A
						. *180 DYS
						.
						.
.1B21*PT153H	RV092H MONITOR				*H,M	. *A
	ROSEMOUNT	1E	G-09	406-02		. *180 DYS
	ROSEMOUNT	*RG	RBS	00040	EQ	.
	1152GP7E22T0280PB	406	310773			.
						.
					*L	. *A
						. *180 DYS
						.
						.
1Z93*PT003A	DRYWELL PRESSURE				H,M	. A
	ROSEMOUNT	1E	G-10	406-01		. 180 DYS
	ROSEMOUNT	RG	RBS	00078	EQ	.
	1153GB7A22PB	406	310773			.
						.
					L	. A
						. 180 DYS
						.
						.
	OP CODE B FOR HELB & MELB					.
1Z93*PT003B	DRYWELL & SUPPRESSION POOL PRE.				H,M	. A
	ROSEMOUNT	1E	G-12	406-01		. 180 DYS
	ROSEMOUNT	RG	RBS	00078	EQ	.
	1153GB7A22PB	406	310773			.
						.
					L	. A
						. 180 DYS
						.
						.
	OP CODE B FOR HELB & MELB					.

1Z93*PT004A

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*****	*****	*****	*****	*****	*****	*****
1Z93*PT004A	SUPPRESSION POOL ACCESS HATCH .				H,M	. A
	ROSEMOUNT	1E	G-02	406-01		. 180 DYS
	ROSEMOUNT	RG	RES	00040. EQ		.
	1153GB7A22PB	406	310773			.
	.				L	. A
	.					. 180 DYS
	.					.
	.					.
1Z93*PT004B	SUPPRESSION POOL ACCESS HATCH .				H,M	. A
	ROSEMOUNT	1E	G-02	406-01		. 180 DYS
	ROSEMOUNT	RG	RES	00063. EQ		.
	1153GB7A22PB	406	310773			.
	.				L	. A
	.					. 180 DYS
	.					.
	.					.
1Z93*TE110W	RV092ACL DISCHARGE 1FT				H,M	. A
	ROSEMOUNT	1E	E-23	406-03		. 180 DYS
	ROSEMOUNT		RED	00028. EQ		.
	88-149-1	406	310773			.
	.				L	. A
	.					. 180 DYS
	.					.
	.					.
1Z93*TE110X	RV092ACL DISCHARGE 1FT				H,M	. A
	ROSEMOUNT	1E	E-23	406-03		. 180 DYS
	ROSEMOUNT		RED	00028. EQ		.
	88-149-1	406	310773			.
	.				L	. A
	.					. 180 DYS
	.					.
	.					.
1Z93*TE110Y	RV092ACL DISCHARGE 1FT				H,M	. A
	ROSEMOUNT	1E	E-23	406-03		. 180 DYS
	ROSEMOUNT		RED	00025. EQ		.
	88-149-1	406	310773			.

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	SUBMG
MODEL / CATALOG NO	SPEC	PO NUMBER				
*****	*****	*****	*****	*****	*****	*****
					L	. A
						. 180 DYS
						.
						.
1Z93*TE110Z	RV092ACL DISCHARGE 1FT				H,H	. A
ROSEMOUNT	1E	E-23	406-03			. 180 DYS
ROSEMOUNT		RBD	00025. EQ			.
88-149-1	406	310773				.
					L	. A
						. 180 DYS
						.
						.
.1Z93*TE111W	RV092BDE DISCHARGE 1FT				H,H	. A
*ROSEMOUNT	*1E	*E-23	*406-03			. 180 DYS
*ROSEMOUNT	*	RBD	25.*EQ			.
88-149-1	406	310773				.
					L	. A
						. 180 DYS
						.
						.
.1Z93*TE111X	RV092BDE DISCHARGE 1FT				H,H	. A
*ROSEMOUNT	*1E	*E-23	*406-03			. 180 DYS
*ROSEMOUNT	*	RBD	25.*EQ			.
88-149-1	406	310773				.
					L	. A
						. 180 DYS
						.
						.
.1Z93*TE111Y	RV092BDE DISCHARGE 1FT				H,H	. A
*ROSEMOUNT	*1E	*E-23	*406-03			. 180 DYS
*ROSEMOUNT	*	RBD	25.*EQ			.
88-149-1	406	310773				.
					L	. A
						. 180 DYS
						.
						.

1Z93*TE111Z

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EQUIPMENT ID
VENDOR ID

EQUIPMENT DESCRIPTION

VENDOR NAME

MAKE / MANUFACTURER

MODEL / CATALOG NO

QAC

ZONE

EQ SHEET

NU-CAT

BLDG ELEV

QUAL STAT

SPEC

PO NUMBER

ENG COND

OPER CODE

SUBMG

.1Z93*TE111Z

RV092BDE DISCHARGE 1FT

*ROSEMOUNT

*ROSEMOUNT

88-149-1

*1E

*

406

*E-23

RBD

310773

.*406-03

25.*EQ

H,M

. A

. 180 DYS

L

. A

. 180 DYS

.1Z93*TE112W

RV092KG DISCHARGE 1FT

*ROSEMOUNT

*ROSEMOUNT

88-149-1

*1E

*

406

*E-23

RBD

310773

.*406-03

25.*EQ

H,M

. A

. 180 DYS

L

. A

. 180 DYS

.1Z93*TE112X

RV092KG DISCHARGE 1FT

*ROSEMOUNT

*ROSEMOUNT

88-149-1

*1E

*

406

*E-23

RBD

310773

.*406-03

25.*EQ

H,M

. A

. 180 DYS

L

. A

. 180 DYS

.1Z93*TE112Y

RV092KG DISCHARGE 1FT

*ROSEMOUNT

*ROSEMOUNT

88-149-1

*1E

*

406

*E-23

RBD

310773

.*406-03

25.*EQ

H,M

. A

. 180 DYS

L

. A

. 180 DYS

.1Z93*TE112Z

RV092KG DISCHARGE 1FT

*ROSEMOUNT

*ROSEMOUNT

88-149-1

*1E

*

406

*E-23

RBD

310773

.*406-03

25.*EQ

H,M

. A

. 180 DYS

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 JOB NUMBER 1160002
 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND SUBMG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					L	. A . 180 DYS
.1Z93*TE113H	RV092FHJ DISCHARGE 1FT *ROSEMOUNT *ROSEMOUNT 88-149-1	*1E * 406	. *E-23 . RBD . 310773	. *406-03 25.*EQ .	H,M	. A . 180 DYS
					L	. A . 180 DYS
.1Z93*TE113X	RV092FHJ DISCHARGE 1FT *ROSEMOUNT *ROSEMOUNT 88-149-1	*1E * 406	. *E-23 . RBD . 310773	. *406-03 25.*EQ .	H,M	. A . 180 DYS
					L	. A . 180 DYS
.1Z93*TE113Y	RV092FHJ DISCHARGE 1FT *ROSEMOUNT *ROSEMOUNT 88-149-1	*1E * 406	. *E-23 . RBD . 310773	. *406-03 25.*EQ .	H,M	. A . 180 DYS
					L	. A . 180 DYS
.1Z93*TE113Z	RV092FHJ DISCHARGE 1FT *ROSEMOUNT *ROSEMOUNT 88-149-1	*1E * 406	. *E-23 . RBD . 310773	. *406-03 25.*EQ .	H,M	. A . 180 DYS
					L	. A . 180 DYS

1Z93*TE132A

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

VENDOR ID

VENDOR NAME

MAKE / MANUFACTURER

MODEL / CATALOG NO

QAC

ZONE

NU-CAT

BLDG ELEV

SPEC

PD NUMBER

EQ SHEET

QUAL STAT

ENG COND

OPER CODE

SUBHG

1Z93*TE132A

RV092ACL DISCHARGE 2FT

ROSEMOUNT

ROSEMOUNT

88-149-2

1E

E-23

RG

RBD

406

310773

406-03

25. EQ

H,M

. A

. 180 DYS

L

. A

. 180 DYS

1Z93*TE132B

RV092ACL DISCHARGE 2FT

ROSEMOUNT

ROSEMOUNT

88-149-2

1E

E-23

RG

RBD

406

310773

406-03

25. EQ

H,M

. A

. 180 DYS

L

. A

. 180 DYS

1Z93*TE133A

RV092BDE DISCHARGE 2FT

ROSEMOUNT

ROSEMOUNT

88-149-2

1E

E-23

RG

RBD

406

310773

406-03

25. EQ

H,M

. A

. 180 DYS

L

. A

. 180 DYS

1Z93*TE133B

RV092EDE DISCHARGE 2FT

ROSEMOUNT

ROSEMOUNT

88-149-2

1E

E-23

RG

RBD

406

310773

406-03

25. EQ

H,M

. A

. 180 DYS

L

. A

. 180 DYS

1Z93*TE134A

RV092KG DISCHARGE 2FT

ROSEMOUNT

ROSEMOUNT

88-149-2

1E

E-23

RG

RBD

406

310773

406-03

25. EQ

H,M

. A

. 180 DYS

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*****	*****	*****	*****	*****	SUBHG	*****
					L	. A . 180 DYS
1Z93*TE134B	RV092KG DISCHARGE 2FT ROSEMOUNT ROSEMOUNT 88-149-2	1E RG 406	. E-23 . RDD . 310773	. 406-03 25. EQ .	H,M	. A . 180 DYS
					L	. A . 180 DYS
1Z93*TE135A	RV092FHJ DISCHARGE 2FT ROSEMOUNT ROSEMOUNT 88-149-2	1E RG 406	. E-23 . RDD . 310773	. 406-03 25. EQ .	H,M	. A . 180 DYS
					L	. A . 180 DYS
1Z93*TE135B	RV092FHJ DISCHARGE 2FT ROSEMOUNT ROSEMOUNT 88-149-2	1E RG 406	. E-23 . RDD . 310773	. 406-03 25. EQ .	H,M	. A . 180 DYS
					L	. A . 180 DYS
.1T46*TE001B	RBSVS RECIRC AIR TEMP ROSEMOUNT ROSEMOUNT 89-138-2/88-14-3	1E RBS 406	. K-15 . RBS . 310773	. 406-03 112. EQ .	*H,M	. *A . *180 DYS
					*L	. *A . *180 DYS

1T46*TE001A

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.1T46*TE001A	RESNS RECIRC AIR TEMP ROSEMOUNT ROSEMOUNT 89-86-4/88-14-1	1E 406	. K-15 . RBS . 310773	. 406-03 . EQ . EQ	*H,M	. *A .*180 DYS
					*L	. *A .*180 DYS
.1T46*TE022A	AIR RETURN TO UC-2A ROSEMOUNT ROSEMOUNT 89-86-4/88-14-1	1E 406	. G-01 . RBS . 310773	. 406-03 . EQ . EQ	*H,M	. *A .*180 DYS
					*L	. *A .*180 DYS
.1T46*TE022B	AIR RETURN TO UC-2B ROSEMOUNT ROSEMOUNT 89-86-4/88-14-1	1E 406	. G-01 . RBS . 310773	. 406-03 . EQ . EQ	*H,M	. *A .*180 DYS
					*L	. *A .*180 DYS
.1T46*TE023A	AIR RETURN TO UC-3A ROSEMOUNT ROSEMOUNT 89-86-4/88-14-1	1E 406	. G-01 . RBS . 310773	. 406-03 . EQ . EQ	*H,M	. *A .*180 DYS
					*L	. *A .*180 DYS
.1T46*TE023B	AIR RETURN TO UC-3B ROSEMOUNT ROSEMOUNT 89-86-4/88-14-1	1E 406	. G-02 . RBS . 310773	. 406-03 . EQ . EQ	*H,M	. *A .*180 DYS

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*****	*****	*****	*****	*****	*****	*****
					*L	*A *180 DYS
.1T46*TE024A	AIR RETURN TO UC-4A ROSEMOUNT ROSEMOUNT 89-86-4/88-14-1	1E 406	H-20 RBS 310773	406-03 EQ	*H,M	*A *180 DYS
					*L	*A *180 DYS
.1T46*TE024B	AIR RETURN TO UC-4B ROSEMOUNT ROSEMOUNT 89-86-4/88-14-1	1E 406	H-20 RBS 310773	406-03 EQ	*H,M	*A *180 DYS
					*L	*A *180 DYS
.1T46*TE025A	AIR RETURN TO UC-5A ROSEMOUNT ROSEMOUNT 89-86-4/88-14-1	1E 406	H-20 RBS 310773	406-03 EQ	*H,M	*A *180 DYS
					*L	*A *180 DYS
.1T46*TE025B	AIR RETURN TO UC-5B ROSEMOUNT ROSEMOUNT 89-86-4/88-14-1	1E 406	H-20 RBS 310773	406-03 EQ	*H,M	*A *180 DYS
					*L	*A *180 DYS

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	EMG COND SUBING	OPER CODE

.1T46*TE028A	MCC RH UNIT COOLER ROSEMOUNT ROSEMOUNT 89-86-4/88-14-3	1E 406	H-16 RBS 310773	406-03 EQ EQ	*H,M *L	*A *180 DYS *A *180 DYS
.1T46*TE028B	MCC RH UNIT COOLER ROSEMOUNT ROSEMOUNT 89-86-4/88-14-3	1E 406	J-15 RBS 310773	406-03 EQ EQ	*H,M *L	*A *180 DYS *A *180 DYS
.1T46*TE059A	UC-21A UNIT CLEAR ROSEMOUNT ROSEMOUNT 89-86-4/88-14-3	1E 406	H-19 RBS 310773	406-03 EQ EQ	*H,M *L	*A *180 DYS *A *180 DYS
.1T46*TE059B	UC-21B UNIT CLEAR ROSEMOUNT ROSEMOUNT 89-86-4/88-14-3	1E 406	H-18 RBS 310773	406-03 EQ EQ	*H,M *L	*A *180 DYS *A *180 DYS
.1T46*TE060A	UC-22A UNIT CLEAR ROSEMOUNT ROSEMOUNT 89-86-4/88-14-3	1E 406	H-18 RBS 310773	406-03 EQ EQ	*H,M	*A *180 DYS

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	EMG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
					*L	.WA
						.W100 DYS
						.
						.
.1T46*TE060B	UC-22B UNIT CLEAR				*H,M	.WA
	ROSEHOUNT	1E	H-18	406-03		.W180 DYS
	ROSEHOUNT		RES	00160. EQ		.
	89-86-4/89-14-3	406	310773			.
					*L	.WA
						.W180 DYS
						.
						.

1E32*FE037D

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EQUIPMENT ID
 VENDOR ID

EQUIPMENT DESCRIPTION
 VENDOR NAME
 MAKE / MANUFACTURER
 MODEL / CATALOG NO

QAC ZONE EQ SHEET
 NU-CAT BLDG ELEV QUAL STAT
 SPEC PO NUMBER

ENG COND OPER CODE

SUBING

 REPORT GROUP MAK = SCHUTTE & KOERTING

1E32*FE037D
 E32-N006P

HSIV D LEAK TO LPH
 GENERAL ELEC
 SCHUTTE & KOERTING

1E . G-06 . 3128 .
 . RBS 00065. DR/IJ .
 003 . 310010 .

L . A
 . 100 DYS
 .
 .

OP CODE B FOR HELB & MELB

1E41*PS016

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= SQUARE D					

1E41*PS016
 PSI

AUX OIL PHP TURB CONT OIL PRES.
 GENERAL ELEC 1E . G-01 .
 SQUARE D . RBS 00008. TA/IJ .
 CLASS 9012, ACH-22 003 . 310010 .

H,M . A
 . 012 HRS
 .
 . 2 PSIG
 L . A
 . 012 HRS
 .
 . 2 PSIG

1R24*PNL-R1

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EQUIPMENT ID
 EQUIPMENT DESCRIPTION
 VENDOR ID VENDOR NAME

QAC ZONE EQ SHEET
 NU-CAT BLDG ELEV QUAL STAT
 MODEL / CATALOG NO SPEC PO NUMBER

EMG COND OPER CODE

SUBMG

 REPORT GROUP MAK = SQUARE D CO.

.1R24*PNL-R1	BREAKER DIST PNL (RED)				ALL	. A
	SQUARE D	1E	. N-21	.		. 180 DYS
	SQUARE D CO.		. RBS	112.*TA/IJ		.
	BREAKER DIST PNL	115	. 310535	.		.
.1R24*PNL-R2	BREAKER DIST PNL (RED)				ALL	. A
	SQUARE D	1E	. N-21	.		. 180 DYS
	SQUARE D CO.		. RBS	112.*TA/IJ		.
	BREAKER DIST PNL	115	. 310535	.		.
.1R24*PNL01	BREAKER DIST PNL (BLACK)				L	. B
	SQUARE D	1E	. G-10	.		. 180 DYS
	SQUARE D CO.		. RBS	00078.*TA/IJ		.
	BREAKER DIST PNL	115	. 310535	.		.
	H,M-OP CODE B 1 DAY, C REM. (NCC REV.)					
.1R24*PNL02	BREAKER DIST PNL (BLACK)				L	. B
	SQUARE D	1E	. G-10	.		. 180 DYS
	SQUARE D CO.		. RBS	00078.*TA/IJ		.
	BREAKER DIST PNL	115	. 310535	.		.
	H,M-OP CODE B 1 DAY, C REM. (NCC REV.)					
.1R24*PNL03	BREAKER DIST PNL (BLACK)				L	. B
	SQUARE D	1E	. H-11	.		. 180 DYS
	SQUARE D CO.		. RBS	00078.*TA/IJ		.
	BREAKER DIST PNL	115	. 310535	.		.
	H,M-OP CODE B 1 DAY, C REM. (NCC REV.)					
.1R24*PNL04	120VAC POWER PNL TO RSP				ALL	. A
	SQUARE D	1E	. N-21	.		. 180 DYS
	SQUARE D CO.		. RBS	00112.*TA/IJ		.
	BREAKER DIST PNL	115	. 310535	.		.
.1R24*MCC111W	MOTOR CONTROL CENTER				ALL	. A
	SQUARE D CO.	1E	. N-21	.		. 180 DYS
	SQUARE D CO.		. RBS	150.*TA/IJ		.
	MODEL 4	115	. 310535	.		.
.1R24*MCC111X	MOTOR CONTROL CENTER-LCP1				ALL	. A
	SQUARE D CO	1E	. N-21	.		. 180 DYS
	SQUARE D CO.		. RBS	112.*TA/IJ		.
	MODEL 4	115	. 310535	.		.

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	ENG COND	OPER CODE

.1R24*MCC111Y	MOTOR CONTROL CENTER-EMER SQUARE D CO. SQUARE D CO. MODEL 4 H,M-OP CODE B 1 DAY, C REM. (MCC REV.)	1E 115	H-09 RBS 310535	78.*TA/IJ	L	A 180 DYS
.1R24*MCC111Z	MOTOR CONTROL CENTER-EMER SQUARE D CO. SQUARE D CO. MODEL 4 H,M-OP CODE B 1 DAY, C REM. (MCC REV.)	1E 115	H-09 RBS 310535	78.*TA/IJ	L	A 180 DYS
.1R24*MCC112W	MOTOR CONTROL CENTER SQUARE D CO. SQUARE D CO. MODEL 4	1E 115	N-21 RBS 310535	150.*TA/IJ	ALL	A 180 DYS
.1R24*MCC112X	MOTOR CONTROL CENTER-EMER SQUARE D CO. SQUARE D CO. MODEL 4 H,M-OP CODE B 1 DAY, C REM. (MCC REV.)	1E 115	H-12 RBS 310535	78.*TA/IJ	L	A 180 DYS
.1R24*MCC112Y	MOTOR CONTROL CENTER-LCP1 SQUARE D CO. SQUARE D CO. MODEL 4	1E 115	N-21 RBS 310535	112.*TA/IJ	ALL	A 180 DYS
.1R24*MCC1111	MOTOR CONTROL CENTER-EMER SQUARE D CO. SQUARE D CO. MODEL 4 H,M-OP CODE B 1 DAY, C REM. (MCC REV.)	1E 115	G-02 RBS 310535	40.*TA/IJ	L	A 180 DYS
.1R24*MCC1112	MOTOR CONTROL CENTER-EMER SQUARE D CO. SQUARE D CO. MODEL 4	1E 115	N-21 RBS 310535	112.*TA/IJ	ALL	A 180 DYS
.1R24*MCC1113	MOTOR CONTROL CENTER-EMER SQUARE D CO. SQUARE D CO. MODEL 4	1E 115	N-21 RBS 310535	112.*TA/IJ	ALL	A 180 DYS

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.1R24*MCC1114	MOTOR CONTROL CENTER-EMER SQUARE D CO SQUARE D CO. MODEL 4 H,M-OP CODE B 1 DAY, C REM. (MCC REV.)	1E 115	H-18 RBS 310535	. 150.*TA/IJ .	L	. A . 180 DYS . .
.1R24*MCC1117	MOTOR CONTROL CENTER-EMER SQUARE D CO SQUARE D CO. MODEL 4 H,M-OP CODE B 1 DAY, C REM. (MCC REV.)	1E 115	G-02 RBS 310535	. 40.*TA/IJ .	L	. A . 180 DYS . .
.1R24*MCC1118	MOTOR CONTROL CENTER-EMER SQUARE D CO SQUARE D CO. MODEL 4 H,M-OP CODE B 1 DAY, C REM. (MCC REV.)	1E 115	N-21 RBS 310535	. 112.*TA/IJ .	ALL	. A . 180 DYS . .
.1R24*MCC1119	MOTOR CONTROL CENTER-EMER SQUARE D CO SQUARE D CO. MODEL 4 H,M-OP CODE B 1 DAY, C REM. (MCC REV.)	1E 115	L-02 RBS 310535	. 40.*TA/IJ .	L	. A . 180 DYS . .
.1R24*MCC1121	MOTOR CONTROL CENTER-EMER SQUARE D CO SQUARE D CO. MODEL 4 H,M-OP CODE B 1 DAY, C REM. (MCC REV.)	1E 115	G-02 RBS 310535	. 40.*TA/IJ .	L	. A . 180 DYS . .
.1R24*MCC1122	MOTOR CONTROL CENTER-EMER SQUARE D CO SQUARE D CO. MODEL 4 H,M-OP CODE B 1 DAY, C REM. (MCC REV.)	1E 115	N-21 RBS 310535	. 112.*TA/IJ .	ALL	. A . 180 DYS . .
.1R24*MCC1123	MOTOR CONTROL CENTER-EMER SQUARE D CO SQUARE D CO. MODEL 4 H,M-OP CODE B 1 DAY, C REM. (MCC REV.)	1E 115	N-21 RBS 310535	. 112.*TA/IJ .	ALL	. A . 180 DYS . .
.1R24*MCC1124	MOTOR CONTROL CENTER-EMER SQUARE D CO SQUARE D CO. MODEL 4 H,M-OP CODE B 1 DAY, C REM. (MCC REV.)	1E 115	H-18 RBS 310535	. 150.*TA/IJ .	L	. A . 180 DYS . .

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.1R24*MCC1127	MOTOR CONTROL CENTER-EMER SQUARE D CO SQUARE D CO. MODEL 4 H,H-OP CODE B 1 DAY, C REM. (MCC REV.)	1E 115	G-02 RBS 310535	40.*TA/IJ	L	. A . 180 DYS
.1R24*MCC1128	MOTOR CONTROL CENTER-EMER SQUARE D CO SQUARE D CO. MODEL 4	1E 115	N-21 RBS 310535	112.*TA/IJ	ALL	. A . 180 DYS
.1R24*MCC1129	MOTOR CONTROL CENTER-EMER SQUARE D CO SQUARE D CO. MODEL 4 H,H-OP CODE B 1 DAY, C REM. (MCC REV.)	1E 115	L-02 RBS 310535	40.*TA/IJ	L	. A . 180 DYS
.1R24*MCC1131	MOTOR CONTROL CENTER-EMER SQUARE D CO SQUARE D CO. MODEL 4	1E 115	N-21 RBS 310535	150.*TA/IJ	ALL	. A . 180 DYS
.1R24*MST1101	MOTOR STR FOR SUMP PUMP SYS *SQUARE D *SQUARE D CO. SIZE 5 460V	*1E 115	*L-02 *RBS 310535	*00040.*TA/IJ	*H,H *L	*B *180 DYS *B *180 DYS
.1R24*MST1201	MOTOR STR FOR SUMP PUMP SYS *SQUARE D *SQUARE D CO. SIZE 5 460V	*1E 115	*G-02 *RBS 310535	*00040.*TA/IJ	*H,H *L	*B *180 DYS *B *180 DYS
.1R24*PNL-B1	BREAKER DIST PNL (BLUE) SQUARE D SQUARE D CO. 480V PNL	1E 115	N-21 RBS 310535	00112.*TA/IJ	ALL	. A . 180 DYS

1R24*PNL-G1

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JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION

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*****	*****	*****	*****	*****	*****	*****	*****
.1R24*PNL-G1	BREAKER DIST PNL (GREEN)	ALL	. A
	SQUARE D	1E	N-21	.	.		. 180 DYS
	SQUARE D CO.	.	RDS	00112.*TA/IJ	.		.
	480V PNL	115	310535	.	.		.
.1R24*PNL-Y1	BREAKER DIST PNL (YELLOW)	ALL	. A
	SQUARE D	1E	N-21	.	.		. 180 DYS
	SQUARE D CO.	.	RDS	112.*TA/IJ	.		.
	480V PNL	115	310535	.	.		.
.1E41*LS095	COND&VAC TH F-36	H,M	. A
	GENERAL ELEC	1E	G-01	.	.		. 012 HRS
	SQUARE D CO.	.	RDS	00000. TA/IJ	.		.
	*9036	003	310010	.	.		.
	L	. A
 012 HRS

.1E51*LS095H	COND & VAC TH E-38	*H,M	. *B
	GENERAL ELEC	1E	G-01	.	.		. *180 DYS
	SQUARE D CO.	.	RDS	0. TA/IJ	.		.
	9038-AG154	003	310010	.	.		.
	*L	. *B
 *180 DYS

1B31*PS023A

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 JOB CLIENT LILCO

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VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= STATIC-O-RING					

1B31*PS023A	RECIRC SUC PR RHR VLV INTLK	.			L	. A
B31-N018A	GENERAL ELEC	1E	G-02	3032	.	. 007 DYS
	STATIC-O-RING	.	RDS	00040. EQ	.	.
	SN-AA3-X10STT	003	310010	.	.	.5%
	OP CODE B FOR HELB & MELB					

1B31*PS023B	RECIRC SUC PR RHR VLV INTLK	.			L	. A
B31-N018B	GENERAL ELEC	1E	G-02	3032	.	. 007 DYS
	STATIC-O-RING	.	RDS	00040. EQ	.	.
	SN-AA3-X10STT	003	310010	.	.	.5%
	OP CODE B FOR HELB & MELB					

.1E51*PS023A	RCIC AUTO ISOLATION	.			*H,M	. *B
E51-N019A	GENERAL ELEC	1E	L-02	3032	.	. *180 DYS
	STATIC-O-RING	.	RDS	00040. EQ	.	.
	SN-AA3-X10STT	003	310010	.	.	. *13%
	.	.	.	.	*L	. *B
	.	.	.	.	.	. *180 DYS
	.	.	.	.	.	. *13%

.1E51*PS023B	RCIC AUTO ISOLATION	.			*H,M	. *B
E51-N019B	GENERAL ELEC	1E	L-02	3032	.	. *180 DYS
	STATIC-O-RING	.	RDS	00040. EQ	.	.
	SN-AA3-X10STT	003	310010	.	.	. *13%
	.	.	.	.	*L	. *B
	.	.	.	.	.	. *180 DYS
	.	.	.	.	.	. *13%

.1E51*PS023C	RCIC AUTO ISOLATION	.			*H,M	. *B
E51-N019C	GENERAL ELEC	1E	L-02	3032	.	. *180 DYS
	STATIC-O-RING	.	RDS	00040. EQ	.	.
	SN-AA3-X10STT	003	310010	.	.	. *13%
	*L	. *B
 *180 DYS
 *13%

1E51*PS023D

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.1E51*PS023D E51-N019D	RCIC AUTO ISOLATION GENERAL ELEC STATIC-O-RING 5N-AA3-X10STT	1E 003	. L-02 RBS 310010	. 3032 EQ .	*H,M	. *B . *180 DYS . *13%
					*L	. *B . *180 DYS . *13%
.1E41*PS021L E41-N010	HPCI PUMP SUCT GENERAL ELEC STATIC-O-RING *6N-AA21-X10STT	1E 003	. G-01 RBS 310010	. 3032 EQ .	H,M	. A . 012 HRS
					L	. A . 012 HRS
.1E51*PS021L E51-N006	RCIC PUMP SUCTION GENERAL ELEC STATIC-O-RING 6N-AA21-X10VSTT	1E 003	. G-01 RBS 310010	. 3032 EQ .	*H,M	. *B . *180 DYS
					*L	. *B . *180 DYS

1R35*PNL-B2 REPORT NO. PES-801 JOB 1160002 05/21/82

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 JOB CLIENT LILCO

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VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PD NUMBER		SUDMG	
	MODEL / CATALOG NO					

 REPORT GROUP MAK = SYSTEMS CONTROL

1R35*PNL-B2 120VAC DIST PNL REAC BLDG . ALL . A
 SYSTEM CONT 1E . N-21 . 124-01 . 180 DYS
 SYSTEMS CONTROL . RBS 112. EQ .
 120-VAC-DIST-PNL 124 . 310713 . N/A
 REQUIRED 6 MONTH ACCIDENT DOSE REDUCED TO 1.0E5 PER CALCULATION SNPS-1-UR-21-N

1R35*PNL-R2 120VAC DIST PNL REAC BLDG . ALL . A
 SYSTEM CONT 1E . N-21 . 124-01 . 180 DYS
 SYSTEMS CONTROL . RBS 112. EQ .
 120-VAC-DIST-PNL 124 . 310713 . N A
 REQUIRED 6 MONTH ACCIDENT DOSE REDUCED TO 1.0E5 PER CALCULATION SNPS-1-UR-21-N

1B21*SOV92AX

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VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	SUBMG
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= TARGET ROCK					

.1B21*SOV92AX B21-F013A	ADS VLV 1B21*RV-92A SOV A GENERAL ELECT TARGET ROCK 1/2 SMS-A-01	1E 003	B-22 RED 310010	3904 00102.*FT/IJ	H,M .	A 180 DYS
					L	A 180 DYS
.1B21*SOV92AY B21-F013A	ADS VLV 1B21*RV-92A SOV B GENERAL ELECT TARGET ROCK 1/2 SMS-A-01	1E 003	B-22 RED 310010	3904 00102.*FT/IJ	H,M .	A 180 DYS
					L	A 180 DYS
.1B21*SOV92BX B21-F013B	ADS VLV 1B21*RV-92B SOV A GENERAL ELECT TARGET ROCK 1/2 SMS-A-01	1E 003	B-22 RED 310010	3904 00102.*FT/IJ	H,M .	A 180 DYS
					L	A 180 DYS
.1B21*SOV92BY B21-F013B	ADS VLV 1B21*RV-92B SOV B GENERAL ELECT TARGET ROCK 1/2 SMS-A-01	1E 003	B-22 RED 310010	3904 00102.*FT/IJ	H,M .	A 180 DYS
					L	A 180 DYS

1B21*SOV92CX

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.1B21*SOV92CX B21-F013C	ADS VLV 1B21*RV-92C SOV A GENERAL ELECT TARGET ROCK 1/2 SMS-A-01	1E 003	. B-22 . RED . 310010	. 3904 . 00102.*FT/IJ .	H,M .	. B . 180 DYS .
					L	. B . 180 DYS .
.1B21*SOV92DX B21-F013D	ADS VLV 1B21*RV-92D SOV A GENERAL ELECT TARGET ROCK 1/2 SMS-A-01	1E 003	. B-22 . RED . 310010	. 3904 . 00102.*FT/IJ .	H,M .	. B . 180 DYS .
					L	. B . 180 DYS .
.1B21*SOV92EX B21-F013E	ADS VLV 1B21*RV-92E SOV A GENERAL ELECT TARGET ROCK 1/2 SMS-A-01	1E 003	. B-22 . RED . 310010	. 3904 . 00102.*FT/IJ .	H,M .	. B . 180 DYS .
					L	. A . 180 DYS .
.1B21*SOV92EY B21-F013E	ADS VLV 1B21*RV-92E SOV B GENERAL ELECT TARGET ROCK 1/2 SMS-A-01	1E 003	. B-22 . RED . 310010	. 3904 . 00102.*FT/IJ .	H,M .	. A . 180 DYS .
					L	. A . 180 DYS .
.1B21*SOV92FX B21-F013F	ADS VLV 1B21*RV-92F SOV A GENERAL ELECT TARGET ROCK 1/2 SMS-A-01	1E 003	. B-22 . RED . 310010	. 3904 . 00102.*FT/IJ .	*H,M .	. *B . *180 DYS .

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*****	*****	*****	*****	*****	*****	*****
					L	. B . 180 DYS
.1B21*SOV92GX B21-F013G	ADS VLV 1B21*RV-92G SOV A GENERAL ELECT TARGET ROCK 1/2 SHS-A-01	1E RBD 003	. B-22 RBD 310010	. 3904 00102.*FT/IJ	H,M	. B . 180 DYS
					L	. B . 180 DYS
.1B21*SOV92HX B21-F013H	ADS VLV 1B21*RV-92H SOV A GENERAL ELECT TARGET ROCK 1/2 SHS-A-01	1E RBD 003	. B-22 RBD 310010	. 3904 00102.*FT/IJ	H,M	. A . 180 DYS
					L	. A . 180 DYS
.1B21*SOV92HY B21-F013H	ADS VLV 1B21*RV-92H SOV B GENERAL ELECT TARGET ROCK 1/2 SHS-A-01	1E RBD 003	. B-22 RBD 310010	. 3904 00102.*FT/IJ	H,M	. A . 180 DYS
					L	. A . 180 DYS
.1B21*SOV92JX B21-F013J	ADS VLV 1B21*RV-92J SOV A GENERAL ELECT TARGET ROCK 1/2 SHS-A-01	1E RBD 003	. B-22 RBD 310010	. 3904 00102.*FT/IJ	H,M	. A . 180 DYS
					L	. A . 180 DYS

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*****	*****	*****	*****	*****	*****	*****	*****
.1B21*SOV92JY B21-F013J	ADS VLV 1B21*RV-92J SOV B GENERAL ELECT TARGET ROCK 1/2 SHS-A-01	. 1E 003	. B-22 RBD 310010	. 3904 00102.*FT/IJ	H,M . .	. A . 180 DYS . .
		. . . .	. . . .	. . . .	. . . .	L . .	. A . 180 DYS . .
.1B21*SOV92KX B21-F013K	ADS VLV 1B21*RV-92K SOV A GENERAL ELECT TARGET ROCK 1/2 SHS-A-01	. 1E 003	. B-22 RBD 310010	. 3904 00102.*FT/IJ .	. . . .	H,M . .	. A . 180 DYS . .
		. . . .	. . . .	. . . .	. . . .	L . .	. A . 180 DYS . .
.1B21*SOV92KY B21-F013K	ADS VLV 1B21*RV-92K SOV B GENERAL ELECT TARGET ROCK 1/2 SHS-A-01	. 1E 003	. B-22 RBD 310010	. 3904 00102.*FT/IJ .	. . . .	H,M . .	. A . 180 DYS . .
		. . . .	. . . .	. . . .	. . . .	L . .	. A . 180 DYS . .
.1B21*SOV92LX B21-F013L	ADS VLV 1B21*RV-92L SOV A GENERAL ELECT TARGET ROCK 1/2 SHS-A-01	. 1E 003	. B-22 RBD 310010	. 3904 00102.*FT/IJ .	. . . .	H,M . .	. A . 180 DYS . .
		. . . .	. . . .	. . . .	. . . .	L . .	. A . 180 DYS . .
.1B21*SOV92LY B21-F013L	ADS VLV 1B21*RV-92L SOV B GENERAL ELECT TARGET ROCK 1/2 SHS-A-01	. 1E 003	. B-22 RBD 310010	. 3904 00102.*FT/IJ	H,M . .	. A . 180 DYS . .

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VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
*****	*****	*****	*****	*****	*****	*****
					L	. A
						. 100 DYS
						.
						.

1E41*TU002

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EQUIPMENT ID

EQUIPMENT DESCRIPTION

ENG COND

OPER CODE

VENDOR ID

VENDOR NAME

QAC

ZONE

EQ SHEET

MAKE / MANUFACTURER

MU-CAY BLDG ELEV

QUAL STAT

MODEL / CATALOG NO

SPEC PO NUMBER

SUBING

 REPORT GROUP MAK = TERRY

.1E41*TU002

HPCI TURBINE

GE-TERRY TURB

TERRY

GS-1

1E

G-01

.*

RBS

8. TA/IJ

003 310010

H,M

.A

.012 HRS

L

.A

.012 HRS

THE TURBINE ITSELF IS A MECH. ITEM BUT IT HAS ELECT. COMP. ASSOCIATED W/IT THAT DON'T HAVE MARK NOS

.1E51*TU005

RCIC TURBINE

GE-TERRY TURB

TERRY

GS-1

1E

G-01

.*

RBS

00008. ****

003

*H,M

.*B

.*100 DYS

*L

.*B

.*100 DYS

THE TURBINE ITSELF IS A MECH. ITEM BUT IT HAS ELEC. COMP. ASSOCIATED W/IT THAT DONT HAVE MARK NOS.

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 VENDOR ID

EQUIPMENT DESCRIPTION
 VENDOR NAME
 MAKE / MANUFACTURER
 MODEL / CATALOG NO

QAC ZONE EQ SHEET
 NU-CAT BLDG ELEV QUAL STAT
 SPEC PO NUMBER

EMS COND OPER CODE

SUBMS

 REPORT GROUP MAK = VALCOR

1T48*SOV131

ATMOSPHERE SAMPLE
 VALCOR
 VALCOR
 V105-205

1E . H-11 . 15.54-01 .
 . RBS 00063. EQ .
 15.54. 310979 .

H,M . B
 . 180 DYS
 .
 .

L . A
 . 180 DYS
 .
 .

1T48*SOV130

ATMOSPHERE SAMPLE
 VALCOR
 VALCOR
 V105-305

1 . G-02 .
 . RBS 00063.*DR/IJ .
 15.54. 310979 .

H,M . B
 . 180 DYS
 .
 .

L . A
 . 180 DYS
 .
 .

1T48*SOV126B

ATMOSPHERE SAMPLE
 VALCOR
 VALCOR
 V526-5295-61

1E . G-03 . 15.54-01 .
 . RBS 00063. EQ .
 15.54. 310979 .

H,M . B
 . 180 DYS
 .
 .

L . A
 . 180 DYS
 .
 .

1T48*SOV127B

ATMOSPHERE SAMPLE
 VALCOR
 VALCOR
 V526-5295-61

1E . L-02 . 15.54-01 .
 . RBS 00040. EQ .
 15.54. 310979 .

H,M . B
 . 180 DYS
 .
 .

L . A
 . 180 DYS
 .
 .

1T48*SOV128B

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*****	*****	*****	*****	*****	*****	*****
1T48*SOV128B	ATMOSPHERE SAMPLE				H,M	. B
	VALCOR	1E	G-10	15.54-01		. 180 DYS
	VALCOR		RBS	00078. EQ		.
	V526-5295-61	15.54.	310979			.
					L	. A
						. 180 DYS
						.
						.
1T48*SOV129B	ATMOSPHERE SAMPLE				H,M	. B
	VALCOR	1E	G-02	15.54-01		. 180 DYS
	VALCOR		RBS	00040. EQ		.
	V526-5295-61	15.54.	310979			.
					L	. A
						. 180 DYS
						.
						.
1T48*SOV126A	ATMOSPHERE SAMPLE				H,M	. B
	VALCOR	1E	G-03	15.54-01		. 180 DYS
	VALCOR		RBS	00063. EQ		.
	V526-5295-62	15.54.	310979			.
					L	. A
						. 180 DYS
						.
						.
1T48*SOV127A	ATMOSPHERE SAMPLE				H,M	. B
	VALCOR	1E	G-02	15.54-01		. 180 DYS
	VALCOR		RBS	00040. EQ		.
	V526-5295-62	15.54.	310979			.
					L	. A
						. 180 DYS
						.
						.
1T48*SOV128A	ATMOSPHERE SAMPLE				H,M	. B
	VALCOR	1E	G-10	15.54-01		. 180 DYS
	VALCOR		RBS	00078. EQ		.
	V526-5295-62	15.54.	310979			.

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 JOB CLIENT LILCO

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REPORT DATE 05/21/82 PAGE 264
 RESET NO. 004
 RESET DATE 05/12/82

EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE ELDG PO NUMBER	EQ SHEET QUAL STAT	ENG COND SUBNG	OPER CODE
*****	*****	*****	*****	*****	*****	*****
					L	. A . 180 DYS
						.
						.
						.
1T48*SOV129A	ATMOSPHERE SAMPLE				H,M	. B
	VALCOR	1E	L-02	15.54-01		. 180 DYS
	VALCOR		RDS	00040. EQ		.
	V526-5295-62	15.54	310979			.
					L	. A
						. 180 DYS
						.
						.
.1T48*SOV136A SV-6	SUPPRESSION CHAMBER SAMPLE				H,M	. B
	*VALCOR	1E		*15.54-01		. 180 DYS
	*VALCOR	*	RDS	*00112.*EQ		.
	*V526-5295-63	*15.54	310979			.
					L	. A
						. 180 DYS
						.
						.
.1T48*SOV136B SV-6	SUPPRESSION CHAMBER SAMPLE				H,M	. B
	*VALCOR	1E		*15.54-01		. 180 DYS
	*VALCOR	*	RDS	*00112.*EQ		.
	*V526-5295-63	*15.54	310979			.
					L	. A
						. 180 DYS
						.
						.
.1T48*SOV137A SV-7	H2 RECOMBINER DISCH SAMPLE				H,M	. B
	*VALCOR	1E	J-16	*15.54-01		. 180 DYS
	*VALCOR	*	RDS	*00112.*EQ		.
	*V526-5295-63	*15.54	310979			.
					L	. A
						. 180 DYS
						.
						.

1T48*SOV137B REPORT NO. PES-801 JOB 1160002 05/21/82

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 JOB NAME SHOREHAM - UNIT 1
 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
 PROJECT EQUIPMENT SYSTEM - (IS-129)
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.1T48*SOV137B SV-7	H2 RECOMBINER DISCH SAMPLE				H,M	. B
	*VALCOR	1E	J-16	.15.54-01		. 180 DYS
	*VALCOR	*	RDS	*00112.EQ		.
	*V526-5295-63	*15.54	310979	.		.
	.	.	.	.	L	. A
	.	.	.	.		. 180 DYS

.1B21*SOV313A	SAMPLE PP SUPPRESS POOL RETURN.				H,M	. A
	VALCOR	1E	G-12	. 15.54-01		. 180 DYS
	VALCOR	.	RBS	00078. EQ		.
	V526-5683-26	15.54	310979	.		.
	.	.	.	.	L	. A
	.	.	.	.		. 180 DYS

.1B21*SOV314A	*CHANGED TO 1Z91*SOV045				ALL	. A
	VALCOR	1E	G-12	. 15.54-01		. 180 DYS
	VALCOR	.	RBS	00078. EQ		.
	V526-5683-26	15.54	310979	.		. NA
1E11*SOV166A	LQD SAMPLE RHR				H,M	. A
	VALCOR	1E	G-01	. 15.54-01		. 180 DYS
	VALCOR	.	RBS	00008. EQ		.
	V526-5683-27	15.54	310979	.		.
	.	.	.	.	L	. A
	.	.	.	.		. 070 MIN

1E11*SOV167A	LQD SAMPLE RHR				H,M	. A
	VALCOR	1E	G-02	. 15.54-01		. 180 DYS
	VALCOR	.	RBS	00040. EQ		.
	V526-5683-27	15.54	310979	.		.
	L	. A
 070 MIN

1B21*SOV313B

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STONE AND WEBSTER ENGINEERING CORPORATION

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	ENG COND SUONG	OPER CODE

.1B21*SOV313B	SAMPLE PP SUPPRESS POOL RETURN.				H,M	. A
	VALCOR	1E	G-12	15.54-01		. 180 DYS
	VALCOR		RBS	00078. EQ		.
	V526-5683-28	15.54.	310979			.
	.				L	. A
	.					. 180 DYS
	.					.
	.					.
.1B21*SOV314B	*CHANGED TO 1Z91*SOV046				ALL	. A
	VALCOR	1E	G-12	15.54-01		. 180 DYS
	VALCOR		RBS	00078. EQ		.
	V526-5683-28	15.54.	310979			. NA
1E11*SOV168	SAMPLE PP SUPPRESS POOL RETURN .				H,M	. A
	VALCOR	1E	G-01	15.54-01		. 180 DYS
	VALCOR		RBS	00008. EQ		.
	V526-5683-29	15.54.	310979			.
	.				L	. A
	.					. 180 DYS
	.					.
	.					.
1E11*SOV169	SAMPLE PP SUPPRESS POOL RETURN .				H,M	. A
	VALCOR	1E	G-01	15.54-01		. 180 DYS
	VALCOR		RBS	00008. EQ		.
	V526-5683-29	15.54.	310979			.
	.				L	. A
	.					. 180 DYS
	.					.
	.					.
1E11*SOV166B	LQD SAMPLE RHR				H,M	. A
	VALCOR	1E	G-02	15.54-01		. 180 DYS
	VALCOR		RBS	00040. EQ		.
	V526-5683-30	15.54.	310979			.
	.				L	. A
	.					. 070 MIN
	.					.
	.					.

1E11*SOV167B REPORT NO. PES-801 JOB 1160002 05/21/82

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STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					

1E11*SOV167B	LQD SAMPLE RHR	1E	G-02	15.54-01	H,M	A
	VALCOR		RBS	00040. EQ		180 DYS
	VALCOR					
	V526-5683-30	15.54	310979			
					L	A
						070 MIN
.1C51*SOV028	TIP N2 CONTROL	*1E	*H-13		H,M	B
	*VALCOR	RG	*RBS	*00078.*DR/IJ		180 DYS
	*VALCOR					
	*V526-5683-32	*15.54.*310979				
					L	A
						070 MIN

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLOG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****
REPORT GROUP MAK	= WESTINGHOUSE					

.1T46*FN837A	1T46*UC-020A FAN				ALL	. A
	BUFFALO FORGE	1E	J-16			. 180 DYS
	WESTINGHOUSE		RBS	00112.*DR		
	143T	276	310556			N/A
.1T46*FN837B	1T46*UC-020B FAN				ALL	. A
	BUFFALO FORGE	1E	K-15			. 180 DYS
	WESTINGHOUSE		RBS	00112.*DR		
	143T	276	310556			N/A
REQUIRED RAD LEVEL REDUCED TO 6.0E07, PER CALCS SNPS-1-UR-17-B REV 2, AND SNPS-1-UR-18-A REV 1.						

.1D11-BL0011	STATION VENT EXH BLOWER				H,M	. A
	N.H.C.	2	H-20			. 180 DYS
	WESTINGHOUSE	*	RBS	00175.*IJ		
	143T (PN 2058351)	332	310782			

CAT. II EQUIPMENT NOT 1E POWERED

1T46*FN023	1T46*UC-023 FAN				L	. A
	BUFFALO FORGE	1E	L-02	. 276-01		. 180 DYS
	WESTINGHOUSE		RBS	00040. EQ		
	143TCZ	276	310556			N/A
.1E21*P049A	CORE SPRAY LEV PP C-10				H,M	. B
	GOULD PUMP	1E	G-01	. *235-01		. 180 DYS
	WESTINGHOUSE		RBS	8.*EQ		
	213T	235	310545			
					L	. A
						. 180 DYS
.1E21*P049B	CORE SPRAY LEV PP-C-6				H,M	. B
	GOULD PUMP	1E	G-01	. *235-01		. 180 DYS
	WESTINGHOUSE		RBS	8.*EQ		
	213T	235	310545			

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*****	*****	*****	*****	*****	*****	*****
					L	A 180 DYS
.1E41*P050	HPCI LOOP LVL PUMP GOULD PUMP WESTINGHOUSE 213T	1E 235	G-01 RBS 310545	.235-01 EQ	H,M	B 180 DYS
					L	B 180 DYS
	L-OP CODE B REM: H,M-OP CODE B 1 DAY, C REM. (MCC REV.)					
.1E51*P051	RCIC LOOP LEVEL PUMP GOULD PUMP WESTINGHOUSE 213T	1E 235	G-01 RBS 310545	.235-01 EQ	H,M	B 180 DYS
					L	B 180 DYS
	L-OP CODE B REM: H,M-OP CODE B 1 DAY, C REM. (MCC REV.)					
.1T46*FN838A	1T46*UC-021A FAN BUFFALO FORGE WESTINGHOUSE 213T	1E 276	H-19 RBS 310556	.00150.*DR	ALL	A 180 DYS
.1T46*FN838B	1T46*UC-021B FAN BUFFALO FORGE WESTINGHOUSE 213T	1E 276	H-19 RBS 310556	.00150.*DR	ALL	A 180 DYS
.1T46*FN839A	1T46*UC-022A FAN BUFFALO FORGE WESTINGHOUSE 213T	1E 276	H-18 RBS 310556	.00161.*DR	ALL	A 180 DYS
.1T46*FN839B	1T46*UC-022B FAN BUFFALO FORGE WESTINGHOUSE 213T	1E 276	H-19 RBS 310556	.00161.*DR	ALL	A 180 DYS

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 JOB CLIENT LILCO

STONE AND WEBSTER ENGINEERING CORPORATION
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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET QUAL STAT	ENG COND SUSMG	OPER CODE

.1G11*P270C	SUPP PL PP BK LEAKAGE RET POOL. BUFFALO FORGE CO. WESTINGHOUSE 286T 25HP	1E 457	G-01 RBS 348187	.#457-01 EQ	H,M	. B . 180 DYS
					L	. A . 180 DYS
OP CODE B FOR HELB & HELB						
.1T46*FN835A	1T46*UC-004A FAN BUFFALO FORGE WESTINGHOUSE 326T	1E 276	H-20 RBS 310556	.#276-02 EQ	ALL	. A . 180 DYS N/A
.1T46*FN835B	1T46*UC-004B FAN BUFFALO FORGE WESTINGHOUSE 326T	1E 276	H-20 RBS 310556	.#276-02 EQ	ALL	. A . 180 DYS N/A
.1T46*FN836A	1T46*UC-005A FAN BUFFALO FORGE WESTINGHOUSE 326T	1E 276	H-20 RBS 310556	.#276-02 EQ	ALL	. A . 180 DYS N/A
.1T46*FN836B	1T46*UC-005B FAN BUFFALO FORGE WESTINGHOUSE 326T	1E 276	H-20 RBS 310556	.#276-02 EQ	ALL	. A . 180 DYS N/A
.1T46*FN833A	1T46*UC-002A FAN BUFFALO FORGE WESTINGHOUSE 364T	1E 276	G-01 RBS 310556	.#276-02 EQ	ALL	. A . 180 DYS N/A
.1T46*FN833B	1T46*UC-002B FAN BUFFALO FORGE WESTINGHOUSE 364T	1E 276	G-01 RBS 310556	.#276-02 EQ	ALL	. A . 180 DYS N/A
.1T46*FN834A	1T46*UC-003A FAN BUFFALO FORGE WESTINGHOUSE 364T	1E 276	G-01 RBS 310556	.#276-02 EQ	ALL	. A . 180 DYS N/A

1T46*FN834B

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STONE AND WEBSTER ENGINEERING CORPORATION

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EQUIPMENT ID VENDOR ID	EQUIPMENT DESCRIPTION VENDOR NAME MAKE / MANUFACTURER MODEL / CATALOG NO	QAC NU-CAT SPEC	ZONE BLDG PO NUMBER	EQ SHEET ELEV QUAL STAT	ENG COND SUBMG	OPER CODE

.1T46*FN834B	1T46*UC-003B FAN BUFFALO FORGE WESTINGHOUSE 364T	1E 276	. G-01 RDS 310556	. *276-02 00008.*EQ	ALL	. A . 180 DYS N/A
.1T46*FN003A	RBSVS EXH FAN BUFFALO FORGE WESTINGHOUSE *405TCZ	1E 270	. K-15 RBS 310550	. *270-01 112.*EQ	*H,M	. *A . *180 DYS
					*L	. *A . *180 DYS
.1T46*FN003B	RBSVS EXH FAN BUFFALO FORGE WESTINGHOUSE 405TCZ	1E 270	. K-15 RDS 310550	. *270-01 112.*EQ	*H,M	. *A . *180 DYS
					*L	. *A . *180 DYS
.1T46*FN003C	RBSVS EXH FAN BUFFALO FORGE WESTINGHOUSE 405TCZ	1E 270	. K-15 RBS 310550	. *270-01 112.*EQ	*L	. *A . *180 DYS
.1T46*FN079A	RB EXHAUST BOOSTER FAN BUFFALO FORGE WESTINGHOUSE 7.5 HP 245T	1E 102	. K-15 RBS 310516	. *102-01 112.*EQ	*H,M	. *A . *180 DYS
					*L	. *A . *180 DYS
.1T46*FN079B	RB EXHAUST BOOSTER FAN BUFFALO FORGE WESTINGHOUSE 7.5 HP 245T	1E 102	. K-15 RBS 310516	. *102-01 112.*EQ	*H,M	. *A . *180 DYS

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EQUIPMENT ID	EQUIPMENT DESCRIPTION	QAC	ZONE	EQ SHEET	ENG COND	OPER CODE
VENDOR ID	VENDOR NAME	NU-CAT	BLDG	ELEV	QUAL STAT	
	MAKE / MANUFACTURER	SPEC	PO NUMBER			
	MODEL / CATALOG NO					
*****	*****	*****	*****	*****	*****	*****

*L . *A
*180 DYS

TOTAL EQUIPMENT 1087

MISCELLANEOUS COMPONENTS AND ACCESSORIES

ENVIRONMENTAL QUALIFICATION STATUS REPORT

Equipment ID Vendor ID	Equipment Description Vendor Name PO Number	QAC Spec	Zone Bldg Elev	Make/Manufacturer Model/Catalog No.	Eq Sheet Qual Stat	Op Time	Acc/Perf	EMG Cnd Op CD
Report Group Spec = 159								
NA	Switchboard Wire Various Various	1E 159	All RBP	GE SI57279	159-03 EQ	180 Days	N/A	All B
NA	Switchboard Wire Various Various	1E 159	All RBP	Rockbestos A830__5	159-04 EQ	180 Days	N/A	All B
NA	Tape Various Various	1E 159	All RBS	Kerite S-5MT-NUC	159-06 EQ	180 Days	N/A	All B
NA	Tape Various Various	1E 159	All RBP	Okonite T35,T95	IJ	180 Days	N/A	All B
NA	Insulating Material Various Various	1E 159	All RBP	Raychem WCSP-N	IJ	180 Days	N/A	All B
NA	Lugs & Splices Various Various	1E 159	All RBP	Amp 52900-53900	159-02 EQ	180 Days	N/A	All B
NA	Flex Conduit Electro-Flex Various	1E 159	All RBS	Electro-Flex CEA Sealtite	IJ	180 Days	N/A	All B
NA	Terminal Blocks Various Various	1E 159	All RBS	GE EB25A04W,-12W	IJ	180 Days	N/A	All B
NA	Terminal Blocks Various Various	1E 159	All RBS	GE EBI	IJ	180 Days	N/A	All B
NA	Terminal Blocks Various Various	1E 159	All RBS	GE CR151A8,-B2,-B4	IJ	180 Days	N/A	All B

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<u>Equipment ID</u> <u>Vendor ID</u>	<u>Equipment Description</u> <u>Vendor Name</u> <u>PO Number</u>	<u>QAC</u> <u>Spec</u>	<u>Zone</u> <u>Bldg Elev</u>	<u>Make/Manufacturer</u> <u>Model/Catalog No.</u>	<u>Eq Sheet</u> <u>Qual Stat</u>	<u>Op Time</u>	<u>Acc/Perf</u>	<u>BMG Cnd</u> <u>Op CD</u>
Report Group Spec = 159								
NA	Potting Compounds			Various				
	Various	1E	All		IJ	180 Da,s	N/A	All
	Various	159	RBS					B
NA	Selector Switch			GE				
	Various	1E	All	CR2940	IJ	180 Days	N/A	All
	Various	159	RBS					B
NA	Conduit Coupling			Service-Air,				
	Various	1E	All	Amer. Boa	IJ	180 Days	N/A	All
		159	RBP	SS Fittings				B

APPENDIX G

EQUIPMENT WITH INCOMPLETE QUALIFICATION DOCUMENTATION

This Appendix contains summary sheets for equipment exhibiting incomplete qualification documentation at the date of this submittal. These sheets are arranged in alphabetical order by equipment manufacturer, equipment model number, and specification number as shown on the index.

Each summary sheet includes a description of the qualification documentation, the resolution program, and the justification for interim operation. Resolution plans presented here are superseded by the Environmental Qualification Action Plan provided separately from this report. | 2

SHOREHAM NUCLEAR POWER STATION - UNIT 1
LONG ISLAND LIGHTING COMPANY

EQUIPMENT ENVIRONMENTAL QUALIFICATION ACTION PLAN

SHOREHAM NUCLEAR POWER STATION

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EQUIPMENT ENVIRONMENTAL QUALIFICATION ACTION PLAN

(BASED ON EQSR OF 5/17/82)

<u>EQUIPMENT TYPE</u>	<u>SPEC. NO. SH1-</u>	<u>MAKE</u>	<u>MODEL</u>	<u>EQSS NO.</u>	<u>COMPLETION SCHEDULE</u>	<u>EQSR QUAL. STATUS DESIG- NATION</u>	<u>NO. OF ITEMS</u>	<u>ACTION PLANNED</u>
Differential Pressure Transmitter	406	Rosemount	1152 Series, Code "A", "D"	-	9/82	MR	4	Output Circuit Boards Type "A" or "D" to be Replaced with Qualified "E" Boards
Level Trans- mitter							4	
Flow Trans- mitter							5	
Pressure Trans- mitter							5	
Position Switches	111	NAMCO	EA-740 Series	-	9/82	RR	4	To be Replaced with Qualified NAMCO Position Switches
	172			-			8	
	318			-			23	
	232			-			7	
	003			3911			8	
	175			-			12	
	319		EA-750 Series	-			8	

SHOREHAM NUCLEAR POWER STATION

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EQUIPMENT ENVIRONMENTAL QUALIFICATION ACTION PLAN

(BASED ON EQSR OF 5/17/82)

EQUIPMENT TYPE	SPEC. NO. SH1-	MAKE	MODEL	EQSS NO.	COMPLETION SCHEDULE	EQSR QUAL. STATUS DESIG- NATION	NO. OF ITEMS	ACTION PLANNED
Motor-Operated Damper Actuators	319	Raymond	MASR-49 MASR-9	319-01	12/82 (Test) First Refueling (Replacement)	IJ	5	New Model to be Qualification Tested, Existing Model to be Replaced
				319-01			4	
Solenoid Operator	111	ASCO	HV200-926 -1F-EP	-	9/82	RR	4	To be Replaced with ASCO Model 206-832-6F
	172	ASCO	HV200-926 -1F-EP	-	9/82	RR	8	
Pressure Transmitter	003	Bailey	KG556 Series	3094	First Refuel	IJ	10	To be Replaced with Rosemount 1153 Series
Level Transmitter	003	Barton	368	3144	First Refuel	IJ	2	To be Replaced with Rosemount 1153 Series
Level Indicating Transmitter	003	Barton	760	3129	First Refuel	IJ	2	To be Replaced with Rosemount 1153 Series
Pressure Transmitter	003	Barton	760	3129	First Refuel	IJ	2	To be Replaced with Rosemount 1153 Series
Motor-Operated Valve Actuators	003	Limi- torque	SMB-3	003-01	9/82	RR	2	To be Replaced with Qualified Actuators Supplied Without Brakes

SHOREHAM NUCLEAR POWER STATION

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EQUIPMENT ENVIRONMENTAL QUALIFICATION ACTION PLAN

(BASED ON EQSR OF 5/17/82)

<u>EQUIPMENT TYPE</u>	<u>SPEC. NO. SH1-</u>	<u>MAKE</u>	<u>MODEL</u>	<u>EQSS NO.</u>	<u>COMPLETION SCHEDULE</u>	<u>EQSR QUAL. STATUS DESIG- NATION</u>	<u>NO. OF ITEMS</u>	<u>ACTION PLANNED</u>
Flow Trans- mitter	319	Air Monitor Corp.	Veltron 800	319-01	12/82	IJ	2	Vendor to Test
Pressure Switch	348	ASCO	SB11ANR/ TF10A32B	-	9/82	TA	9	Vendor Presently Testing
	348	ASCO	SB11ANR/ TG10A32B	-	9/82	TA	4	
Auto Transfer Switch	438	ASCO	307A66C	-	6/82	TA	2	Vendor Presently Testing
Hydrogen Recombiner Power Panel	289	Atomics Int.	N/A	-	9/82	TA	2	Vendor Presently Testing/Performing Analysis/Supplying Subcomponent Re- placements
Hydrogen Recombiner	289	Atomics Int.	N/A	-	9/82	TA	2	
Pressure Con- trol Valve Actuator	310	Beck	14-101- 0236 45(ES)	310-01	2/83	IJ	2	To be Tested by Independent Testing Lab.
Temperature Con- trol Valve Actuator	310	Beck	14-101- 0236 45(ES)	310-01	2/83	IJ	16	

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<u>EQUIPMENT TYPE</u>	<u>SPEC. NO. SH1-</u>	<u>MAKE</u>	<u>MODEL</u>	<u>EQSS NO.</u>	<u>COMPLETION SCHEDULE</u>	<u>EQSR QUAL. STATUS DESIG- NATION</u>	<u>NO. OF ITEMS</u>	<u>ACTION PLANNED</u>
Gas Analyzer Sample Pump	344	Comsip	K-IV	344-01	6/82	EQ(Panel) TA (Pump)	2	Vendor Presently Testing
Differential Pressure Switch	319	Dwyer	1627	319-01	12/82	IJ	6	Vendor to Test
Charcoal Filter	105	Farr	N-240	-	9/82	IJ	2	Independent Engineers to Test/Provide Analysis/Recommend Subcomponent Re- placements
Level Elements	473	Gems	XM-54854	-	10/82	IJ	3	Vendor Presently Testing
125 V DC Motor Control Centers	168	GE	7700	-	1984	IJ	4	Spare Motor Control Center Components to be Tested By Independ- ent Test Lab.
4 kV Switch- gear Breaker	39	GE	M26	039-01	9/82	DR	4	Potential Modifica- tions under evalua- tion
Electrical Penetrations Assemblies	456	Conax	Low Voltage Power	456-02	8/82	FT	2	Vendor to Submit Further Documentation

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Hand Selector Switches	319	GE	CR2940 Series	-	8/82	IJ	2	To be Tested by Independent Test Lab.
Motor Generator Control Panel	439	Gould	5600 Series	439-02	8/82	FT	4	Vendor to Provide Further Data/Analysis to Supplement Report Based on IEEE 323-1974 Test
Motor-Operated Damper Actuator	319	ITT	NH91	319-02	12/82	IJ	2	Manufacturer to Test in Generic Qualifi- cation Program
Radiation Detectors	475	Kamen	-	-	8/82	TA	4	Vendor Presently Testing
Level Switch	407	Magne- trol	291-MPG- X-M14DC	407-01	12/82	IJ	6	Manufacturer to Test in Generic Qualifi- cation Program

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480 V AC Motor Con- trol Center	115	Square D	Model 4	-	7/82 (Analysis) 1983 (Test)	IJ	22	Vendor to Analyze and Test
480 V AC Breaker Panel	115	Square D	Model 4	-		IJ	9	
480V AC Motor Starter	115	Square D	Model 4	-		IJ		
Solenoid Operators	003	Target Rock	1/2SMS- A-01	3904	9/82	RR	22	Extend Radiation Testing of Previous Test Specimen
Fan Motors	276	Westing- house	213T	-	6/82	DR	4	Vendor Test Report to be Submitted
			143T	-	6/82	DR	2	
Flexible Conduit	159	Electri- flex	CEA Sealtite	-	8/82	FT	-	To be Tested by Independent Test Lab
Terminal Blocks	159	GE	EB-25 CR-151 EB-1	-	8/82	FT	-	

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Stainless Steel Conduit		Servic- Air	Various	-	8/82	FT	-	To be Tested by Independent Test Lab
		American -Boa	Various	-	8/82	FT	-	
Splicing Tape	159	Okonite	T35,T95	159-01	8/82	FT	-	
Insulating Material	159	Raychem	WCSF-N HVT	-	8/82	FT	-	

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<u>EQUIPMENT TYPE</u>	<u>SPEC. NO. SH1-</u>	<u>MAKE</u>	<u>MODEL</u>	<u>EQSS NO.</u>	<u>COMPLETION SCHEDULE</u>	<u>EQSR QUAL. STATUS DESIGNATION</u>	<u>NO. OF ITEMS</u>	<u>ACTION PLANNED</u>
Solenoid Operated Valve	003	ASCO	HT-X-8320 A20	3096	First Refueling Outage	3096 IJ		Replace
1B21*S0V81							12	
1B21*S0V82							12	
Electrical Accessories for NSSS Panels	003	GE		3912	2/83	3912 DR/IJ		Join Commonwealth Edison LaSalle Test Program
1H21*PNL01 through PNL74							10 3 2 1 1 1 1 1 3	
Flow Element 1E32*FE037	003	Schutte & Koerting		3128	3/83	3128 DR/IJ	4	Join Commonwealth Edison LaSalle Test Program
Flow Transmitter 1E32*FT037	003	Ametek	078-5004	3128	3/83	3128 DR/IJ	4	Join Commonwealth Edison LaSalle Test Program

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Pump Motor 1E41*P074 1E41*P075	003	GE Terry Turbine	3HP 3500 RPM 120 VDC		1/83	TA/IJ	2	Test Underway by GE for HPCI Turbine and Accessories
Pump Motor 1E41*P127	003	GE	CD 259A7		1/83	TA/IJ	1	Test Underway by GE for HPCI Turbine and Accessories
HPCI Turbine 1E41*TU002	003	Terry Turbine	GS-1		1/83	3913 TA/IJ	1	Test Underway by GE for HPCI Turbine and Accessories
Position Indica- ting Switches 1E41*PNS840 1E41*PNS841	003	NAMCO	D1200		1/83	TA/IJ	2	Test Underway by GE for HPCI Turbine and Accessories
Level Switches 1E51*LS095H 1E41*LS095	003	Square D	9038-AG154		1/83	TA/IJ	2	Test Underway by GE for HPCI Turbine and Accessories
Pressure Switch 1E41*PS016	003	Square D	9012-ACW-22		1/83	TA/IJ	1	Test Underway by GE for HPCI Turbine and Accessories

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Level, Flow and Pressure Transmitters (various)	003	Rosemount	1151	3048	6/82	3048 FT/IJ	28	Analysis to Refine Postulated Radiation Dose